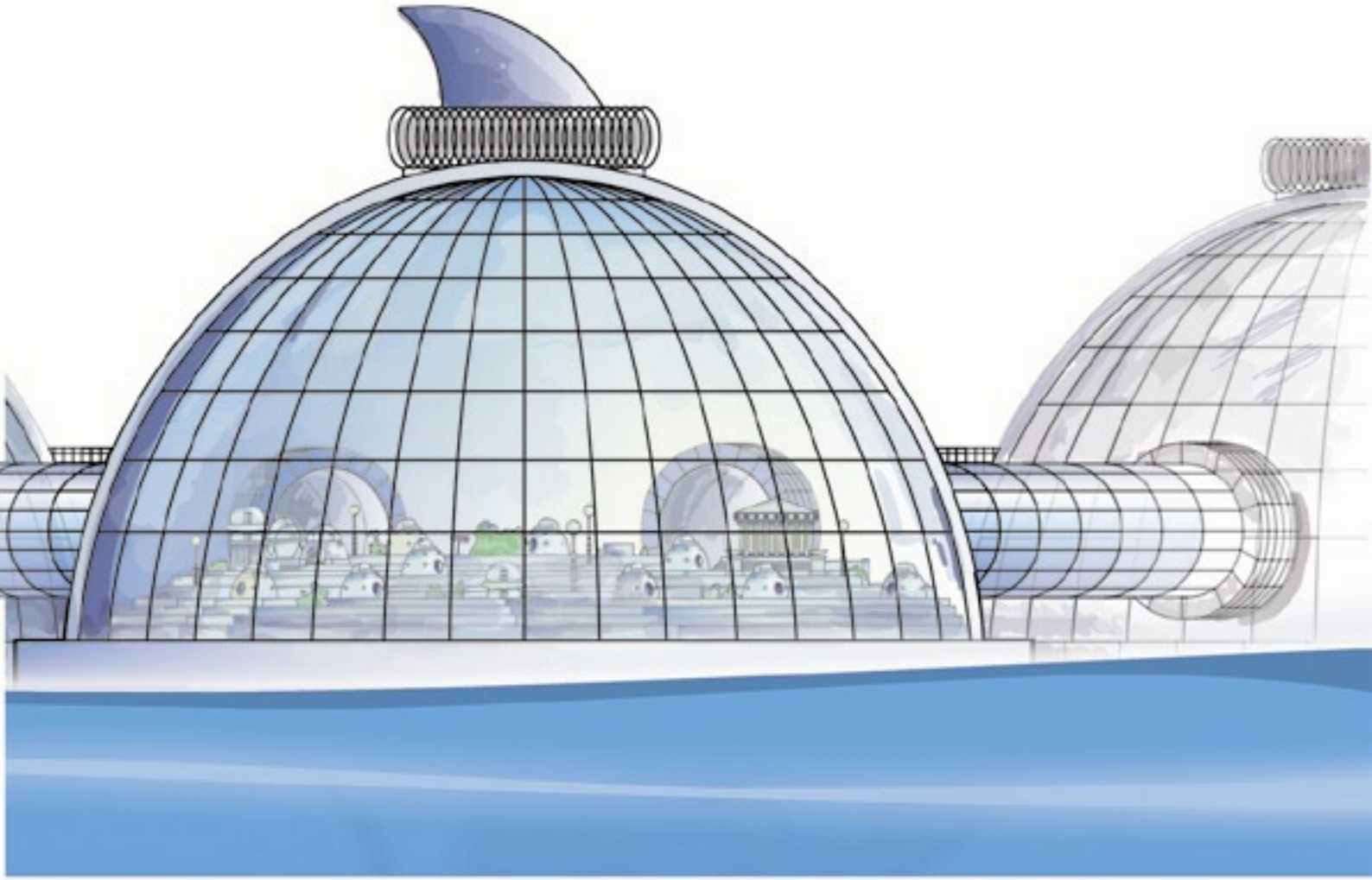
Kiddanet

empowering children
on a safer Internet



Save the Children

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Project management
Dieter Carstensen

Principle writers
Orso Muneghina
Marco Arscone

Editing team
Tina Farmer
Florence Crovato

Advisors and research team
Raquel Gonzales, David de Miguel and Hugo Martin (Save the Children Spain)
Sirkka Albinsson, Mats Albinsson and David Lagerlöf (Save the Children Sweden)
Olivia Lalonde, Chris Cuninghame and Olav Knuppel (Save the Children United Kingdom)
Roberta Cecchetti, Pippo Costella and Raffaele Coruzzi (Save the Children Italia Onlus)

Design
Arteficina

Illustrations
Città dei Bambini and team
Luca Calcagno
Monica Bongiovanni
Arteficina

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Guillaume Lory and Jérôme Valette (Cybion)

Lars Lööf (Council of the Baltic Sea States)
Letizia Cesarini Sforza and Francesco Carchedi (Parsec)

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Contents

Introduction

Children's Rights in the area of information technology is a new and emerging field which has been largely overlooked. Child Right's organisations should seriously consider this area if young people are to benefit fully from the developments in these technologies, particularly the Internet, without being negatively impacted by the malign or malicious uses to which these technologies are also adapted.

Save the Children, in its work to promote and uphold children's rights, believes that media empowerment should be a keystone in any approach. Children should be educated to develop an informed, responsible attitude towards computer and Internet use, allowing them to take full advantage of the benefits while empowering them to protect themselves from the inevitable harms the Internet may carry.

The Kiddanet project represents a first step in this direction. All parties interested in the welfare and well-being of children could use it as a starting point to keep exploring and implementing innovative methods and solutions for the realisation of Children's Rights in and beyond the limits offered by the Internet and the new technologies.

The Kiddanet project aims to provide safer access to on-line material for children aged 10 to 14 and, at the same time, to develop and encourage positive Web content for children. Its two main components – a dedicated Web portal and a filtering software system – have been used by Save the Children as case studies to assess both the difficulties and the benefits of a Child Right based approach to media empowerment. The filtering software represents the practical aspect of Save the Children's approach while the portal bolsters the notion of a creative and flexible environment where a child can safely and effectively communicate and access content deemed adequate for its developing capacities.

Save the Children endorses Kiddanet's approach to support development through personal experience, stimulating communication and interaction in order to help children shape and express their own opinions all while maintaining the respect for others, themselves and their Rights.

Executive summary

"Current media coverage on youth, and their interaction with the Internet, is dominated by concerns over the presence of stalkers and paedophiles, credit card misuse, and harm to youth by looking at inappropriate sites that contain pornography or hate literature. Not only do these articles tend to be one-sided, but they stop short of reflecting on the social, cultural and psychological impacts of the medium".[1]

In 2003, active users connected to the Internet numbered around 650 million and this figure is expected to grow exponentially in the next decade.[2]

Once confined to a non-commercially, publicly-funded closed network connecting government agencies and research institutions, the Internet has now become an increasingly privatised, commercialised "global network of networks", each day connecting millions of people worldwide, whether at home, school or work.

Global On-line Populations 2002-2004

Worldwide Internet Population 2002:	Projection for 2004:
604,111,719 (CIA's World Factbook)	709.1 million (eMarketer)
655 million (ITU)	945 million (Computer Industry Almanac)

There is no doubt that families with children represent one of the fastest growing segments of this exploding Internet population, posing interesting and challenging questions regarding the nature and the role this new media actually plays in children's everyday lives.

The growing awareness of the central position the media holds in children's lives and, simultaneously, growing public alarm over the associated dangers, has led to a close scrutiny of the Internet and its impact on youth by teachers, parents, social organisations, legal institutions, experts and researchers.[3]

Efforts to investigate and monitor cyberspace have subsequently proliferated with a view to identifying potential dangers and preparing appropriate measures to protect and defend the rights of children.

Although it has now become common to mention children's rights when analysing and assessing their use of the Internet to promote higher quality content and security, most of the efforts to protect and promote children's rights on the Internet are often generated from traditional stereotypes of childhood and media use. This results on focusing scope and attention exclusively on issues of protection from potential and actual harm. But what is generally lacking in literature, discussions and applied solutions is an understanding of the abilities children have in relation to their rights, particularly in participating in and gradually taking over decision-making related to their own lives and on issues directly concerning them.

What is also noticeably absent in debates and actions concerning children's use of the Internet, are more pro-active definitions of the quality, risks and opportunities that would help ensure the creation and maintenance of a media environment that could really enhance children's learning and development and not merely keep them from harm.[4]

Based on the experience provided by the Kiddanet project, a pilot project aimed at identifying new ways for promoting a safer and empowered use of the Internet by children, this report intends to offer the reader an alternative point of view for analysing and interpreting all the complex issues related to the use and production of Internet content and services for and by children.

Children have the right to access appropriate information, the right to freedom of expression, the right to participate in the media environment - as in society in general - and the right to be protected from harmful and illegal media content. Does the new media landscape meet these rights? Does the Internet allow for major freedom and learning opportunities, or, instead, does it imply greater inequalities? Are children growing up as competent media users, not only as skilled and

active information technology (IT) participants, but also as individuals able to socialise with and be tolerant towards other people and cultures? Or, conversely, do children devote too much time to material and services which contribute to sexual abuse, eating disorders, consumerism and to race, gender, ethnic and class discrimination?

Adopting a holistic perspective of children, in both everyday life situations and developmental paths, as well as using the framework provided for by the entire United Nations Convention on the Rights of the Child of 1989 (hereafter referred to as CRC) with its guiding principles and articles, the aim of this publication is to give a larger dimension to the idea of "children's rights" as it is usually conceived: not limiting it exclusively to the concept of violation, protection and provision but also including those pro-active elements, such as promotion and empowerment, which are essential for the full construction and fulfilment of children's rights.

Focusing on the normal development of ordinary children in Western Europe, we have attempted to illustrate how children can exercise their rights while using and consuming one of the most common and widespread media of our times, the Internet. In so doing we will focus specifically on those "forms", "conditions", and "requirements" necessary for the full structuring and upholding of children's rights when on-line.

Presentation of the contents

This publication consists of five main chapters, in addition to this summary, and annexes.[5]

Chapter I presents a brief overview of "state of the art" research on the Internet. Because of the relative novelty of the field and the fast and continuous changes occurring within the media environment, both as a technology and in its social context of use[6], information so far produced by academics, IT specialists and others interested in the field are often provisional and soon outdated. Nonetheless, some dimensions are emerging which can help us define the probable future horizons in terms of research methods of enquiry and main outcomes.

Chapter II introduces the main "theoretical" elements behind the development of the Kiddanet project. As Save the Children works for the promotion and upholding of children's rights, it has decided to adopt this interesting idea of developing a specific project on the Internet. This chapter explains how children develop new abilities and skills which must be understood in order to be adequately fostered and strengthened. The general focus should not be only on children's vulnerabilities, but on children's remarkable developmental abilities.
The chapter also introduces some of the main choices made during the planning and development of Kiddanet, such as the selected target group and the methodology applied in developing its main components.

Chapter III discusses the key results from the Kiddanet project survey conducted by Save the Children Italy in cooperation with Save the Children agencies in London, Madrid and Stockholm. It spotlights the different approaches to Internet surfing, on reactions children have when they encounter dangerous sites, and on specific proposals made by the children, parents and teachers interviewed to make the Internet a safe and secure environment. The chapter also points out the need to consider protective measures (such as filtering systems) as a part of an overall responsible and constant support from parents and teachers, with the caveat that even the most advanced technique will never replace the personalised and pro-active guidance that only a child-adult relationship can provide.

Finally, Chapters IV and V present the Kiddanet project's main outputs: the filtering software and the dedicated Web portal. Here, starting from an overview of the technical solutions developed during the project lifeline, an attempt has been made to inform the reader with the necessary information regarding the motivations, limits and opportunities these solutions present and how they were meant to support the overall "philosophy" upon which the project was based.

Why Kiddanet?

Today's ever-expanding World Wide Web is one of the most important media by which people share information. If indeed the Web features an almost limitless base of material that could be used for educational and creative purposes, it is also permeated by information harmful to children.

The desire of parents to prevent their children from being exposed to dangerous content means that much of the Internet's positive resources remain untapped. Up until now, none of the existing solutions aimed at making the Internet safe for children have been fully satisfactory.

Indeed, a system filtering material harmful to children with a 100% rate of success does not exist unless it functions on the basis of a limited number of pre-selected Web sites.This greatly limits the functionality and richness of content in e-services. Moreover, different ages and cultural backgrounds require different access levels to content. No service currently exists allowing parents and educators to tailor the access level of children or students.

Who?

The Kiddanet project is based on essentially non-commercial and multicultural principles and an expert knowledge of children and their rights. It benefits from two different and yet complimentary approaches to children and the Internet:

- Four Save the Children agencies - from Italy, Spain, Sweden and the United Kingdom - have united in this project to ensure that it respects and promotes children's rights in accordance with the UN Convention on the Rights of the Child.

- Different technological partners, each experts in their own field, have come together to ascertain that the project benefits from the best and latest technology and know-how.

How does it work?

This partnership has resulted in the project's two key elements: a Web site and a filtering system.

- The Kiddanet Web site provides a safe portal for children across Europe to meet and exchange information through a supervised forum. It also contains articles on contemporary subjects such as books, sports, music and cinema that aim to be entertaining as well as educational. Each one has been written with the purpose of, as much as possible, conveying the moral principles stated in the United Nations Convention on the Rights of the Child. Furthermore, the Web site was designed following the active participation and consultation with children and teachers in schools and then tested with more children to ensure that the portal met expectations.

- The filtering system, thanks to newly-developed 'intelligent' technology, aims at avoiding the overly-restrictive measures used by usual Web content rating devices (access to a defined group of Web sites only) to offer children a flexible and safe interaction with the Internet in accordance with their parents' and educators' wishes.

I. The Internet and children: an overview

The new media landscape in Western countries

The media and today's youth

Children and information technology development

"Exactly how the new digital media culture interacts with a teen's developing identity remains a question that is wide open for investigation."[7]

A new field

Scientific literature on the subject of "the Internet universe and the new generations" is still in its infancy. It would indeed be premature to expect researchers to have constructed solid, all-encompassing interpretative patterns. Studies of the Internet are evolving in light of a phenomenon too recent to be captured fully, especially as weighed down by conceptual debates from the past.

As a result, many of the articles and research available on the subject draw conclusions or construct insights and solutions upon more established literature on traditional media diffusion and consumption, such as the nature and consequence of children's television viewing, the distribution and management of new technologies within the home and the family structure, or incorporation of educational technologies in the classroom environment.[8]

Yet, university and national research centres, government agencies, legal research and literature have all displayed increasing interest in the subject in the last few years. The growing specialised national and local research, together with legal decisions and draft legislation aimed at monitoring the Internet and protecting users, is evidence of this new attitude. Finally, conferences and seminars investigating the multifaceted impact of the Internet on the contemporary social and cultural milieu are growing.

Limits

It is important to stress that all existing knowledge is generated from only a few countries with specific media situations and that many research findings cannot be applied or simply generalised across frontiers.[9] Today's ever-changing media environment means that research can often be outdated especially when dealing with quantitative, mainly descriptive issues, such as access statistics and users' main preferences. Moreover, these same "conclusions" are inevitably diverse, making them difficult to compare and apply across and within different countries and contexts due to substantial differences both in heterogeneity, income, ethnicity, geography and lifestyles of the analysed target users.

What is particularly worrying is the fact that much of what is known so far is either confined to the realm of market research, where it is often completely out of reach for outsiders, or dominated by heavily descriptive accounts of the nature and context of Internet use rather than attempts to offer more theoretical, innovative explanations which could shed light on the real meaning and impact the media has on children.

As a result, in researching Internet-children related issues there is no agreement on "if and how" the technology is to be judged beneficial or harmful and how the economic, political and cultural dimension of its use and dissemination are going to change in the near future. As one moves from questions of access (i.e. counting the number and geography of Internet users) to questions of meaning, use and impact, exploring the relevance of the Internet on children's everyday lives is a very difficult task.

The new media landscape in Western countries

"To construct a realistic image of young people [and their style of media use], they should be studied in the setting of daily life, in contact with the objects of use, focusing on the relationships they establish with the old and the new keyboard of the media".[10]

When drawing together studies and information on children's use of the Internet, its consequences and implications for policy and actions towards children, what does it all tell us?

Although it is too early to assess the full impact this new digital culture is likely to have on children, it is not too soon to start identifying its major features, the forces shaping it and the direction towards which it is moving. Indeed, despite the relative novelty of the field and its inherent and natural shortcomings, a profile of the on-line environment is emerging which can aid in defining some of its future developments.

Past media research has shown the extreme difficulty in establishing cognitive, emotional and behavioural effects of media use on children. These same questions are now asked of the Internet. With what success?

A common theme in the available literature is the need to reconcile those opposing views which draw heavily from past studies of children and television viewing and portray the Internet either as a completely positive or negative reality. While risks should definitely not be underestimated, it is equally important to concentrate on the possibilities that the Internet and new technologies can offer children in developing their individual identities and paths of socialisation.

Furthermore, there is a need to balance between recognizing the active role children have in shaping their own environment and the need to protect them from the snares of the Internet. The Internet is not merely a technologically-driven reality, but its use and impact must be contextualised within the larger context of the family or friendships, the level of communication and interaction that develops within that context, and the cultural profile of the arguments developed and adopted.
In exploring children-Internet related issues it is necessary to be aware of all the features which characterise and differentiate the Internet from other media of mass consumption, just as it is fundamental to take into careful consideration the particular nature of its young users, exploring the needs, interests and reasons (personal, social and cultural) for which they use the medium. All this, while keeping in mind the relevance of the context in which this use is constructed and takes place.

The next paragraphs try to map out what has and has not been researched regarding the issues of children and the Internet, together with an insight into the areas of main controversy.

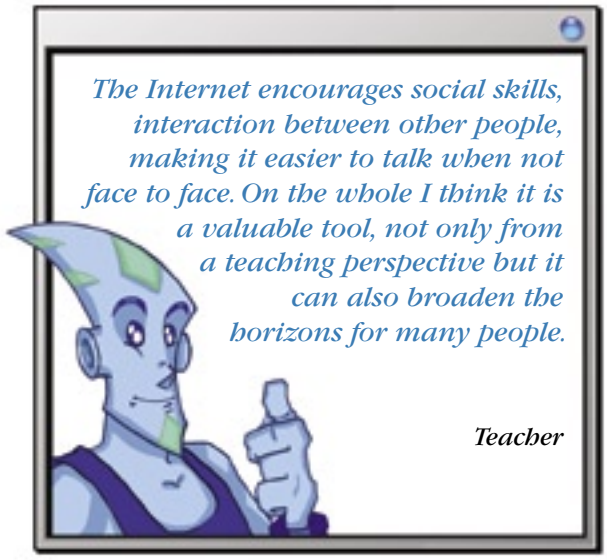
Distribution and management of new technologies

Just a few years ago the Internet's significance in children's and families' everyday lives was barely understood as most people never used it. Although the Internet has been available since the 1960s when it was developed in order to protect and facilitate military communications, it was only in the early 90s, when a new generation of software – the World Wide Web (WWW) browsers – were presented that Internet use became widespread. And, as figures show, its dispersion within society has been one of the quickest of all information and communication technologies (ICT) and traditional media in general. Nowadays, far from being the privileged medium of early adopters and of a few wealthy individuals, the Internet has come to invade the mass market, thus deeply entering people's everyday lives.[11]

The Internet has also required a parallel and equally rapid adaptation to acquire the necessary skills for understanding and appropriately managing the use of the Internet. This is not only the result of a technological push, but also of the growing conviction that the Internet can provide a possibility of more easily controlling the complex reality of a world which is becoming increasingly "globalised". Mastery of this new

technology is then deemed necessary in order to be able to interact with different cultures, to develop new skills, to socially advance and fulfil work aspirations.

As with adults, the Internet offers children new important and once impossible forms of socially mixing and exploring. Through e-mail exchanges, the Web, on-line games, chats and other services, children are now increasingly able to relate to others living in far away places, to meet different people and learn about their lives, their history, games and many other topics which can enhance their own knowledge of reality in unprecedented and unparalleled ways.



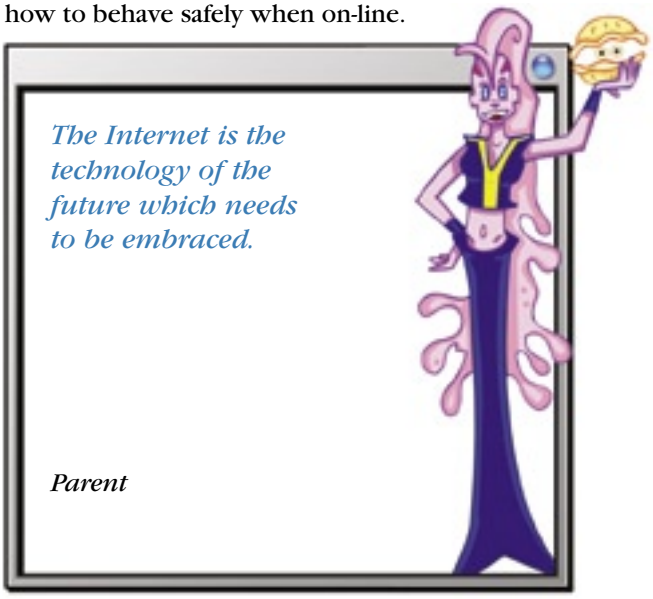
The role of children in the "technological" family

Studies from Europe and other economically-advanced countries suggest that young children have progressively more personal possession and access to media equipment, such as VCRs, computers, radios, etc. And as computers are more present in homes, a series of important questions for parents regarding the management of their children's on-line activities have arisen. While parents centre on the educational advantages of the Internet, children seem to be more inclined to see it as an entertainment environment. However, we should not forget that computer use is but one of several other activities (such as study, play, sport, etc.) in a child's day, so that choices related to computer location, time allotment and ultimately its use, should always be contextualized.

Indeed, several surveys confirm that parents buy home computers and subscribe to Internet access to provide educational opportunities for their children, to prepare them for the so-called "information-age". Similarly, further research also suggests that children and teenagers play a key role in advancing their parents' knowledge of the Internet, given that many adults lack confidence in its use. This aspect has been often highlighted as a major change within the traditional family structure. Children are, for the first time, those who are able to teach, rather than to learn from, adults. The nature of children's expertise, however, should not be taken for granted as many children are not always as expert as adults think. Although children are dubbed "media savvier", their expertise is often confined to the realm of efficient IT use, which does not in itself mean appropriate competence in judging and internalising the contents and meanings "transmitted" via the Web.

At this stage, it is important to underline that rather than protecting children from the dangers of the Internet, restrictions and prohibitions on children's use of the Internet can infringe their individual right to information, turning it from a medium of free expression and speech into a domain ruled by hypocrisy. In addition, legal bans or quick fix technological solutions might lead parents and educators to lower their guard and feel less directly responsible.

In contrast, just as parents should not abandon their children in front of the television, they should equally be aware of the risks of unsupervised Internet use. This does not mean stunting a youngster's desire to explore and investigate; rather, it involves creating shared moments for discovery, communication and interaction. Parents may learn about the Internet from their children, while providing them advice and teaching them how to behave safely when on-line.



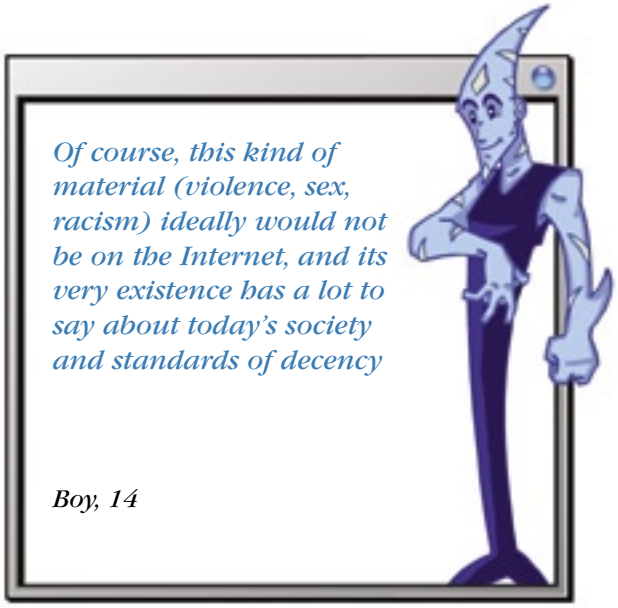
Common perceptions about risks of the Internet

"Much of the discussion about the World Wide Web has focused on how to protect young people from the perils, to prevent innocents stumbling across 'adult' sites or into the clutches of paedophiles. 'The Internet can be a big and dangerous place for children, but for the price of a phone call, it needn't be', promises a newspaper advertisement for an Internet provider specializing in protecting children in cyberspace. Such manipulative marketing schemes are confident that they can convert parental paranoia into hard cash."[12]

As current research considers only some countries, specific vulnerable groups and particular risks, it is usually too limited in scope and breadth to draw precise limits and reach definitive conclusions regarding the real nature and impact of risks on children's cognitive, spiritual and social development. Indeed, although a growing body of literature discussing Internet's and related technologies' negative impact on youth is quickly emerging, little is still known about the risks children are faced with when using the media.[13]

The difficulty in drawing a clear watershed between a risky and a dangerous situation adds complexity to the matter. The very definition of risk is often value laden and/or highly subjective. For instance, while some worry that the Internet offers anonymity and deception in an on-line communication environment; others consider these very aspects positive elements in enhancing a child's development.

Among the critics of the Internet, several scholars generically bemoan what they fear is the "slow subordination of the child to the screen"[14]. In their view, constant exposure to the medium destroys a child's capacity for critical analysis of reality (usually associated with and credited to written texts), while the intuitive immediacy of eye contact with the screen allegedly obliterates individual creativity and abstract thinking. Pessimists generally argue that content and use of the media are overwhelmingly violent, sexist, racist, often leading to desensitisation and decreased empathy, if not even inhibiting mental processes and social relations. In the specific case of cyberspace and computer-mediated relations, these critics investigate whether the Internet causes further user addiction and social isolation, and frequently refer to the undeniable fact that children could come across material they (or their parents) do not or should not want to view.



Setting aside the technological threats, the risks that generate most concern are of a social nature, that is those that are seen to have a deep and profound impact on children's social, emotional and physical lives. These are, generally, divided into three main categories[15]:

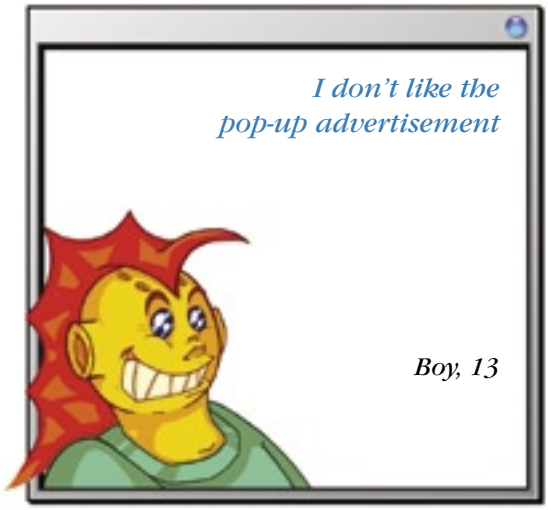
1. Content: One the most common themes in the literature on children and the Internet is that a child may be exposed, inadvertently or consciously, to inappropriate material that is harmful, perhaps even illegal, and that dangerous or illegal pursuits are encouraged with on-line surfing. It is thus possible, notwithstanding the differences in national legislation, to identify a general category of material that violates human dignity, comprised primarily of child pornography, extreme gratuitous violence and incitement to racial or other hatred, discrimination and violence. As enough evidence suggests, chances are that unsuitable material will be found by children while on-line, either because it was expressly searched for or, more rarely, because it was found accidentally (by means of e-mail, sites exploiting type mismatches, or links in an otherwise ordinary context).

2. Contact: Another significant danger that is receiving greater attention is connected to potential contact with paedophiles (keeping in mind that, according to statistics, violence within the family is much more relevant), with people met in a chat room or via ordinary e-mail, which may exploit children's innocence to harm them or their families. Teenagers are more likely than adults to use the Internet for social purposes such as talking to distant friends or playing on-line games with chat facilities. Offenders can pose as sympathetic peers and trap or induce unsuspecting children

into giving out contact details, pictures, or other personal information. They can fool a child by engaging him/her in sexual conversations and/or arranging meetings with him/her.

3. Commercial: The comprehensive restructuring of media markets around the world, mainly driven by economic forces and increased competition, have rapidly involved the Internet. Nowadays, the intensified media commercialisation and the globalisation of its contents and services has also meant deteriorated possibilities for individuals and organisations alike to supervise media output and to implement clear policies. As part of this general trend, children are progressively becoming actual and probable on-line consumers, with a significant growth in teenage on-line spending, which seems to be driven by the following key reasons:[16]

- *Awareness:* parental lack of understanding/ awareness regarding the extent to which children are being driven towards on-line spending;
- *Children's activities on-line:* children's on-line activities are often carried out alone, with no adult supervision;
- *Nature of the Internet itself:* unlike other media, it is highly unregulated;
- *Sophisticated technologies:* technology makes it easy to collect information from young people for marketing research, and to target individual children with personalized advertising;
- *Brand push:* by creating engaging and interactive environments based on products and brand names, companies can build brand loyalties from an early age. Virtually every big consumer goods industry is marketing to children, either as a primary influence or future market;
- *Children's spending power:* apart from direct spending, children also wield a growing leverage over parental purchases.



Although it is very important to address the risks and concerns surrounding the Internet, researchers, IT developers and those interested in the field increasingly acknowledge the necessity to avoid unjustified moral panics or public fervour. In recent years what has clearly surfaced is the need to overcome the excessive pessimistic and optimistic views that surround children and the Internet and find a balance between them.

From mass media to new technology: active or passive users?

In debates regarding the negative and positive aspects of the Internet, a polarised, active versus passive model of media use is often implicit and, at this stage, it is worth asking whether standard models and styles of Internet use can be defined, and, if so, on the basis of what criteria.

In general, scholars divide media use into two broad categories. One is mass media consumption in which the user is a passive spectator who watches, emotionally partakes and absorbs information. The other is connected with new technologies and the Web where the user is more like an actor who participates, communicates, interacts, constructs and decides the nature of his relationship with the medium on the basis of personal needs and interests.[17]

It is obvious that individuals develop their own relationship with the Internet on the basis of their intellectual habits, on time availability, media styles and Internet literacy, together with factors typically linked to age, and many other relevant variables.[18] However, rising consensus undermines the impact that the social and cultural context has in determining the degree and nature (active or passive) of the individual's relationship with the medium.

The intention is not that of relying on the classic active/passive debate to describe the shift from the mass media to the new technology mode of utilisation. Enough evidence suggests that people can be active also when watching television, insofar as they possess and use adequate cognitive tools to analyse and interpret the messages transmitted by the medium and to adapt them to real everyday life situations. Nevertheless, it is also acknowledged that, when using new technologies, people tend to feel their experiences in a more profound way. Indeed, they are not only receiving and interpreting information but they are also expressing

their views through interaction, exchange of information and assessments of reality.[19] For example, the new media may enable children to directly intervene on-line and suggest changes in a cartoon character or script or even to take part in preparing a children's programme on the Web[20].

However, in order for children to be true active users of the new media, certain criteria and conditions must be met, briefly examined in the following:

New technologies and cyber literacy[21]

Specific literature on communication commonly identifies an individual's personal approach to the use of new technologies as an indicator of the level of his/her active involvement. This expression denotes the individual's ability to decide his/her own path of media consumption according to needs and inclinations and in response to macro and micro social stimuli, i.e. inputs originating within a national cultural and ideological framework or developing within a local context, in which values and symbolic meanings circulate and are exchanged.

Social climate affects the structure of an individual's personality, his intellectual paths, the way he sees himself and how he relates to others and, therefore, how he uses a medium. However, according to this approach, which draws on reception analysis developed by cultural studies,[22] equal importance is attributed to the micro social setting of media utilisation (e.g. the family or friendship context), the level of communication and interaction that develops within that context, and the general cultural profile. All these factors come into play to define the nature of media utilisation and the skills required for this use to be really effective and adequate.

As a result of new information and communication technologies (ICT), the question of whether a new form of media literacy is materialising has become central, especially within the academic field. But what does "media literacy" exactly mean, and what is it for? This term has long proved contentious but is accepted today as a necessary pre-condition for many of the skills required at work, in education and at home. Four terms seem to be particularly relevant in defining new forms of "cyber literacy": access, analysis, evaluation and creation.[23]

- **Access:** Developing media literacy begins with granting access. Access, however, is not a one-off act of provision but rather a process where the user is increasingly able to influence and shape the conditions of his/her access as he/she develops literacy.

  In the case of children and the Internet, there are more or less subtle dimensions of access which must be taken into account. These range, among others, from simple issues of permission and location (such as when, where and how to use the computer), to more complex issues of technological capacity (how to install or run software), to social and cultural norms (how to participate in a chat-room, in a forum, during e-mail exchange, and so on).

  As access is not a simple matter of hardware and software provision, it must be evaluated in terms of the nature and quality of the material, services and messages which the technology is able to provide and the context within which this access takes place. Regarding this last point, research[24] shows that children whose parents are overly fearful or anxious of on-line dangers may be inhibited towards a free exploration of on-line material, become very cautious when on-line and, therefore, miss opportunities the Internet offers. On the other hand, children without the guidance of parents or adults, although more confident and creative when using the Internet, may lack the experience of effective learning which comes with appropriate support.Accordingly, research warns that using the Internet alone, without discussion, interaction and communication with others, can result in spasmodic, almost maniacal recourse to virtual reality, leading users (especially children) to lose their sense of reality, of contextual definitions and the corporal existence of people.

  Introductory programmes on the critical use of new technologies appear vital in order to enable families and schools to establish a dialogue with children on the forms of expression and opportunities for social interaction offered by the Internet.[25] Indeed, several authors underline the importance of teaching children a critical perspective in relation to the use of technology and the Internet, becoming neither "phobic" nor "maniacal", but remaining aware of the opportunities and risks that technology promotes[26].

- **Analysis:** In order to develop effective media literacy, the user must have effective analytical skills. In this context, analysis implies an understanding of the categories (such as genres, forms, channels), agents (communicative purposes, institutional and production context), technologies (production process, access, and use), representations (relation between text and reality) and languages (codes and conventions) conveyed and created for and by the media.[27]

  According to several researchers, the acquisition of effective analytical skills for the on-line world implies the gaining knowledge of the formal qualities of the Internet, i.e. the way Web sites are constructed and structured, the use and meaning of hyperlinks, keywords, search engines; in other words, the way the Internet works and is represented. In this respect, all seem to agree that to go beyond simple access, children require a new form of critical awareness of the media, starting with the ability to recognise the different formal qualities and natures of the Internet.

- **Evaluation:** However, there is little point in having access and analytical skills if one is not able to evaluate the meaning of what is conveyed and created in the media environment. In this way, evaluation means the capacity to apply cognitive and social knowledge processes to adequately interpret the meaning of what the media conveys and represents. Research shows that the ability to assess on-line material and services cannot be taken for granted, even when this ability is well-developed in relation to other media, such as television or print[28].

  With Web content it is often difficult even to determine simple features such as the author, the date of publication which, in other situations, help to judge authenticity or genre. So for the Internet, no easy solution is available on how to develop those critical evaluation skills that should constantly be applied. The question of cultural quality and value is very difficult because it demands that the user draw conclusions from a vast and substantial body of contextual knowledge. This difficulty is further amplified by the fact that virtually anyone, with very few limits, has the possibility of producing and disseminating on-line content. As a result, many children seem to judge the quality of material and services (of Web sites for example) based on aesthetic qualities or brand reputation, without fully understanding the meaning and purpose behind the messages communicated.

  It is indeed generally recognised that critical evaluation skills are often lacking in children, especially younger ones, who despite being "technological media savvies", are frequently incapable of appraising the full extent of messages sent in the media. Consequently, the idea of augmenting actual efforts towards establishing effective media literacy programmes and curricula is growing[29].

- **Creation:** One of the crucial aspects of the Internet is the possibility for users to both consume and produce its media content. Children would undoubtedly achieve a major level of access, technical understanding and ability to critically evaluate if they were given the chance to actively participate in the media environment. This is why creation is an important element of media literacy. Moreover, to exclude active participation means to greatly underutilise the opportunities offered by the Internet and new on-line technologies, which can contribute to developing a child's right to self-expression, as well as to cultural and political participation.

How children use the Internet

Several cross-national surveys have shown that there is a huge variety in Internet use styles according to age and gender. In general, the youngest tend to use the Internet primarily for games and entertainment, while it is also used for educational and more focused activities with age and maturity.

If particularly advanced countries are not taken into consideration, research reveals that children's first contact with the Internet rarely occurs before the age of 8, even if there is a computer in the home. However, there is not enough information to determine whether this is due to a lack of hardware and software or parents' efforts to protect their children by postponing their Internet baptism.

Various studies also acknowledge that children's use of the Internet, like that of other media, does not allow for such a radical change in their lives as many are ready to suggest. Instead, it shapes and is shaped by more common and everyday practices and routines. "As a consequence, media culture, youth culture, consumer culture are increasingly intertwined, creating generation gaps and gender differences in everyday culture."[30]

A richer, more diversified supply of communication opportunities enables children to decide the what, where, when and how of their media use. In a pattern described by several authors[32], children are now able to follow personal paths, exploiting a range of resources to construct their identity amidst the crisis of social values.[33] Despite the availability of the media, young people have not given up on friendship and other interpersonal relationships, which are decisive for their personal growth and also help to vary the use they make of the media. The accepted and drastic notion that technological advances and media utilisation blunt awareness and alter the traditional modes of social interaction, therefore, does not appear to hold up.[33]

At home and at school

An important distinction should be made between a child's use of the Internet at home and in more institutionalised places such as schools and public libraries. Broadly speaking, computer use at school is highly supervised, curtailing exploration of Internet material and services. Indeed, within the classroom and most other institutional settings, restrictions on the use of computer technology are common. For example, limits are placed on sites visited or time allowed on-line.

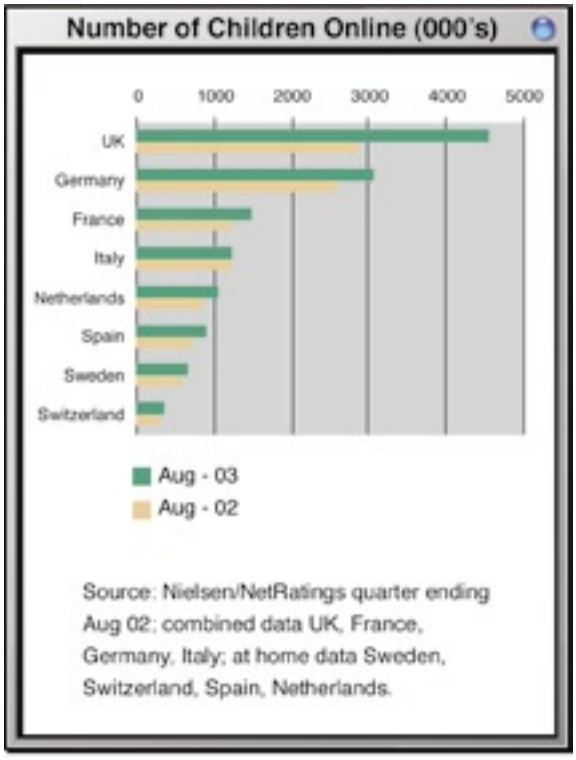
When students are outside adult-mediated settings, they can use computer technology more independently, leading to different experiences with the medium. As most surfing takes place at home, if a young child is supervised and facilitated by an adult or an older sibling, and if the family agrees to put into practice the general computer/Internet principles learned at school, this can turn into a stimulating and reassuring experience for all.

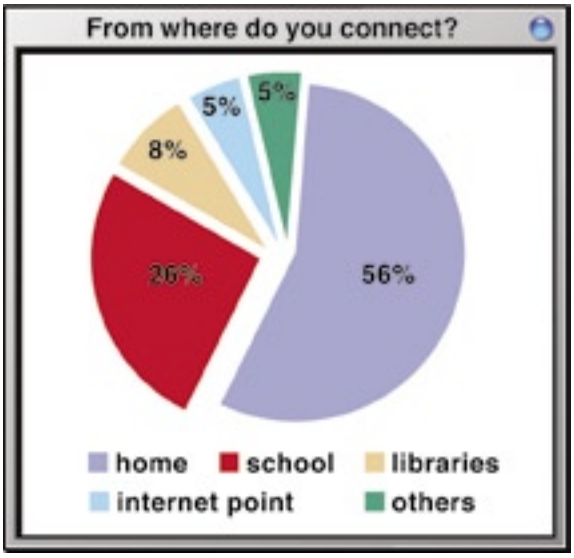
When at home, the mode of access to the computer itself shapes the way the child can explore the machine and, eventually, make his/her way onto the Internet. While the computer at school

is a tool, with no hierarchical predominance of computer lessons over more established subjects, and where access is, in general, strictly controlled, the place of a computer in the home varies. This depends on the parents' attitude towards technology in the first place, on their approach to computer-aided education, and lastly on the child's responsiveness to computers, as playing with friends and television remain the most important competitors to the total share of leisure time available to a child.

Favourite on-line activities (8-14 year olds)[34]

According to recent statistics, the number of children on-line in Europe has grown substantially in the past few years. There are now over 13 million children, four million under 12, and nine million 12-17 year olds, on-line in Europe. As obvious from the following table, Britain has more children on-line than any other European country.





Bearing in mind the difficulty in providing an accurate picture of the use children make of the Internet, what are, in general terms, children's favourite activities when on-line?

Numerous sites list children's favourite activities and use of the Internet, including records of the most commonly visited sites. In Europe and North America, where most data is available, children generally use the Internet to aid with schoolwork, visit entertainment sites, download music recommended by schoolmates, send greeting cards, search for information on their cartoon or movie heroes, play on-line adventure games and exchange countless messages in chat rooms and by e-mail.[35] What is worth noting is that children also seem to particularly value and seek out commercial and global brand Web sites.

In all countries, computers seem to be put to extensive use as game consoles. Many children, mostly boys, download various kinds of games from the Internet as well as look for shortcuts to solving games; while both boys and girls extensively download music or seek information on celebrities and sport heroes. Special interest sites ranked high in children's preferences: music, cartoons, comics, games, television, sports and music celebrities. More serious topics (such as sexuality, drugs, religion) are less frequently hit by

children aged 10 to 12 but consulted noticeably more from age 13 onwards.

As obvious as this may appear, it is worth mentioning that, apart from a few countries where language is not an issue, the lack of on-line services in several languages is an important factor in shaping children's on-line activities. Whereas children use the media for many purposes, when on-line services are not available in their mother tongue, younger children in particular are restricted to a more traditional and less informative use of the Internet.

Trends in use of the internet by European families

Parents	Children
Mothers between 40-50 usually do not use the Internet; however, younger mothers and those who work outside the home connect quite frequently	Children generally start using the Internet around age 8-10
Children sometimes show their parents how to use the Internet	Children's use of the Internet is often a "social activity"
Parents often use the Internet to: • search information on news, jobs, hobbies and leisure activities, including sport, music, cinema • as an alternative means of communication • e-mail • on-line shop	Children 10-16 usually use the Internet to: • play games • do homework and conduct research for school • e-mail • watch videos, movies or cartoons • listen to music • instant message • read celebrity and music group information • read about movies and TV shows
Parents' notion of the Internet usually comes from the television	For children, television or comic characters often drive initial searches

Source: adapted from AOL/DMS, October 2003 and University of Cadiz:" TOWARDS THE SAFE USE OF THE INTERNET IN FAMILIES", 2002.

Children and information technology development

"In recent years researchers have come to accept the notion of children as possessing certain abilities that can help in solving real-world problems for adults as well as for themselves."[36]

Although a specialist and non-commercial research field on children and the Internet is fast on the rise, most of it seems to neglect several important aspects of children as a specific social group. Nevertheless, how this field will develop in the near future and what its main findings will tell us about children and the Internet will be highly influenced by the consideration children are given in the research and development process itself and how their views and opinions are accounted for by adult researchers and IT developers. Undeniably, different concepts of childhood have crucial implications for adult attitudes, behaviours and practices towards children. Although children require special care and protection, it is also vital to recognise and respect their capacities, interests, concerns and needs as full individuals with their own ideas, perspectives and rights.

The role of children in Internet research

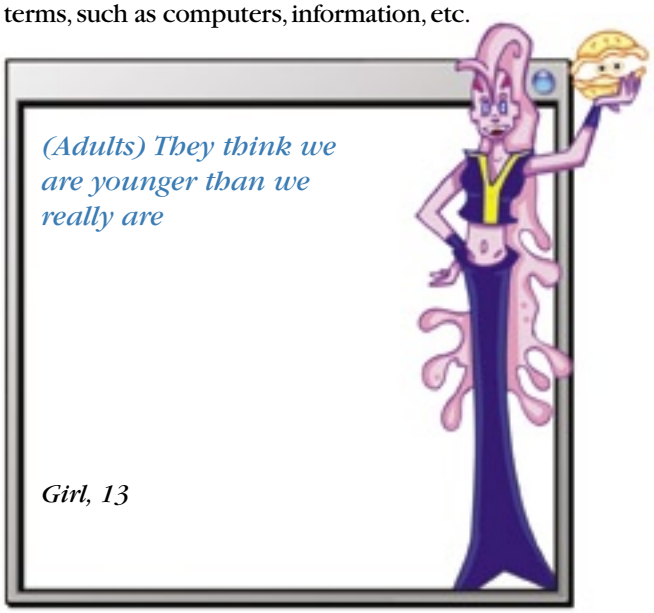
Traditional stereotypes regarding the very meaning of childhood have often relegated children to the margins of family structures and/or school and institutional activities, often presuming an easy inclusion of children in more general discussions about "population, or [leaving them aside] unproblematically spoken for in surveys of parents [with no consideration for their needs and perceptions]."[37]

By emphasising parental anxiety or children's' special vulnerability, even if children are acknowledged as a specific group and not just part of the more generic umbrella of the user-population, this distinction has often not brought about an appropriate concern regarding the needs and special competencies of childhood, which in turn leads to an insufficient and partial analysis of these matters.

While the adult population is generally discussed in terms of demographic, gender, class and ethnic differences, children are too often defined and differentiated only according to age, and therefore, treated homogeneously. But as children are also characterised by demographic differences, as well as by many other dimensions, new research aims to take all these elements into account, treating children as active agents, rather than passive recipients of help, regarding them as full individuals able to construct and shape the new media environment themselves. This line of research dispels the adult-centric approach, avoids constructing an image of children as merely vulnerable and passive - as adults still in the making - and instead concentrates on the specific skills and needs that childhood presents in its own.[38]

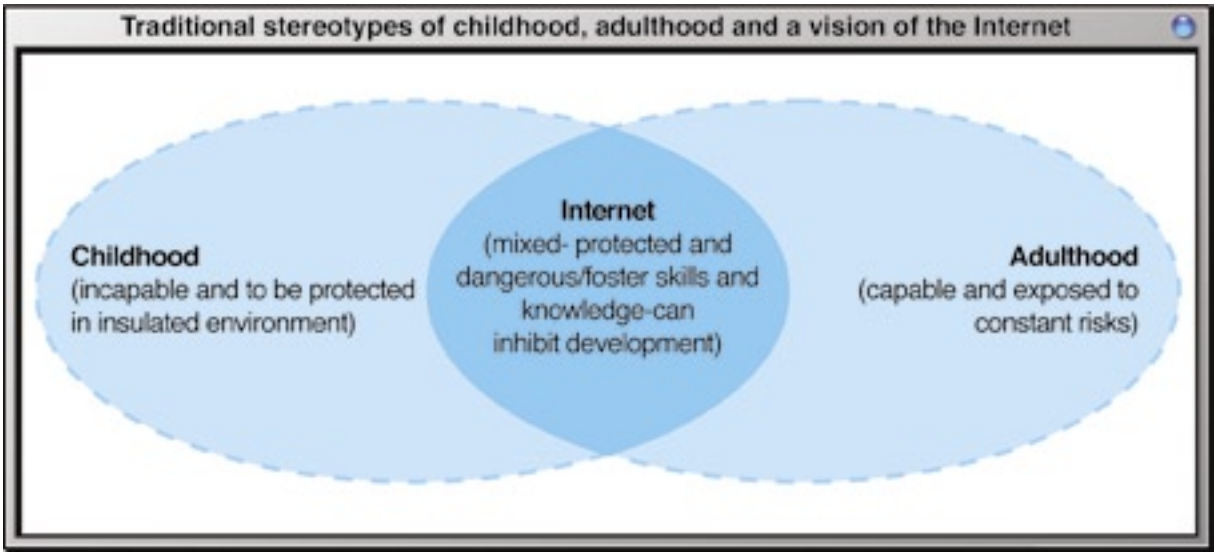
Several reasons account for the inadequate significance researchers give children, even when the stated intention is one of exploring the use and impact of the media on their lives. In this respect, apart from issues connected to "normative" approaches, two mainly "practical" reasons seem to be particularly relevant:

Firstly, there is a question of "adjustment". Even when interviewing children, it is not that uncommon for adults to unwillingly impose their own biases and perspectives on children's experiences, interpreting their answers through inappropriate lenses. One of the main reasons for such a distortion is very often the different way children and adults define key terms, such as computers, information, etc.



Secondly, there is the issue of "access". Children largely use the Internet at home.Whereas researchers gain information of children's on-line activities mostly in schools, libraries and other relatively open and public places, capturing a glimpse of children's private use of the medium raises a series of logistic and ethical dilemmas that are not very easy to solve. Observing and interpreting children's use of the media at home may indeed require an unusual degree of intrusion which may compromise the relevance of the data collected, and it would require treating children as full and active collaborators rather than simple objects of research. This is still highly problematic for many people, and for children themselves, as it requires an increased dedication of time and effort on their behalf.

Nevertheless, in recent years numerous methods have been developed in order to bring young technology users into the research and development process of new technologies. As aptly put by Condon: "As a scientist, you're trained not to see certain things, not to look in places where you've never found useful information. There's a real advantage to opening things up to people who don't have those kinds of preconceptions."[39]



Why should children participate in developing Internet products and services?

Children are more than simple media consumers.This is especially true in the case of the Internet, where children can be, and very often are, also creators of on-line content and services.

But how important is the Internet in children's everyday lives, how and why do children themselves think the Internet could be of any help or harm is rarely directly asked them, and more rarely is it for children to express autonomously their opinions and ideas regarding what changes should be made in on-line products and services to attain their own needs and positive expectations.

Even when children are involved in the research and development of IT products, this involvement does not necessarily mean that children are actually participating. For instance, children can be asked by adult programmers to draw their ideal Web portal, then adult researchers, after collecting and synthesizing these drawings, could come up with the "children's design" for the ideal "child Web portal".

However, if the process of analysis is not shared and not made transparent to children, if children do not understand why and how their ideas were used, then their involvement has not been very participatory.

The role of children in Internet development

Recent studies highlight the importance of participatory design methods that researchers and IT developers have innovated in order to more effectively include children in the creation of new technological ideas and services and in order to explore in a more detailed and unbiased way what children would want the Internet and new technologies to be like.

As already stated, technology can be a means to improve children's learning and entertainment environments in creative, new and unexpected ways. Because successful development should incorporate the technology users' viewpoint, all these new inquiries are particularly significant because they provide effective means for including children in the research and development process from beginning to end.

Following is a brief review of the main roles played by children in the Internet, in new technology research and in the development process, stressing the main challenges and benefits these roles play both for the effective design of the new technologies and for the development of children's competencies and skills.

- **User:** This is probably the oldest role and remains today one of the most commonly pursued. Already in the late 1960s-early 70s children were asked to contribute to IT research and to development processes mainly by using the technology, while adults observed the way children interacted with the media. According to this approach, researchers investigate the child's activities and the impact technology had on children's learning experience. In spite of the specific concern, the aim is to develop general recommendations for future use.

  When children have other roles, they have more input in the design and development, but can, at the same time, slow down the process. It is for this reason that the above style of research, is usually undertaken by academic researchers rather than media developers or industry practitioners, as the time between the "development process, the child as user, and the published study, could take years. In the meantime, technologies are continually changed, revised and updated."[40]

  The impact this role has on media development is therefore less immediate as it does not respond to the need for swift and commercial results industry practitioners generally look for. This role also only has a slight influence on children as their contribution to the technology development process is limited. Children do not initiate any change and are usually considered as mere objects of study. However, the positive points are that it is easy to incorporate children in the research process as only a little amount of time and no specific skills are required.

  In this case, children's participation is meaningful only if:
  - children understand the intentions and final aims of actions they are performing;
  - if they know who makes decisions concerning their involvement and why;
  - if they volunteered for the project activities after the project has been fully clarified to them.

- **Tester:** Developed in the late 1960s by Seymour Papert's group research which pioneered a new approach for childhood teaching and learning with technology, this role has become common in both industry and academia since the late 1980s-early 90s[41], therefore it is rare for children not to be involved in the testing of new market technology products.

  As with "users", researchers and industry professionals study the young tester's activities, likes/dislikes and changes in learning and interaction. However, the involvement of children in this case is different: children test the technology to see if it meets design goals, while larger research questions are omitted (such as education and future developments of ICT, the meaning and impact of the developed contents, etc).

  The project is designed and administered by adults, but children understand the process and their opinions are treated seriously. An initial version of the project is created and then critiqued by children. Then the project is redesigned by adults and the result shown to the same panel of children. The advantage of this role for children is that they feel empowered, they feel that adults take an interest in their opinions and want them to have a say in the development of new technologies. But as "users", children are asked little more than to use technology, and most of them are already sufficiently skilled to do so.

  In this scenario, the children can have an almost immediate impact on technology and their suggestions regarding new features can

be, according to time and resources, easily incorporated, these changes can in practice seldom take place. Children do have some input and the technology developed should be more interesting and mirror children's needs and wishes. However, adults always have the final say regarding what will be created: the initial design, the brainstorming and the development of the product are completely in the hands of adults and children still have a minor role.

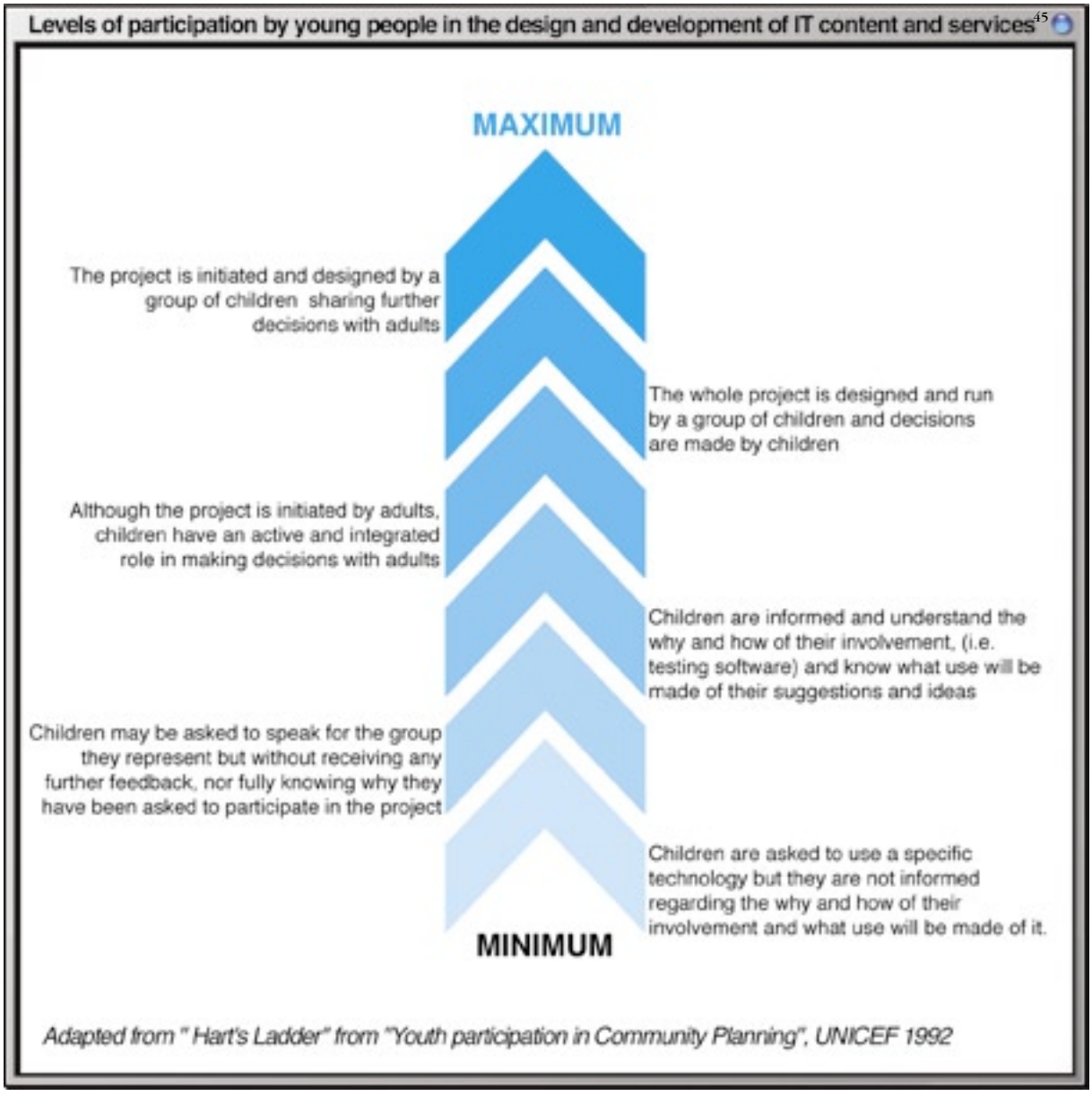
- **Informer:** A clear understanding of this role did not emerge until the late 1990s.[42] In this position, children are both users and testers, and consequently encounter the same advantages and disadvantages envisaged for each of the two roles.

  Before and after the technology is developed, the child may be observed and the researcher or industry practitioner may ask for his/her input. Children, therefore, contribute to the design process in a more substantial and participatory way as they are involved in every stage. They can have an influence on the choices that are made, on how the technology is shaped and, most importantly, they can give an indication of children's reaction to that particular technology. Yet, the role children are given the chance to play is based on what researchers believe children can tell them. Adults decide when and how to work with children and what they want to hear from them. In other words, adults set the guidelines.

  The most interesting aspect of this role is that, as children are involved in problem-solving and brainstorming experiences during the project's different stages, they are likely to feel more empowered than in the previously described positions.

- **Design partner:** This role is probably the most challenging for both children and adults. Here the child is considered on a par with adults in the research and design process. Although children are rarely able to do all an adult can do (at least technologically speaking), they are given equal opportunities towards contributing to the design process. Children and adults involved continuously redefine "new power structures, in which neither children nor adults are completely in charge,"[43] while both need to become accustomed to "working together as critics, designers and inventors."[44]

In this case, children are not assigned "tasks" by the adults, but collaboration is established and common goals are set. As stated, the fact that neither adults nor children are in charge means negotiating team decisions, establishing communication and collaboration methods. Adults are generally more inclined to "teach" rather than to "partner" with children: old habits, therefore, need to be challenged. Moreover, the commitment required of children may sometimes be too high and conflict with their daily activities. The positive point is that children will feel truly empowered and challenged.


Levels of participation by young people in the design and development of IT content and services[45]
MAXIMUM
The project is initiated and designed by a group of children sharing further decisions with adults
The whole project is designed and run by a group of children and decisions are made by children
Although the project is initiated by adults, children have an active and integrated role in making decisions with adults
Children are informed and understand the why and how of their involvement, (i.e. testing software) and know what use will be made of their suggestions and ideas
Children may be asked to speak for the group they represent but without receiving any further feedback, nor fully knowing why they have been asked to participate in the project
Children are asked to use a specific technology but they are not informed regarding the why and how of their involvement and what use will be made of it.
MINIMUM
Adapted from " Hart's Ladder" from "Youth participation in Community Planning", UNICEF 1992

II. Kiddanet: empowering children

Why Kiddanet?

The target group: 10-14 year olds

Children's rights

Developing Kiddanet

Conclusion

Why Kiddanet?

"Everyone has the right to freedom of opinion and expression; this right includes freedom to hold opinions without interference and to seek, receive and impart information and ideas through any media and regardless of frontiers."
Universal Declaration of Human Rights, Article 19

As Save the Children works to promote and uphold children's rights, it has decided to embrace the interesting and necessary idea of developing the Kiddanet project. The main reason for this decision is that insufficient attention has been given to children's evolving capacities, opinions and real needs - not only in terms of education, but also in terms of entertainment and communication – as regards the Internet. Indeed, while child-specific products and content are rapidly populating the Web, the majority of these are often driven by and developed according to a purely commercial logic, often failing to offer what children really need and deserve to attain their full potential.

The Internet represents a new world, albeit a virtual one, where children and adolescents enter new realms of participation, enjoy constant exchanges of knowledge and experiences and assert and argue ideas, needs and beliefs. For children and adolescents in particular, the Internet has increasingly become a means and a space to communicate, to collect information, to study, to play, to discover and to create. However, the Internet is not exempt from existing and potential risks: the manipulation of information and personal data; establishing relationships with strangers, whose real identities and intentions remain unknown; the 'transmission' of illegal content and behaviour; exposure to images and ideas that are unsuitable for children and adolescents, are but a few. For youngsters the Internet is a new means which can both foster and distort their well-being; and this is a reality that can significantly influence children's rights.

The aim of the Kiddanet project is to provide safer access to on-line content for children aged 10 to 14 and, at the same time, to develop and encourage positive Web content for children. Within this framework, a filtering software should be able to block "harmful" material, while a dedicated Web portal should offer a safe and protected environment where children can freely take advantage of their right to access appropriate content.

For Save the Children, the question of how to develop children's access to the Internet embodies the issue of children's right to protection, but equally their right to access appropriate and relevant information, their right to participate and to self-expression.

Children's Right to Freedom of Expression and Kiddanet

Referring to Article 13 of the Convention on the Rights of the Child - the right to freedom of expression - there is no doubt that the Internet represents a means to fulfil this specific right. The Internet is a powerful and interactive communications tool, a real-time environment for discussion (chat rooms, newsgroups, forums), a system where users can send documents all over the world (e-mails) and create interactive spaces for presenting ideas and experiences (personal Web pages). It is for this very reason that the logic behind any kind of intervention directed towards granting children adequate access and use of the Internet cannot be separated from an acknowledged consideration of their right to freedom of expression.

If the intention of Kiddanet is to protect and uphold children's rights, with special attention to their vulnerability, independence and abilities, how does this project relate to children's right of freedom of expression on the Internet?

It is obvious that freedom of expression can be limited or violated if a child is not given the possibility to exercise this right autonomously, or if the option to shape and develop an opinion is not granted and stimulated. Receiving and sending suitable messages on the Internet is therefore crucial for children to be able to express their opinions in a respectful and informed manner. The Kiddanet filtering approach aims at avoiding that children obtain inappropriate material but at the same time, promotes researched alternatives that allow children to form their own opinions.

Freedom of expression further requires the ability to communicate and to listen. Kiddanet's spaces and services should then offer expression tools, but also areas where opinions can be heard, exchanged and challenged; hence the creation of a Forum in the Kiddanet Web portal. Opinions, however, should neither be discriminating nor violent as this would imply a lack of consideration towards other people's freedom of expression; concepts of tolerance and respect should be promoted throughout the Web portal, supported by articles written by and for children.

These elements are at the basis of children's right to freedom of expression and require the exercise or acquisition of social and cultural abilities, which can in turn provide useful information and be applied to develop appropriate and adequate technological tools.

These tools, if devised and developed in order to grant children's right to freedom of expression, can promote and facilitate children's ability to exercise this specific right on the Internet.

The target group: 10-14 year olds

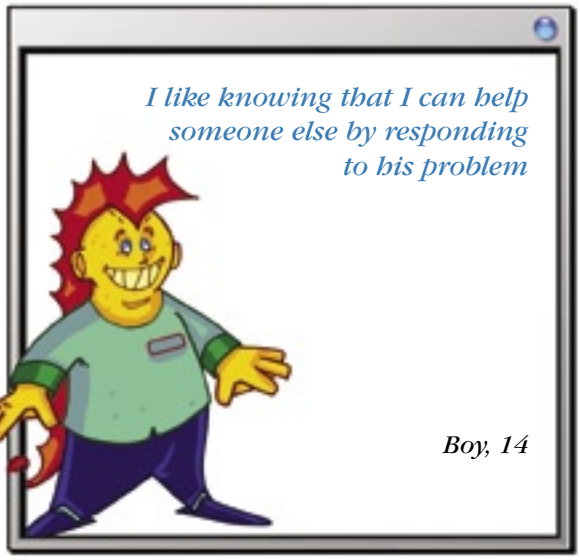
"As the body gradually finds new harmony, it will be easier for children not to look at themselves in a deforming mirror. Intellectual growth contributes to an internal elaboration of a more realistic self-image: it is, indeed, during this phase of development that rational and relational thinking looses its tight connections with imagination and fantasy, and the child learns how to more objectively evaluate his/her looks. Youngsters finally find their physical and psychological dimension after having experienced, similarly to the main characters in Alice in Wonderland and Gulliver's Travels, both a body that is too big and one that is too small for them."
(Alice Miller)

Kiddanet is specifically intended for 10-14 year olds. This period in life, commonly referred to as adolescence, is a phase of development in which a child swings from being dependent (in need of supervision and protection) to experimenting with growing autonomy and independence in order to become an adult. The design and development of dedicated children's products and content on the Internet should take this fluctuation into account by creating an environment in which children can experiment with greater areas of autonomy, respecting choices and never feeling forced to move in a set direction. Keeping in mind children's vulnerability and the need to protect them from "negative" material, activities and content should enable children to have independent control over their choices.

In developing Kiddanet the idea was, therefore, not only that of a technological system, but to create an intelligent "tool-environment" which could become a developmental support, whose job ends once children have acquired security, guidance and knowledge. Awareness will make children independent and no longer in need of a safeguarding system, while the possibility of safely learning from making mistakes facilitates their development and strengthens their capabilities.

Adolescence is a borderline age, characterised by varied, unpredictable and uncertain boundaries: sexual development initiates, yet the adolescent's physical, sexual and intellectual development hardly ever corresponds to an equal emotional and sentimental maturity. It is a stage where anxieties and problems experienced during infancy may resurface.
Adolescence is seen as a turbulent period that inherently carries enormous development opportunities. During adolescence the child becomes an adult; uncertainty dominates where the child swings from seeking security within the family structure to desperately trying to enter a "new adult world".

A fundamental feature in this phase is developing a feeling of self-identity. The adolescent's search for self-identity is conflicting, partly due to the rapid physical changes and partly as a consequence of increased and changing social demands. The nature of the existing relationship between parents and children will have a significant influence on how easily a strong and stable self-identity is achieved. The youngster's easy or difficult adjustment also depends on the values, expectations and social possibilities existing in his/her world.[46] Self-identity is built through relationships with



others. For adolescents, the opinion of others - peers and no longer parents - plays a very important role in building the self. Together with their peers, youngsters' fantasies, dreams, fears, doubts and achievements can be shared.

Peer groups can be formal (classroom, sports teams) or informal (siblings, playmates, the local street gang, neighbours). In both cases, youngsters share crucial moments of life, in particular initiation rites, as a group, helping one another. Roles and behaviours are defined and help in establishing self-identity. The peer group is a way to separate from parents, to compare with others, to develop secondary socialisation processes. During adolescence, youngsters also sway between personal and independent decisions and following the peer group's style.

To break away from their families, youngsters build experiences in the external world or react to protection by directly challenging dangers and risks. They need to experiment and make mistakes to become aware and to achieve the confidence that they can face problems alone. Sexual awakening, a distinguishing character during this period, stirs intellectual, as well as physical, curiosity. There are philosophical questions that children no longer ask their parents, but themselves: they seek answers in their everyday reality, in books, discussions, and with friends or teachers. An adolescent longs for both originality and belonging.

In the eyes of an adolescent the future can seem hazy and unclear. The impulse to grow up drives them towards exploration and a longing for independence, leading to a break in the physical and emotional bonds that tie children to their parents and families, while at the same time struggling with the inevitable fears that come with growing up.

In addition, everyday life for adolescents opens up endless avenues to the adult world: more immediate experiences within their surroundings, their family, their neighbourhood and school, and more remote ones through the daily impact of television and the Internet. However, it is very difficult to absorb and interpret this mass of unidentified information and experience into personal knowledge. The continuous fluctuation between applying what has been learnt and retreating from it, between clarifying a problem and once again questioning it with other newly encountered elements, makes life confused, and uncertain for adolescents.

Children's rights

Children are active and have different abilities. They are social actors who make their own choices, shape their environment and contribute to their own development and to society as a whole. As children grow, they develop new abilities and skills, which must be understood in order to be adequately fostered and strengthened. The general focus should not be only on children's vulnerabilities and disabilities, and projects intended to benefit children according to their best interests should be aware of and work towards the support of children's striking developmental abilities.

Different views of childhood influence adult's attitudes, behaviours and practices towards children. Traditional ideas very often tend to portray children as passive, vulnerable and helpless individuals where children are seen as immature and unfinished adults, in need of special attention and protection. However, it is also important to recognise children's capacities, interests, concerns and needs, to consider them as individuals with their own ideas, perspectives and rights, notwithstanding children's veritable need for special care and protection. This concept of childhood is at the core of the UN Convention on the Rights of the Child of 1989 (CRC), which, for the first time in history, internationally recognised children as legitimate holders of rights and upon which Save the Children bases all its work and activities, including those linked to the Internet.

The CRC is founded on a number of basic principles that are expressed and made explicit in all of its articles: the principle of non-discrimination, the best interest of the child, survival and development, participation. All the articles contained in the Convention represent the totality of children's needs and capacities and can, therefore be applied, directly or indirectly, to children's use of the Internet.

The indivisibility and interdependence of children's developmental needs must be met with the granting, recognition, respect and promotion of all their rights. With the Internet, the need for protection from harmful and illegal content must become part of a broader framework with the aim of promoting and granting the autonomy and competence necessary for children to exercise and fulfil their rights both on and off-line.

Developing children's capacity to take active part in their own life and in that of their community starts from the moment they are born. As children grow older, their education and development determines what they are allowed and not allowed to do and the roles and responsibilities they have in their communities, at home, at school or at work. The Internet offers children an innovative and easily accessible way to interact with their surrounding environment and is, therefore, a space where their vulnerability and capacity are constantly tested. It is for this reason that working towards the development of children's independent thinking and in the realm of their relationship with the media is an important means (amongst many others) of preparing them for life's challenges. In other words, it is not only a way of developing children's ability to protect themselves, but also one of stimulating their active independence and sense of responsibility.

The CRC is without doubts slowly shifting and modifying stereotyped concepts and understanding of what being a child means and how this stage of life varies across time and space. Nevertheless, as children can be competent actors and at the same time heavily controlled, manipulated and subordinated, their rights are of crucial importance in shaping the quality of their lives. Adults must rethink and modify their idea of children where children are no longer objects of adult work but able, active and contributing players. In developing the Kiddanet project, Save the Children intends to promote this view of children, taking into proper account specific needs and capacities which can be applied and transformed into technological tools for the Web.

Developing Kiddanet

The approach used during the entire development of the Kiddanet project, from the collection of information and research concerning the relationships between children and the Internet to the design, implementation and evaluation of the Kiddanet filtering system and Web portal, followed four distinct phases. Childhood and the balance between the Internet and human rights were at the heart of the research during the entire project.

- **1.** research on specific topics and issues:
  - children, with particular reference to 10-14 year olds
  - the interaction between children and ITC
  - children's rights and the Internet
- **2.** research addressing issues related to Internet and children in the four countries participating in the project;
- **3.** creation of the filtering system;
- **4.** design and continuous evaluation of the Kiddanet portal.

The idea of creating Kiddanet followed the collection of information on the above issues. The integration of information regarding how the rights of children may be negatively challenged by the use of the Internet led to the formulation of ideas of how to create an Internet product for children. Starting with existing literature, research carried out on a sample of children aged 10-14 in four European countries resulted in new information and a new detailed study of the relations between children and the Internet. This information formed the basis of the design process that led to the creation of the Kiddanet products.

The role of children changed during the project's various phases where it became more active, diverse and defined. In moving from theory to practice, the aim was to find answers to the needs and requests of real children and not to those of mere model testers. The focus was no longer on children as described in literature, but on the real social group that had been interviewed. A number of pre-adolescents were actively included in the design and implementation processes, allowing them to assess the product during its testing. These various steps led to the creation of a "new" product, specifically conceived and measured for children, which truly responds to their needs and activities, and gives them the possibility to actively interact and participate.

The journey undertaken using this methodology, one that is still "in progress" and liable to be modified due to the interactions and comments of Internet surfers, has led to the combining of all the information collected during the different phases of the project into a "holistic and integrated" theoretical approach.

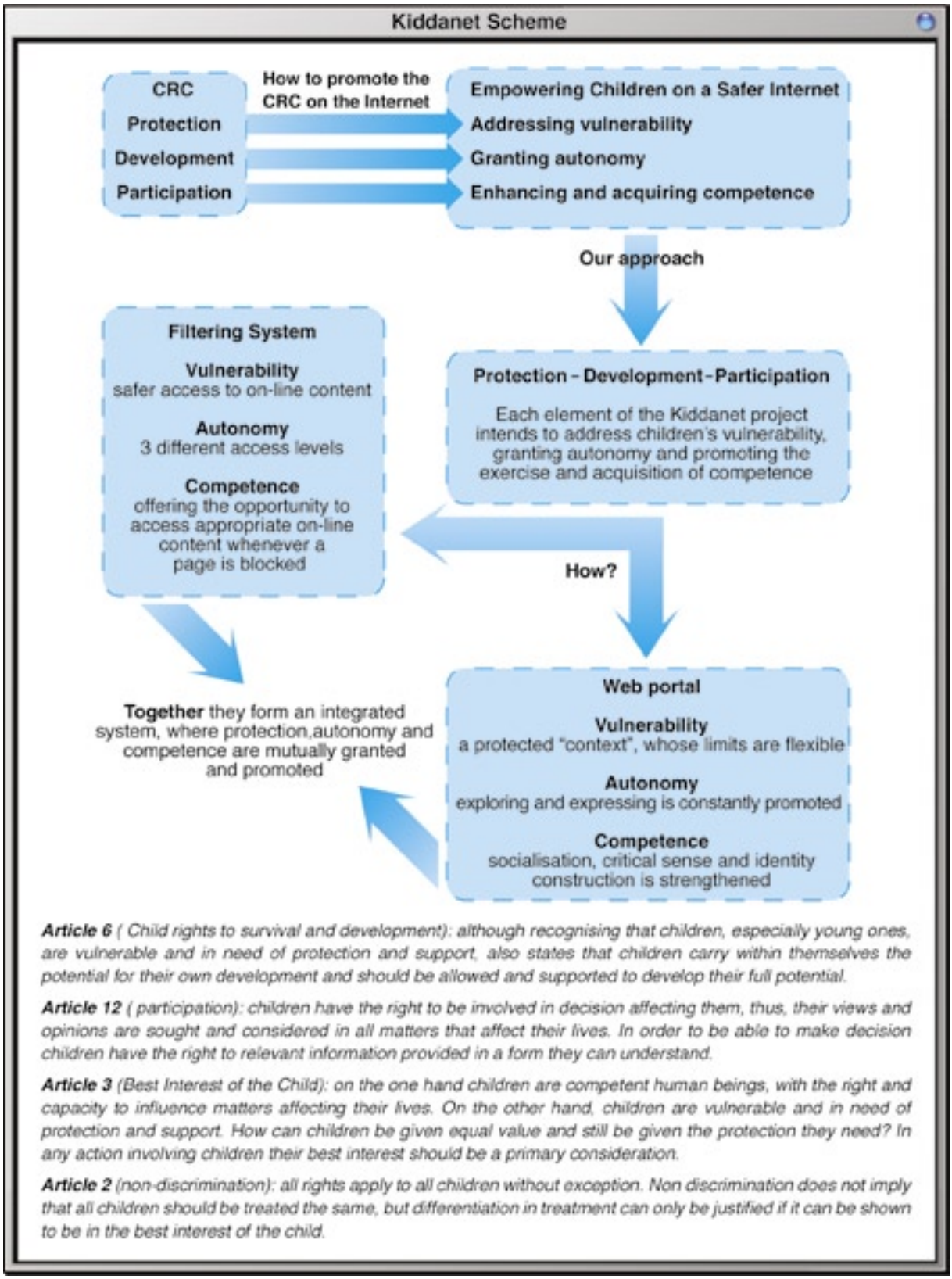
Conclusion

"Children are not formed by natural and social forces but rather they inhabit a world of meaning created by themselves and through their interaction with adults"[47]

When discussing the importance of the Internet for children and when devising new approaches and tools for putting this potential into practice, researchers and IT developers very often tend to adopt adult-centric methodologies and attitudes. Technology is then seen as yet another way to improve both productivity and learning, or to emphasise creativity and imagination. Children are often required to adapt, learn and reproduce knowledge and skills that conventionally belong to the adult world. As a consequence, a strong emphasis is given to educational programmes, home, school or research activities, while often not enough attention is given to those specific aspects of children's everyday lives, skills and abilities which make them active social players capable of decisively influencing and shaping their surrounding environments.

Conventional ideas of childhood, combined with an overarching need for protection, tend to portray children as incapable, unstable, credulous and unreliable. Adults often assume that children socialise at home and in school, and that these activities will be enough for them to become adults. But as seen in the CRC, children and childhood must be treated with a more complete vision.

Children should be given the tools to participate beyond domestic and private spheres: indeed, they often lack adequate access to technologies which would otherwise enable proper use. In developing new tools and content for children on the Internet, the kind of equipment that children themselves would require and devise should always be taken into consideration. As aptly put by A. Druin: "We don't give adults crayons to write a report…why do children need to play on a digital desktop with folders?"[48]



Article 6 *(Child rights to survival and development): although recognising that children, especially young ones, are vulnerable and in need of protection and support, also states that children carry within themselves the potential for their own development and should be allowed and supported to develop their full potential.*

Article 12 *(participation): children have the right to be involved in decision affecting them, thus, their views and opinions are sought and considered in all matters that affect their lives. In order to be able to make decision children have the right to relevant information provided in a form they can understand.*

Article 3 *(Best Interest of the Child): on the one hand children are competent human beings, with the right and capacity to influence matters affecting their lives. On the other hand, children are vulnerable and in need of protection and support. How can children be given equal value and still be given the protection they need? In any action involving children their best interest should be a primary consideration.*

Article 2 *(non-discrimination): all rights apply to all children without exception. Non discrimination does not imply that all children should be treated the same, but differentiation in treatment can only be justified if it can be shown to be in the best interest of the child.*

III. The Kiddanet research

The criteria

Research findings

Protection and promotion

Conclusion

The Kiddanet research

Several surveys and cross-country research suggest that the new technologies are increasingly present in everyday life and that a new social landscape is emerging in which comprehensive knowledge and control over technological languages is seen as a key factor towards social advancement. It is, therefore, not at all surprising that children are increasingly exposed to these new technologies and to their potential at a very early age.[49]

An overview of the Kiddanet research

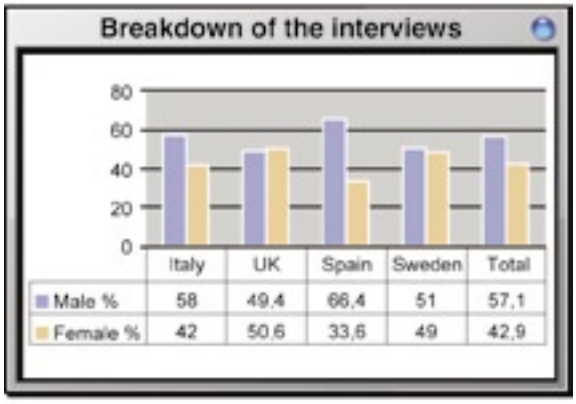
The main findings of the Transnational Survey of the Kiddanet project served to furnish the knowledge of children-Internet related issues necessary for the subsequent development of adequate and effective technological solutions: the Kiddanet filtering software and the dedicated Kiddanet Web portal. The survey was conducted by Save the Children-Italy, as general co-ordinator of the Kiddanet project (Project Iap 2123-European Commission), in cooperation with the Save the Children Alliance agencies in Madrid, London and Stockholm during 2002-2003.

The general objective of the research was to analyse how children surf the Internet and the relationship they establish with adults while exploiting computer and Internet navigation possibilities. The aim was to investigate the interests, concerns and expectations when using the Internet of children aged 10 – 14 and of other key witnesses, such as parents and teachers, in order to gather suitable and important information for the development of technological tools and content at a later stage of the Kiddanet project.

The requirements for safer surfing expressed by the children themselves were also surveyed, highlighting specific issues that could harm youngsters and/or risky situations that may escape their control or that of adults. In practice, the aim was to strike a balance between recognising children's right to information and developing safeguards ensuring that practicing this right will not be harmful or dangerous.

The results that are presented are primarily qualitative and do not offer hard statistical evidence; they rather draw out themes and perceptions. Information was gained through semi-structured questionnaires, interviews and focus groups. A total of 487 children and a significant number of parents, teachers and experts answered questionnaires in four countries. The children came from one (secondary) school in England, two schools (primary and secondary) in Italy, one school in Sweden and one (secondary) school in Spain.

This study exclusively represents the views of the children, teachers and parents interviewed and cannot stand for the opinion in the various school systems of each country. It is not easy for researchers, IT developers and all those interested in the field to identify the why, when and how that motivate children's exploration and use of the Internet. Indeed, the reasons can be several and of a different nature depending on a set of multiple variables. In order to fully understand them it is necessary to consider both social and individual expectations and the particular and different cognitive and developmental needs linked to a specific age. A combination of these factors determine the choices children make (or are allowed to make) as they relate to the Internet.



	Italy	UK	Spain	Sweden	Total
Male %	58	49,4	66,4	51	57,1
Female %	42	50,6	33,6	49	42,9

The criteria

Field study, that is directly gathering information and data on the identified issues, was used as the main methodological criteria. The use of simple language was of the utmost importance and ensured that the children interviewed fully understood the questions. The survey used the following tools:

- A questionnaire for 10-14 year olds in order to gain knowledge on how they use the Internet, their favourite sites and specific proposals for a "child-friendly" Internet. The questionnaire was distributed, with the help of teachers, in a number of chosen schools in the four cities. It had been previously tested in Rome by means of 12 interviews to teachers and computer science experts, one psychologist from the University of Rome, some parents and a group of 12 year-olds that regularly use the Internet. The aim of this first round of interviews was to ensure that the content of the interview and its language could be thoroughly understood by the children. Each national research team slightly modified the questionnaire in order to fit their country's specific needs. The research teams followed the entire process and made sure that the questionnaires were properly filled out in order to collect detailed information.

- A questionnaire mainly dispersed to the teachers and parents of the children interviewed. Priority was given to parents of children who regularly surf the Internet, computer science teachers or other teachers who play a big role in the school curriculum. Data and information useful in understanding adult's points of view on how they think children use the Internet and in gathering their proposals on how to make the Internet a safe and enjoyable experience were collected.

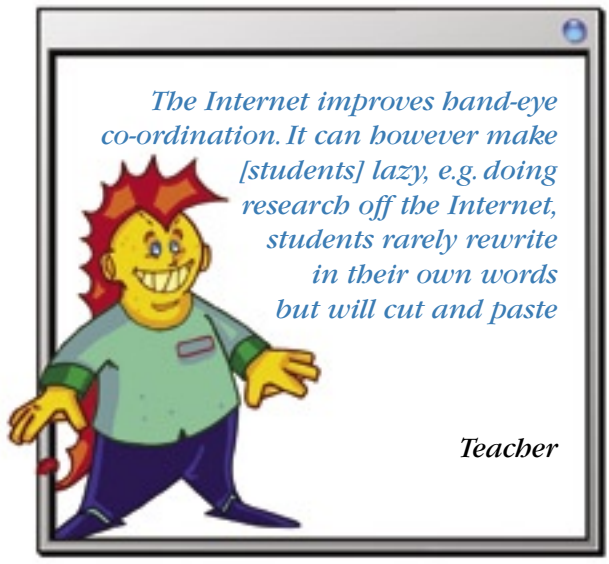
- Open interviews to parents, teachers and children were carried out in order to gather more information on the issues at stake. These interviews were "open" but, nevertheless, followed the path of the above questionnaires.

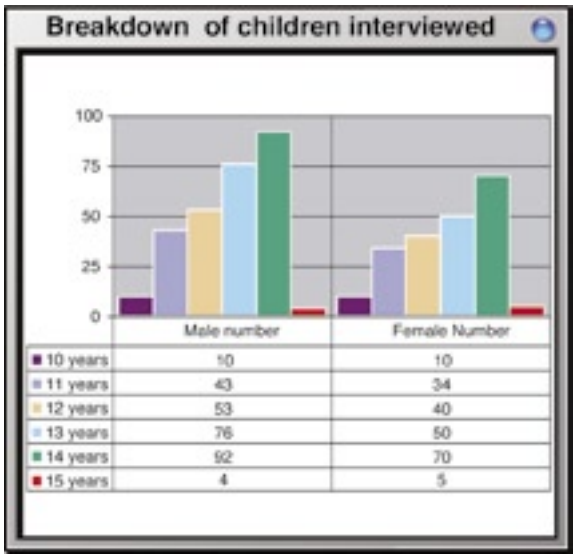
It was seen that children's use of the Internet is seldom casual; the majority of those who use it know what to look for (and acquire further knowledge in the process of searching). Children who use the Internet nearly always have some knowledge of the medium and are able to use it in an autonomous and creative fashion.[50] In fact, they develop personalised styles of media use according to their individual interests and needs. In short, far from having to be "victims" of cyberspace, young people can manage their use of the Internet if they are equipped with the cultural, psychological and social "requisites", which they can help to shape in partnership with their parents and educators.

Perceptions of the Internet

According to the findings of the "Kiddanet Research", all the children, parents and teachers interviewed felt that the Internet was useful. Children saw it as entertainment, to communicate, find music, catch up with celebrity and sports news or find material for homework. Parents emphasised the main benefits as providing access to educational material and information, use of technology, hand-eye co-ordination, a means to keep in touch with friends. Children's frustrations during Internet use focused on problems in finding the information they wanted. The biggest change they sought was an improvement in the chances of finding their favourite sites. Advertising, such as pop-up advertising and 'spam' emails, together with the cost of using the Internet were felt as very annoying and off-putting. In general, the extent to which the Internet can favour children causes both parental optimism, in that their children's skills will be improved, and apprehension for the risky consequences these contacts can produce on the youngsters' development.

Although children are recognised as the "net-generation"[51], many of the teachers and parents that were interviewed readily pointed to the central role parents, teachers, governmental institutions and media operators have towards children.[52] In particular, parents and teachers are well advised to gain a better understanding of the Internet. A cultural and civil commitment on this front involves not just acquiring information on how to use the Internet, but also coming to grips with the Web culture and the Web's potential in helping children to learn and grow.





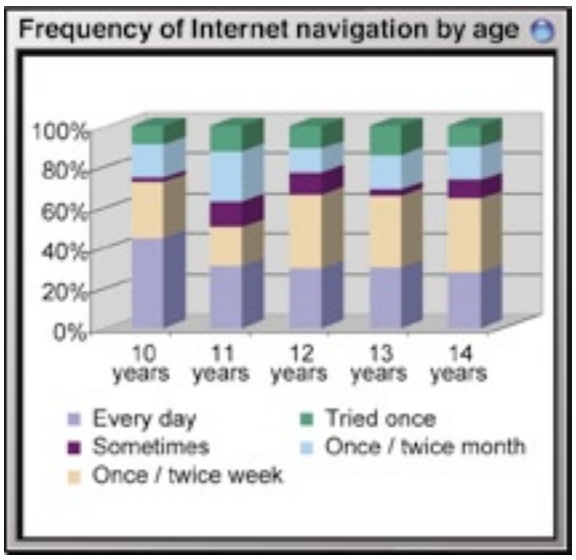
Computer and Internet use

Children in the sample use the computer and the Internet extensively. One in five children in Spain and one in four in Italy and the UK uses the Internet almost daily.The sample revealed a high percentage of Internet users amongst 13-14 year olds, while use is relatively less widespread amongst 10-12 year olds, but nevertheless important. For instance, more than half of the UK sample began using the computer at 8 and Internet at 10; similarly, in Spain almost one third of the children started using the Internet between 9 and 10. Computer and Internet use increases significantly if the child has access to a home computer.

In general, the relative majority of users (40%) in the sample (regardless of how often they surf) stay connected for approximately one hour, or slightly less, in all the countries involved in the pilot project. A significant percentage (one third on average) surfs for approximately 2-3 hours, or even more in some cases. Specifically,[53] 50% of the

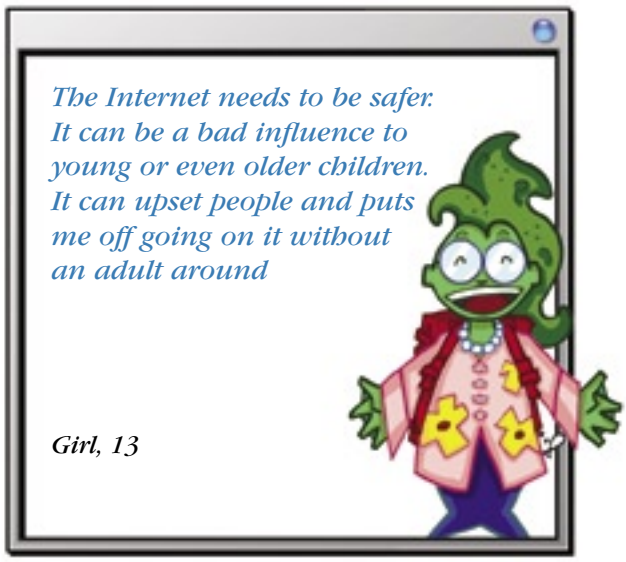
children in Italy surf for less than an hour, 31% surfs between 1 and 2 hours and 13.5% surfs for over 2 hours; in the UK the approximate percentages are: 45% for less than an hour, 40% between 1 and 2 hours, and 15% for more than 2 hours; in Spain 38%, 35% and 15% respectively, while in Sweden, the majority use the computer for about an hour nearly every day.

Regarding the frequency of connections, UK data shows that less than one third were using the Internet almost every day, and that about half were using it once or twice a week, indicating that the majority were using the Internet at least once a week. In Spain, almost one in five surfs almost daily, about one third once or twice a week, 8% once or twice a month and less than one in three every now and again. Italian data points out that the majority use the Internet weekly. Approximately one-fifth uses the Internet every day.



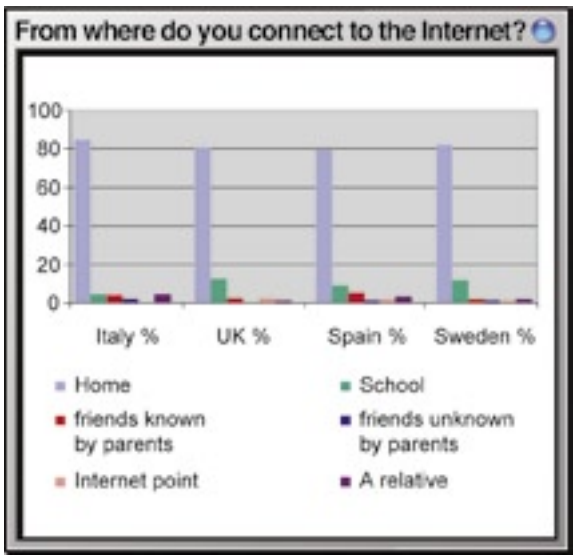
Peer or adult support vs. unaccompanied surfing

It has already been pointed out that use of the Internet mostly takes place at home. Surfing is often unaccompanied (approximately one child in five in Spain and in the UK, and one in three in Italy is usually unaccompanied and many children have surfed alone at least sometimes). According to some research, this may lead to reduced sociability. On the other hand, many children have used or claimed to know how to use chat rooms (85% of the sample in Italy, 70% in Spain, somewhat less in the UK) where, even if by means of an indirect format, they can meet other people (friends, but also unknown people) and socialise.



Other results underline that computer use is but one of several activities (study, play, sport, etc.) performed by children during the day. Therefore, the choice of computer use, rather than other activities should be contextualized. If a young child is supervised and helped by an adult or an older sibling and if the family agrees to practice the general computer/Internet approach learnt at school, this can turn into a stimulating and reassuring experience for all.

Peer groups can also play a very significant role. A friend's computer can represent a very interesting opportunity to be initiated to the Internet's mysteries (especially by an older friend), or to develop a mutual partnership to explore the medium (possibly with someone of the same age group). Family, school and the peer group converge in producing the most significant results in educational terms on children aged 13-14.



Access

Once a computer is accessed, what is its use? In all countries, as pointed out in the Swedish report, "computers are also put to extensive use as game consoles. A lot of the children, the majority of them boys, download various kinds of games from the Internet. It is also common to look for short cuts to solving the different games. Both boys and girls download music from the Internet". Special interest sites rank high in children's preferences. Music, cartoons, comics, games, television, sport and music celebrities attract them in scores. On the other hand, other topics (i.e. sexuality) appear rather less frequently in the lower age group (10-12) and noticeably more in the older age group (13-14).

As for search patterns, television or comic characters drive initial searches (otherwise topics are suggested by teachers), which are then more random in nature for boys and more focused for girls (confirmed by the fact they tend to disconnect once the initial search is accomplished).

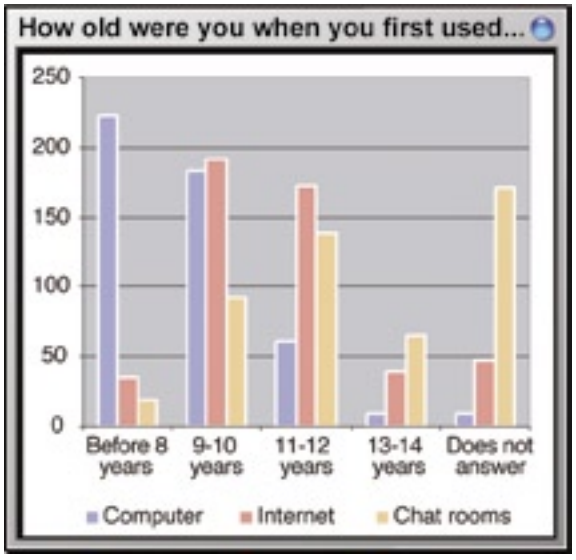
Chat rooms

Using the Internet as a means of communications, it is important to underline the tendency to enter chat rooms and forums. Chat rooms are well-known and used (86.5% of the sample in Italy accessed or claimed to know how to use them, compared to 70% in Spain and 65% in the UK; however, the total time dedicated to chat rooms may be significantly lower than these figures suggest as some answers revealed). The high level of interactivity does in fact mimic a more traditional phone call, although the chat is usually open to friends and unknown people alike, that is, it occurs in a wider context than a usual phone call, but is still carried out in the realm of friendship and close relationships. Parents and teachers were concerned about children meeting unsuitable people in chat rooms and being exposed to uncontrolled activity. Conversely, chats may help children to focus their attention on structured topics, especially during chats where a moderator intervenes, or they may get quick replies from their peers on a number of different subjects without the involvement of parents or teachers. As with messaging, writing is no longer an obstacle to expression and understanding, but a way of demonstrating group identity and belonging (especially when it becomes jargon).

Unfortunately, the euphoria and self-assurance that make chat rooms so intriguing can be exploited by exactly those people who should not be encountered by children, namely those who would be normally screened by parents and educators. Interestingly, the weakness seems to lie not in schooling or in parental guidance, but in the link between schools and parents. Evidence suggests, although with some controversy in the various reports, that the level of awareness is high in both groups, however, several teachers have claimed mixed results in sending warnings to parents. Warnings tend to be met with scepticism or with misplaced sensitivity.

As the Swedish report highlights, "few parents said they chat on the Internet, although many of them know how chat works. Most of them use e-mail. Parents who do not have a lot of knowledge or experience with computers and the Internet rely on schools, although their demands are often not thorough enough: they simply assume that schools will teach their children learn what they need to learn. Parents who have a high level of knowledge and experience show less reliance towards schools, they tend to be more demanding with regards to technological equipment and teaching.There are many parents who have no idea of what their children get up to when they are surfing. The Internet together with computer games, etc. seems to have succeeded television as child-minders."

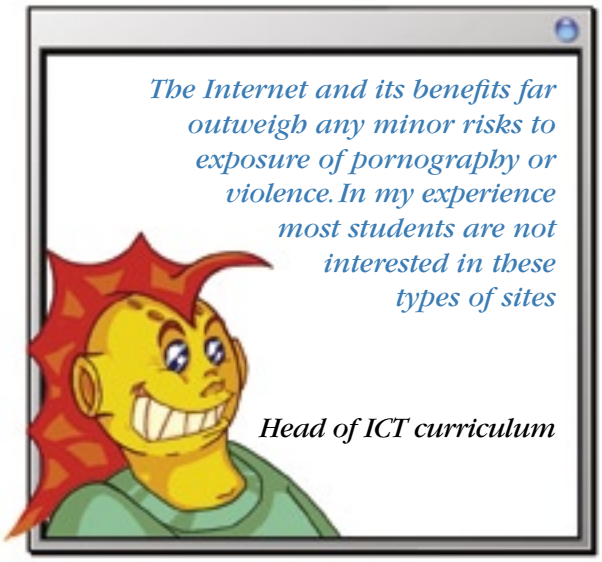
Considering these patterns, the importance of strengthening a mutual understanding between teachers and parents must be stressed. This may well be one of the most interesting by-products of the research and is further underlined in the following sections.



Unsuitable material

Unsuitable material does exist on the Internet and is found when surfing. This causes various reactions: children claim they know how to protect themselves, but many have still been exposed to unpleasant experiences or have suffered negative feelings when using the Internet or accessing chat rooms. The problem is that clearly distinguishing a risky situation from a dangerous one is difficult for parents, teachers and children alike. Some situations can simply and truly be dangerous and should be avoided. On the Internet, dangerous situations can be better defined as sites featuring images and contents depicting violence, sex or abduction practised on children; danger also lies in uncontrolled contact with unreliable people through chat rooms and e-mail.

Chat rooms and e-mail exchanges may require adult intervention who may, unfortunately, have limited technological knowledge. Everyday rules of privacy and self-defence also apply to the Internet and should be explained to children. Filters may help parents to negotiate use of the computer and the Internet with their children. It is necessary to increase the working knowledge and user-friendliness of filters, and to close the gap between children's technological skills and adult's ordinary common sense.



Children's reactions to unsuitable material

Firstly, unsuitable material will be encountered, either because it was expressly searched for or, more rarely, because it was found accidentally (by means of e-mail, sites exploiting type mismatches, or links in an otherwise ordinary context). When dubious material is found, curiosity normally wins over whatever advice may exist in the child's mind.

- In the Italian sample, a majority of unsupervised children (54%) succumbed to curiosity when they came across a suspicious site: they checked the site and then left; an additional 9% were curious but did not proceed to check the site, while 33% did not enter the site at all.

- The UK report states that "the majority of the respondents said that they would either watch a little and leave or leave immediately in each of the circumstances [when accessing unsuitable material of racist, violent or pornographic nature]. Some children would stay to find out more about violence, and only very few said they would stay to look at racist material. Several children criticised the questionnaire as it did not allow them to say that they could leave immediately without wanting to stay".

- The Spanish report noted that "26% of child interviewees replied they would leave the site when they saw something that frightened or upset them either on Internet or on chat. In the second and third place they practically levelled, as 18% of the children answered that one should

learn how to cope with these situations, by being critical and not getting frightened, while 17% of the children replied they got over the situation by reminding themselves that the images are virtual and not real. Significantly, 23% of the children did not answer the question indicating that their potential reaction is not clear to them and is dependent upon other factors".

- The Swedish report pointed out that "a lot of children had come across frightening people on the Internet, but had not dared or found the opportunity to talk to any adults. In most cases children had, instead, talked to slightly older friends or peers". The report also noted that "racism is something which upsets the children and arouses very strong emotional reactions. [...] As a rule, children talk to adults about all their negative experiences on the Internet relating to racism. Most of the respondents had encountered racism in some form or another: they had either been directly subjected to racism or had been witnesses, some had also been involved as perpetrators of racist acts".

These results indicate that children are moderately willing to discuss violent or frightening sites found when on-line with adults, but reluctant to discuss sex or graphic depictions because they are either embarrassed or afraid of being denied access to the Internet by their parents. Children are, undoubtedly, more willing to discuss delicate topics with older siblings or friends than with adults.

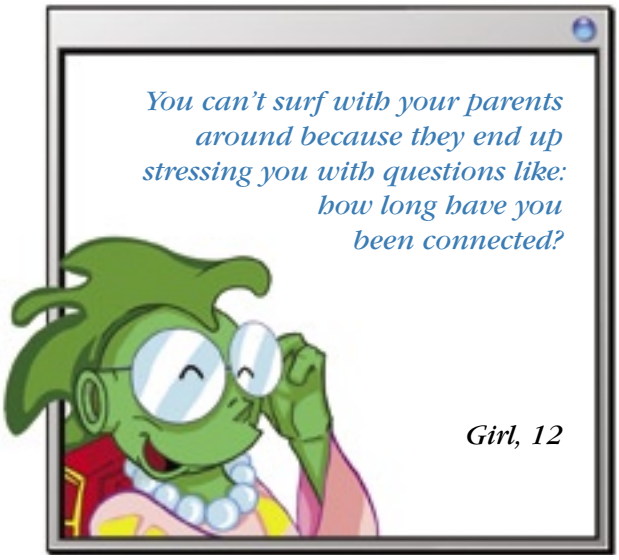
Anxiety in viewing unsuitable material

As regards anxiety about accessing upsetting or unsuitable material or meeting potentially harmful people, one fifth of the respondents in Italy had experienced negative feelings as a result of entering chat rooms (3.5% of the sample had negative feelings "many times" during chat, 2.5% had such feelings "often"), while one fourth experienced negative feelings "sometimes" when generally using the Internet. In both cases, females are more prone to experience negative feelings than males; younger children also are more sensitive, although their acute fears are more sporadic if compared to the continuous generic anxiety registered in some older children.

Similar figures were found in the UK results, where about one fifth of the sample declared they had been upset or frightened by what they had found on the Internet. The Spanish report pointed out that "44% [of the respondents] had never come across frightening or upsetting material, while 49% had experienced frightening or upsetting encounters. Amongst this second group, 38% stated it had happened several times; and only 2% replied it always happened when surfing. This clearly proves that though it happened rather frequently it normally would occur incidentally. When children were asked the same questions, but related to chat, they declared that frightening or upsetting material would easily come up. Data showed that 31% of the children gave positive answers, confirming that they had actually been frightened or upset on some occasions".

As for practical escape techniques to face negative situations, children react in different ways: the majority either shut down the computer or stay away from the site that has upset or scared them, while others stop surfing for some time, play a game or visit secure sites.

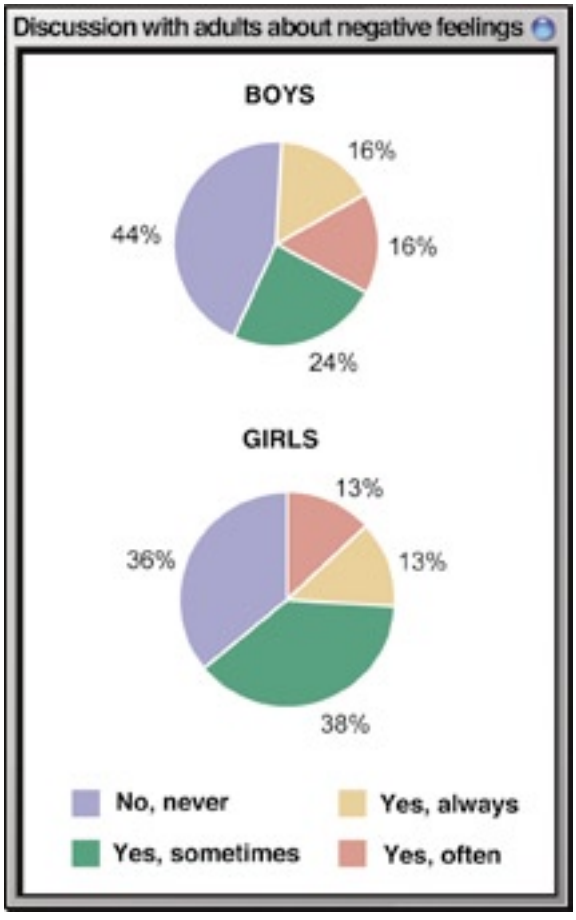
How children feel about surfing the Internet in the presence of adults

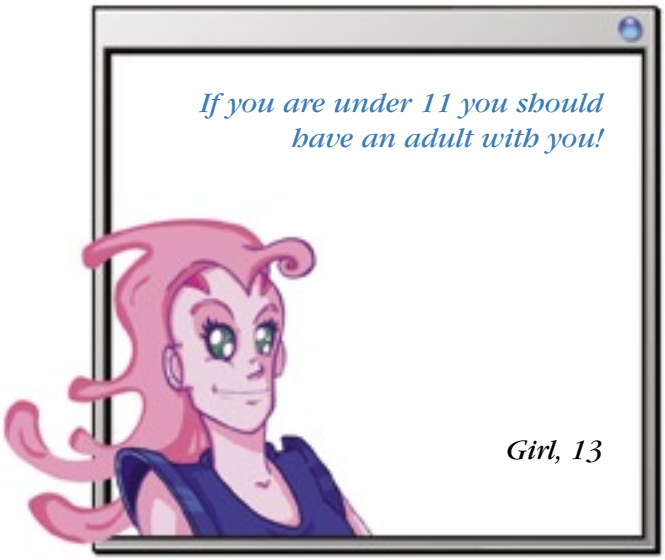


The presence of adults (especially parents and teachers, but also older siblings or other people the children trust) when surfing the Internet is a main issue in dealing with filtering systems. It is a fact that no technical system can effectively counteract all dangerous on-line situations. Surfing the Internet is both an act of self-responsibility and a pedagogic and educational situation where the presence of an adult can be very important if the child has no experience of the medium. One teacher said "it would be very useful if from time to time, for a relatively short period, an adult could spend time exploring the Internet with his/her children, teaching them how to recognize potentially dangerous sites, therefore shaping and developing the children's natural inclination towards avoiding them".

According to all adult interviewees, self-responsibility comes with the maturity children develop in facing all the other risks they inevitably meet when growing up. This process teaches youngsters to manage dangers and to understand both the negative and positive consequences and effects they may have. In short, every child has a different reaction to risky sites and, interestingly, if he/she is given the chance to diversely "study" them, he/she will learn to deal with the danger of that site.

Some signals indicates that the lack of an adult as a reference, not just for navigation, might be at the same time an incentive to use the Internet and the computer, and a weak point in exploiting the huge potential of the media, whose use should be introduced and explained by an adult. However, for adults, working schedules and/or willingness to respect the privacy of children, and, for children, the natural development of their own capabilities, generally means that most children are likely to navigate alone for a significant amount of time. Navigating alone, for instance, is [always] the case for 23% of the sample (more than 27% of the sample did not reply to this particular question altogether, possibly reflecting a further number of children navigating alone), while another 38.5 are "sometimes" alone. Parents are "sometimes" present for 40.9% of the sample, while siblings make for another 24.6% of "sometimes", rather less than same age friends (46.6%).





The role of the adult

Several players are involved in the process of teaching children about the Internet: parents, teachers, siblings, peers, as well as children who normally show a high level of self-developed IT skills.

Parents

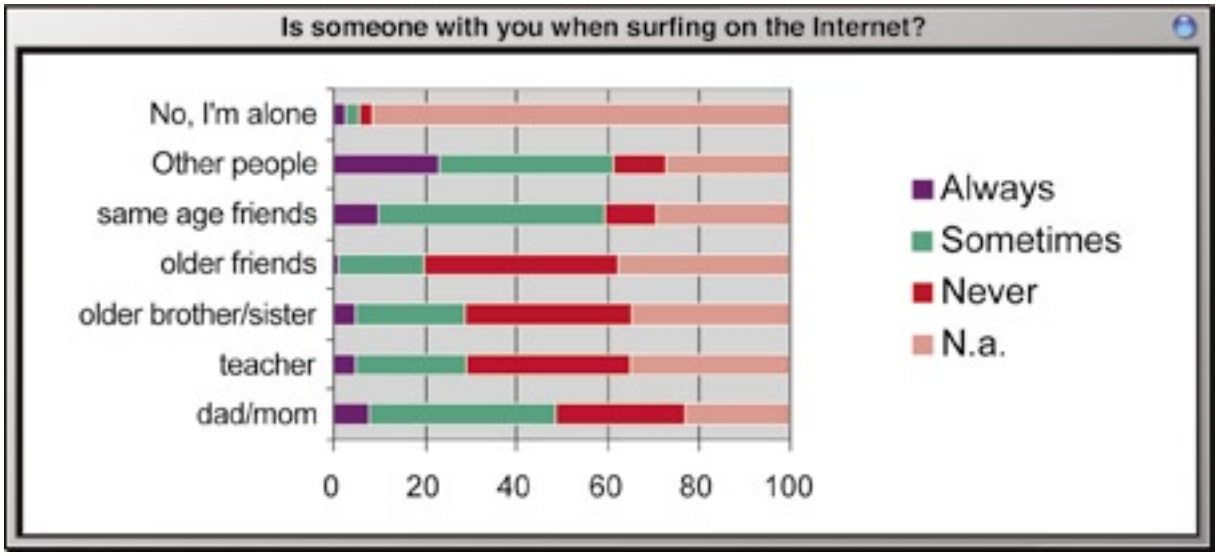
While some survey answers point to parents over-estimating their specific role in teaching computer and Internet use (specifically, there is no distinction between the basic introduction to the tool itself and the Internet world and the skills for its advanced use, which at least older children often have), it is clear that parents play a unique and central role in an educated use of whatever means of communications children have access to, including the Internet.

This role is also somewhat recognised by children in their suggestions for a safer Internet experience. In Spain, for example, although more than 70% of the children did not answer this particular question, the majority (18%) felt that surfing the Internet with an adult would be safer. Of this group, 7% said that it would be helpful if an adult were there to explain what frightened them or what they could not understand. Only a few interviewees thought surfing would be more fun this way. Conclusively, 10% of the children said the presence of an adult to accompany their surfing activities was not necessary: most of them wanted to surf the sites they liked, others explained that surfing alone was the best way to learn how to use the Internet.

Results from the UK were rather clear in pointing out that children have different opinions concerning the age at which they felt they should be allowed to search freely and alone. Most felt that children under 10 were too young, but they all stated that when youngsters reach 14, they should be allowed to surf unaccompanied. Less than 10% said they wanted an adult with them at all times, and approximately half were against the constant presence of an adult.

Teachers

The role of teachers varies from country to country. Nonetheless, they can help put the rich flow of information into context and give children suggestions of creative ways to use the Internet. Not all teachers have the same degree of computer proficiency, however, and their knowledge of the computer and ability in educating pupils in surfing activities or Netiquette may differ.



The Swedish report seemed rather sharp in its criticism of the role of teachers, as it claimed that "teachers play a surprisingly small part in pupils' learning related to the Internet and chat rooms. The level of competence among teachers is extremely uneven, and there is still a great deal of resistance to the use of computers [...] Teachers feel that the skills and knowledge they have acquired are under threat from computers. A lot of people see computers in education as an either/or issue, and thereby do not allow computers to complement teaching.

There are also a large number of teachers who are not aware of their own limits. Many feel that once they have acquired basic computer proficiency they do not need to keep refreshing their knowledge, and are, therefore, not up to date. Certain aspects of Internet knowledge have a short best-before date. As many teachers lack a thorough knowledge of Internet use, their teaching skills are not the best and in turn negatively influence their pupils' abilities on the Internet".

In addition, the level of computer infrastructure varies considerably from school to school and from country to country, affecting teachers' overall performances. Some schools may have state-of-the-art equipment, but lack personnel for maintenance and development (and, in some cases, results show that the burden of having a working computer relies on teachers), others lack funds altogether. Computer rooms are also a primary target for thieves and vandals adding secondary safety and substitution costs.

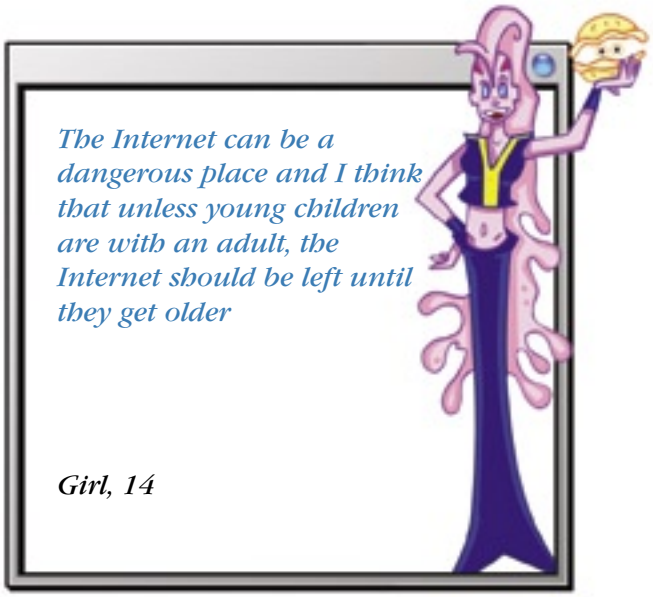
Protection and promotion

All key interviewees stressed that parents, carers and teachers supervising children's use of the Internet represents the most important means of protection for children. However, parents and teachers had mixed views as to whether the computer had to be placed in a room which could be easily controlled by parents. Some felt that it was necessary for adults to be present to identify potentially unsuitable material and to supervise children's access. Others stressed the lack of time or the unfeasibility of being present because of working schedules. Only a small number of parents who responded were always with their children when using the Internet: the majority felt children should learn independence and responsibility and wished to respect their children's privacy. Most children did have at least some unsupervised access to the Internet at home.

Intensive, unassisted computer and Internet use represents an important issue for the majority of the children making up the sample upon which the report is based. Fear and uncertainty are sometimes experienced by the youngest children when in chat rooms or generally using the Internet.There is some indication that not having an adult as a reference represents an incentive to use the Internet and the computer, but also undermines the users' exploitation of the huge potential of the media.

The increased use of the Internet within the family has two main effects. Firstly, it can provide children with unprecedented means of education and development with a simple computer connection. Secondly, as most connections take place from home, there is a heavier burden on families when it comes to Internet education and access control.

Can filters - whose performance have improved substantially, but are still debated - act as useful tools to support parents in this difficult task? The Kiddanet findings reveal that only a small number of parents have some knowledge of what filters are and of how these systems can help them and that even fewer actually use filters.



Conclusion

Much of the public debate over the Internet and children revolves around the risks of children accessing on-line indecent and violent material, paedophile predation and other similar cyberspace harms.[54] This general and widespread preoccupation is reflected in the abundance of safety tips for children and parents published on the Web by governmental institutions, schools, NGOs and private individuals, etc. However vital and relevant these worries may be, it is important to highlight the risks connected to such an extreme "demonisation" of the media, especially because it almost exclusively implies protectionist and censorial approaches. Concerns are very often more than legitimate and risks should not be downplayed, but it is equally important to pay attention to content and services created exclusively for and by children. This is a way to concentrate on what empowerment and media literacy could mean to protect children in a more pro-active and positive way than simply adopting censorship and denial strategies.

It should be pointed out that the Internet and technology in general are not per se questioned, i.e. there is seemingly no debate regarding the assumption that it may boost learning, stimulate young children and allow them to develop, in addition to helping them with reports, projects and research. While computer literacy is no substitute for basic literacy, it must be stressed that general acceptance of the computer and Internet did not exist until very recently. Chat involves much more interaction, writing and reading than television. Proper use of the Internet, especially for finding specific and useful material, requires advanced skills and techniques.

Parents, sitting at the top of the educational process, can benefit from the low-cost, high profit resource represented by a computer and Internet connection. Teachers, together with the parents, can acquire a new facilitating role, rather than being the usual knowledge transmitter. Understanding can be socially constructed: children interact, converse and dialogue about topics found on the Internet and are given the chance to shape their own understanding and build their experiences in a more diverse way. Significantly, all this guided the idea of developing the Kiddanet Web portal.

IV. The Kiddanet filtering system

Filtering software and instruments

The Kiddanet approach to filtering

Creating the Kiddanet filtering system

Promoting appropriate Internet content

Conclusion

The Kiddanet filtering system

Any desire to create an ethical framework for the Internet based on user-enabled choice must be predicated on the enormous challenges posed by such an action.[55]

One of the main findings of the Kiddanet research, and which finds substantive feedback in similar research conducted in Europe and elsewhere in recent years, is that children's on-line activities mostly take place at home, often independently and without parent control. Although parents generally want their children to access and use the Internet because of its unlimited potential for education, discovery and intellectual development, they very often state that this access should not be totally unlimited, in order to avoid perusal of shocking images, contact with untrustworthy people or exposure to violent/racist material.

Growing concern is in fact caused by unwanted or unsolicited exposure of children to material which, although not illegal, could prevent them from exploring the Internet in an appropriate and fully informative way. As a result, some parents consider that it is important to control their children's Internet activities, to verify what is actually seen on the Web and whether the computer has been used for illicit or dangerous e-mail and chat exchanges.

The development and use of filtering tools (both hardware and software) to control and to a certain extent limit children's access to the Internet has substantially grown in recent years. Therefore, the question is very often not how to use technology to enforce legal statutes but rather how to use it to ensure that unintentional or unwanted access to possibly legal, but nonetheless objectionable, material is minimised as far as possible, especially for children.[57]

The common premise behind the development of filtering systems is that it is better, particularly for younger children, to miss

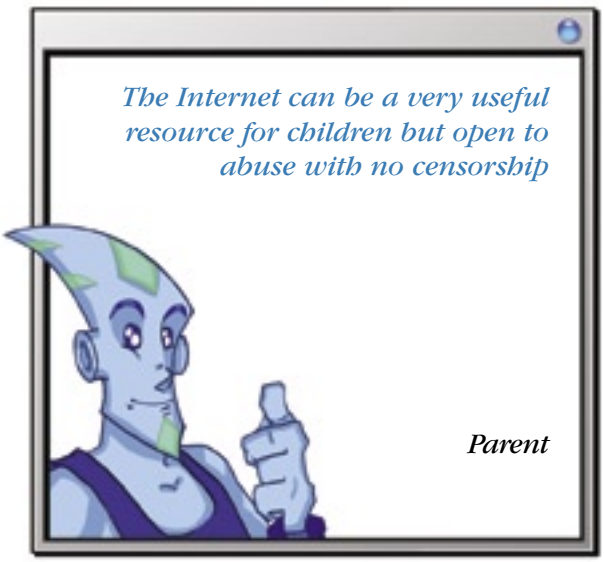
Harmful and illegal content on the Internet

It is recognised that the existence of offensive and harmful on-line material, although representing a relatively small amount, may be a significant hindrance to children's positive use of the Internet. As with any other communication technology, the Internet hosts and carries an amount of potentially harmful or illegal content that can become a vehicle for criminal activities.

While there is not a widespread 'misuse' of the Internet, a variety of distinct areas can be affected which are addressed by different legal regimes and instruments at both the national and international level. These include national security (instructions on bomb-making, illegal drug production, terrorist activities); protection of minors (abusive forms of marketing, violence, pornography); protection of human dignity (incitement to racial hatred or racial discrimination); economic security (fraud, instructions on pirating credit cards); information security (malicious hacking); protection of privacy (unauthorised communication of personal data, electronic harassment); protection of reputation (libel, unlawful comparative advertising); intellectual property (unauthorised distribution of copyrighted works, e.g. software or music)[56]

some material rather than to come across offensive/harmful material. One of the main problems is the difficulty in clearly defining the difference between risks and dangers; in the context of computer and Internet use, parents and teachers are in most cases keen to avoid risks in favour of protection. But as "inappropriate" material or conversation topics are not necessarily illegal (such as "hate" group Web sites), programme managers very often face a dilemma when creating and developing adequate filtering software.

The Kiddanet project has produced several inputs which can be useful for the development of filtering systems and user-friendly sites for children. Based on the project's experience, the following describes a possible methodology for developing better filtering tools.



So-called cyber - slacking - surfing on unauthorised sites - worries both parents and teachers in different ways. Cyber-slacking is countered by using two approaches: inclusion filtering or exclusion filtering. These respectively refer to the access action that software (and increasingly, hardware) will allow to pre-selected information or a programme which excludes access to material previously identified by the programme designer, eventually customised by the user. There are a number of ways to control access to content on the Internet that rely on one or more underlying core technologies, such as:

- **Site labels:** Labeling refers to schemes to assign content related labels to URLs and/or specific Web pages. Individual rating protocols exist that are generally separated from products or applications using these ratings. Once a label scheme has been chosen by a service or a community, then a language, such as PICS (Platform for Internet Content Selection), is required to implement that scheme for individual Web pages. In general, labels can be stored as part of the Web page or separately in a database. Labels may be the result of self-rating, third-party authority rating, or community rating carried out by interested users.

- **Lists of appropriate or inappropriate sites ("white" and "black" lists):** The most frequently used content control mechanism is the use of lists of acceptable and/or unacceptable URLs. "White" lists are used to define a domain of "safe" Web sites which users can surf. These typically require people to search and select sites that are approved by the provider of the list. "Black" lists are compiled of URLs which will not be serviced. In most cases, the lists are put together by people either working alone or as communities of raters.

- **Automated text analysis:** Another way to analyse a Web site is to use software that scans the text of a site to determine the relevance or suitability of pages. Users or groups of users have profiles of interests (positive and/or negative), consisting of keywords and phrases, that are used in this identification. Almost all content-based filtering uses some variation of keyword matching: keywords in a profile of interest are compared with the keywords in the content of the specific Web page. Text analysis is also used to screen search terms from search queries.

The types of content control applications that are built on these underlying technologies include:

- **Special purpose browsers for children:** Child-specific browser applications can be created. Such applications can provide easier search strategies and friendlier graphics, remove advertisements, and provide filtering and transparently search-safe domains.

- **Child-friendly search engines and portals:** The idea behind both special purpose child-friendly search engines and portals is to use a third party gateway to Web content. Child-friendly portals are Web access sites that try to provide a domain of safe sites for the user to explore. As long as the user comes in through the portal, they view a pre-selected domain set of the Web.

- **Proxy applications:** Application software can be added to server proxy modules, allowing text analysis and URL list comparisons in every Internet browser request and response.

The actual filtering takes place at three different levels: on the user's computer, at the Internet service provider level, and at a third party level.

Limits of filtering software

Filtering software is often controversial and ineffective. It may work temporarily for young children but it can be bypassed by creative and skilled teenagers. Some filters are not suited as the logic they follow makes them obsolete in the light of the ever-changing nature of the Internet (i.e. those based on a fixed set of vocabulary and resource location elements). Others have a higher performance but might limit access to information.

Filtering software could also make parents who have a limited knowledge of the Internet

falsely believe that their children will always be protected. Another problem is that several filters are conceived for use in English-speaking countries, limiting distribution in other cultures or languages.
Finally, it is very difficult to maintain filtering mechanisms in an environment where new material is constantly being added and new Web technologies continue to be developed. In order to operate effectively, filtering systems should acquire and maintain long-term, updated and accurate knowledge on both users and Web sites.

Ultimately, filters are secondary tools, especially useful as a supporting device in a sound parent-child relationship, where sensitive issues have been discussed in preparation for the first surfing experiences. Filters can aid teachers to show pupils how to correctly use the Internet. Also, being able to control access time is important in helping parents to define the amount of time which children can spend on the Internet or using a computer.

Lastly, as most surfing activities take place at home, it is necessary to increase the knowledge of parents and children regarding the Internet and Netiquette wisdom, for them to transform this knowledge into a better use of the media.

Forms of prevention

Adult guidance and educated access can be considered as a primary form of risk prevention to guarantee safety for children when on-line. Guidance is a means of allowing a child to be capable and independent by providing the necessary knowledge and experience to build confidence and an ability to judge. In this frame of mind, dangerous sites should not be simply forbidden, piquing children's never-ending curiosity, but the nature of questionable sites should be explained and aptly criticized.A child must acquire a certain degree of knowledge of what is correct when exchanging e-mail or attending chat rooms (for instance no personal data should be released to third parties, no meetings with adults or otherwise unknown people should take place unless discussed with parents, and any meetings must be supervised by parents). The same applies to the development of contextual knowledge enabling the child to judge what is appropriate and what is not. Violent, racist or pornographic sites could be presented as distorting the reality of love, marriage or peaceful coexistence amongst different communities. Combined with frequent accompanied surfing, guidance can also develop accountability; it is a dynamic process, a step-by-step interaction between adults and children.

When adult guidance is not possible, a filter could help a younger child and possibly stimulate reflection and critical thinking.To think of filters in terms of guidance is to teach how to use the Internet as a tool for developing knowledge and understanding. This kind of prevention implies explanation and reinforcing the child's sense of self-defence, autonomy and criticism.

The Kiddanet approach to filtering

As very few filters are capable of providing "guidance", the aim of this research was to develop a filtering system which could. Dangers connected to technologies demand or require some form of response. Save the Children believes that this response cannot be merely technological but that it should encompass and include normative issues, which should give adequate information on what technology is able to support.

Following are three "normative principles" or approaches that should be considered when devising a filtering system:

- Any form of prevention, rather than being based on traditional censorial or denial approaches which often see and reinforce the idea of children as vulnerable, passive and in need of blind protection, should be based on a notion of children as active participants able to understand and, when adequately informed, to direct their choices in a positive way.

- Some children may require protection and a form of control will necessarily be present, but this control should equally allow for some degree of self-management and democratic choice. What should be promoted is not control per se but limits which encourage reflection and develop that critical awareness necessary for children to master both the opportunities and risks offered by the Internet.

- The user should understand what is being filtered and when and why it is being filtered.

An efficient filtering system could therefore be a tool able to uphold independence through appropriate 'choice mechanisms' and alternatives for exercising and/or acquiring competence while providing an adequate layer of protection. This method of developing filtering software represents the practical outcome of Save the Children's theoretical approach to media empowerment and to the risks presented by the Internet and its related technologies.

Empowerment enables children to understand, improve and use their abilities to better control and gain control over their own lives. It provides a child with autonomy (through choices and the ability to choose), competence (through adequate opportunities and resources), and protection (through appropriate learning and development). The Kiddanet filtering system sustains this approach. The main criteria and procedures connected to it (as opposed to a description of technological aspects)[58] highlights three principle elements:

- how access is granted, and the role of adults;

- how and why the filtering system identifies and judges the degree of danger of on-line material;

- what results are provided by the filtering system when specific contents are blocked.

A matter of access

The various levels of access within the Kiddanet filtering system recognise that children have different levels of vulnerability. It is often very difficult for adults to correctly judge what level of Internet access children should have.

While age represents the main criteria used to judge children's ability to cope with Internet risks, it may not always be the most appropriate. Some children have high levels of Internet experience, others do not; some have developed effective coping strategies for what they encounter on-line, others may have not.

In order to help adults determine children's access level, Kiddanet has developed an on-line questionnaire/test. Once completed, it helps adults assess children's inclination towards "risky" behaviours when on-line, and will subsequently suggest a corresponding profile to establish what kind of access should be granted on the Kiddanet. After a certain period of time, the child will be asked to complete the questionnaire again in order to reassess any changed attitudes and behaviours.

Technological tools rarely encourage children to think about the value of the information offered, nor do they suggest any criteria to conduct an evaluation. The Kiddanet filtering system provides a series of suggested links and additional information every time a page is blocked, inviting children to reflect and develop critical skills necessary to independently evaluate the relevance of consulted material. Rather than simply blocking a Web site, the Kiddanet filtering system aims to foster safe and responsible behaviours when using the Internet and related technologies, to build skills necessary to become discriminating users of Internet resources

It is also very important to inform children on why a page has been blocked, and on what basis this has occurred. Save the Children has adopted the following approach to define selective criteria for the filtering of on-line content together with the types of answers a child is offered when viewing a Web site.

Filtering Matrix

	Profile	Pass list	Block list	Dubious Content
1: For the youngest children: a walled garden. No access to non-white list URL's	Protect	Active	n/a	n/a
2: For medium aged children: can surf on the Web, pass and block lists are active. When content analysed fails to match a category, it will be blocked.	Protect / Explore	Active	Active	block
3: For the oldest children in the target group: can surf on the Web, pass and block lists are active. When content analysed fails to match a category, it will pass.	Explore	Active	Active	pass

Creating the Kiddanet filtering system

A system to filter harmful activity or content on the Internet can be technically designed only after normative standards are adopted[59]

The first step in developing the Kiddanet filtering system was to establish the preferences of children, parents, teachers and caretakers in terms of selection and filtering of Internet content. Then a matrix of variables was plotted to determine a "path" which children can easily surf without finding any particular obstacles or undesired and dangerous content. This provided the necessary information for creating the filtering software.

The research project further attempted to understand how the Internet could become safer for children by interviewing seven opinion leaders (specialists involved with children and new media) on what they considered the best conditions and most suitable content for children. In addition, focus groups were also set up with children to collect their suggestions on the subject of a safer Internet. A semi-structured questionnaire for children 10 to 14 helped identify how children could best be assisted and protected when surfing. This was carried out in order to obtain data and information from a wider group of children, teachers and parents with Internet experience. Direct observations and face-to-face discussions were also very important to understand the rationale behind children's surfing habits, to define the paths they normally follow, the sites they most frequently visit, and the interests they expressed.

The second step analysed ten existing filtering and evaluation programmes (both software and a combination of software/hardware), based on their structure or on the kind of topics they target. Topics are especially important in light of the significant progress recently made in areas such as automatic document classifications (assigning a specific category to incoming news, detecting Web pages of particular types, classifying e-mail messages into folders), information extraction (detecting, standardising, classifying particular entities, storing information into databases) and in tailoring information according to user preferences, adapting both content and language to user type.

The third and final step consisted of giving an exact definition of problematic categories on which the filtering system should work on. At this stage, the main task was to objectively clarify why some Internet material was considered harmful-negative or educational-positive and to establish the selective criteria to be applied to filter out potentially harmful content. All partners agreed that the best way to achieve this task was to identify the degree of danger/utility of Internet content in relation to their impact on children's rights as expressed in the CRC.

Ten to 15 different themes were noted by children during the research, making an initial division into positive and negative aspects of Internet content possible. Some examples explored:

- violence/non-violence
- racism/integration
- Nazism/democracy
- war/peace
- assimilation/multiculture
- environment /technology
- pornography/sex education
- civil conflict/co-existence

The researchers then divided Internet content into seven basic categories based on various factors: results of the assessment of the existing filtering systems; the analysis of Web pages; and the proposals made by the research team, children and adults. These categories were:

- Sex
- Religion
- Human Race
- Ideologies
- Health
- Recreation
- Language

Each category was further divided into sub-categories and used for building the matrix to illustrate degrees of "danger/benefit" and impact on children's rights.

The final step was to study – together with

the computer experts – whether the matrix and the related sites and Web pages converged as anticipated. This brought about further language changes and new conceptual aggregations. The final grid was conceived as a framework of a series of fundamental children's rights linked to the world of Internet material in terms of potential harmful/beneficial content as reflected in the chosen themes and categories. The grid was thoroughly controlled and validated by teachers, educators and experts, as well as by parents and groups of children.

The identification and specification of the connection between children's rights and positive/negative Internet contents was useful in developing a better understanding of what, at a later stage, was going to be promoted as positive content via the dedicated Web portal, and of what kind of answers the filtering system was going to provide children when blocking a Web site.

Matrix: Children's rights and the Internet

Cat/art	2. non discrimination	14. freedom of thought	23. dignity and disabled children	24. health	30. ethnic, religious, cultural minorities	31. leisure, recreation and cultural activities	33. drug "abuse"	34. sexual exploitation and abuse
Sex	Sexual Equality	Expression of sexuality		* Quality of sexual health				Sexual Dignity
Religion	Religious Equality	Religious Freedom			Religious Freedom			
Human Race	Racial Equality	Human/ Individual freedom			Racial Tolerace/ Solidarity			
Ideologies	Cultural and Political Equality	Cultural and Political Freedom			Cultural and Political Tolerance/ Solidarity			
Health	Equality in physical and mental diversity		Dignity and Equality in physical and mental diversity	Quality of physical and mental health			Quality of physical and mental health	
Recreation	Equality and respect in recreational activities	Freedom and participation		Quality of mental, physical and spiritual development				
Language	Applies to all article							

Cross/cutting articles (i.e. they apply to all categories)	Art. 2	Art. 3	Art. 13	Art. 16	Art. 17	Art. 18	Art. 19	Art. 28/29

* When the filter categorises web page content as falling into the category Sex, and judges it as being inadequate because it presents information which are not health-appropriate, the answer produced by the Filter will encourage information and links based on: Quality of sexual health.

How can a child understand and control the results of a filtering system and acquire the sense of critical awareness that will lead to full, autonomous control over an on-line experience?

The Kiddanet filtering system presents a child with the option to search for alternatives, acting as a sort of guide rather than being a mere tool of denial. Information regarding the reason for filtering specific material is given through a pop-up explanation which also proposes alternatives and expands further exploration to help the child acquire that critical awareness of the Internet and its contents which is necessary to make the most of its opportunities.

It is worth noting that when addressing vulnerability, the filtering system allows children to acquire the necessary tools to enter and critically search the risky areas of the Internet, as understood by the CRC principles.

In practice, this means that if a young teenager is looking for information on sexually transmitted diseases, he/she will be able to find adequate information without being exposed to pornographic material. On the contrary, if he/she is trying to access pornographic material, viewing that particular Web site will be blocked, as will be pages inappropriately addressing issues relating to sexuality and health. When this occurs, the child is presented with a list of links to other on-line content, which relates to the search but has been previously rated as appropriate.

The Kiddanet Filter

How it works

The Kiddanet filtering system, accessed directly though the Kiddanet Web portal, provides parents and educators with the opportunity to choose from three different levels of Internet access:

Level 1 allows children to view a selection of educational and/or entertaining content that have been pre-selected and judged as appropriate according to/with a search engine accessing only pre-rated Web content on a proxy server.

Level 2 allows children the possibility of semi-directly searching the Internet as Kiddanet intelligent agents prevent undesirable content (xenophobic, pornographic, violent, etc.) from reaching them. If in doubt, the system sends the dubious search result to a Save the Children portal administrator (third party rating) who determines if the content is 100% adequate.

Level 3 allows children to search the Internet directly and, except for obviously dangerous content, all results are made available to them. On this level, according to the discretion of the adult responsible for the child, dubious material can be accessed. In this case, content is also forwarded to a Save the Children supervisor for evaluation.

The idea behind the filtering system

The filtering system aims to provide safer access to on-line content for children while promoting their right to access the wealth of educational information and entertainment available on the Web. The system blocks what is considered harmful and offers alternative Web sites to satisfy children's curiosity.

The filtering system has been designed to identify and assess the degree of dangerousness/utility of a specific Web site in relation to its impact on children's rights. To remain objective, Kiddanet bases its judgement on the United Nations Convention on the Right of the Child. Therefore, content will be blocked if seen as violating one or more of the 54 rights of the child determined by the UN and its member states.

Conclusion

The complex issue of how to render children capable of protecting themselves from potentially harmful content is not simply a question of providing access to a system that has been purged of "dangers". Kiddanet, by integrating filtering technologies and promoting suitable content on a dedicated Web portal, is not only a tool for protection, but also acts to develop awareness and responsibility.

It is important to highlight the limits of mere protection and prohibition from development issues which are placed in the context of the CRC. The Kiddanet system responds to both the needs of protecting children while upholding their rights.

V. The Kiddanet Web portal

Why a Web portal?

Creating the Kiddanet Web portal

The Kiddanet structure

Conclusion

Why a Web portal?

The growing use of new technologies, computers and the Internet has seen an increase in the number of Web sites dedicated to children, particularly for 5-10 year olds and to parents with very young children. There are also a wide variety of sites aimed at adolescents aged 14 and over, but only a few are specifically devoted to youngsters aged 10 to 14. On the one hand, this trend highlights the difficulty in defining a target audience (the interests of 10 year olds are extremely different to those of 14 year olds), on the other hand it demonstrates how many sites are thematic or commercial. Some sites deal with issues such as schooling and education, others focus on adolescents, offering games and entertainment.

The idea of creating the Kiddanet Web portal comes from the fact that so few sites contain information directly aimed at 10-14 year olds. The portal is geared towards the real requirements and wants of these children. Furthermore, the Kiddanet portal provides what the filtering system alone is not capable of offering: giving a child the space and possibility of having an active role in developing, experimenting, discovering and experiencing on the Internet.

Creating the Kiddanet Web portal

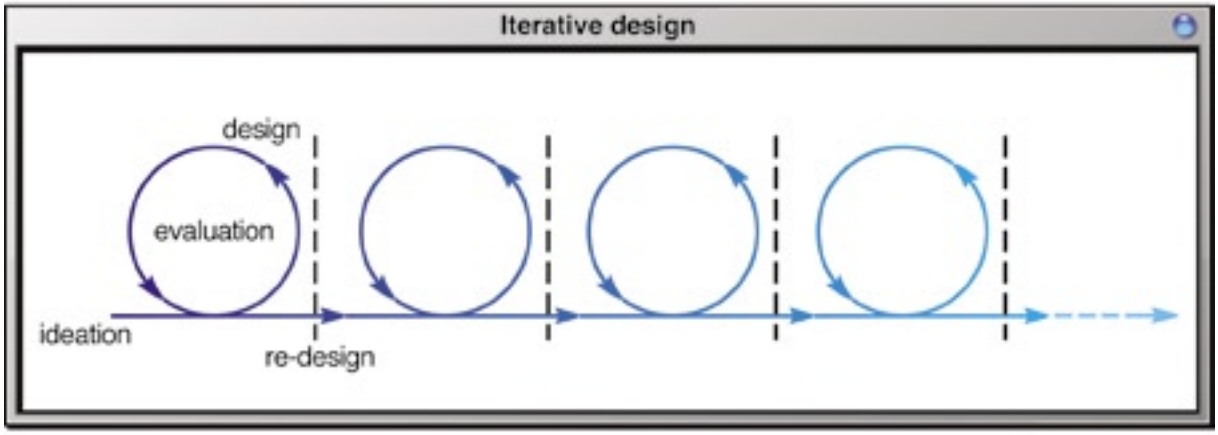
The Kiddanet portal is the result of the research conducted on matters concerning adolescence, the interaction between youth and the media (the Internet in particular), integrated into an overall approach encompassing children's rights. The CRC and its philosophy of promoting and respecting the dignity of children implies a commitment from adults to be involved in order to help children articulate their views and develop strategies and abilities to autonomously exercise their rights. To achieve this, a participatory approach was adopted in developing the Kiddanet portal. With children at the centre of the entire project plan, people from a variety of professional categories contributed to its creation: pedagogues, psychologists, care workers, graphic artists, IT technicians, as well as parents.

The project cycle adopted an "iterative" design to create the Kiddanet portal. The method was to set a number of repeated planning and evaluation sessions until the final product was attained. Six phases comprised the project cycle: conception, design, implementation, evaluation, elaboration and re-design.

Evaluation

Children who had not been involved in the project design were invited to participate in the evaluation process and provided assessments. Two methods were used to evaluate the Internet products: accompanied evaluation and distance evaluation. In addition, the evaluation phase provided an important amount of data and information that were elaborated and then integrated during the re-designing of the site.

Using accompanied evaluation, a group of children participating in a workshop were confronted with the new product that they



tested and used. Then, with the aid of different procedures, such as questionnaires, interviews and "thinking aloud" techniques, they highlighted each product's positive and negatives aspects. In the process, the children were asked whether they had any suggestions on how to collect further information.

In the distance evaluation, other groups of youngsters were notified of the existence of a Web site specifically designed for them which they could access from home or school. They were then asked to send comments and suggestions on what they had seen.

After considering all the suggestions, the research team also analysed the data in the log file that keeps track of all the user's manoeuvres when surfing a specific Web site, providing information on children's choices and paths used to view the site, highlighting the topics of main interest, but also offering useful information regarding the conceptual framework provided for surfing the site. These findings were then further examined through interviews and brainstorming sessions in order to assess and decide what kind of changes should be made to the system's organisation.

Children took on different roles within the project design. Some actively participated in the various stages together with adults which, using Allison Druin's terms, can be defined as "design partner"; other children held less prominent positions but were, nevertheless, active and informed, and helped the team understand whether what had been designed really corresponded to the youngsters' needs.

The continuous reproduction of the design-evaluation-redesign cycle has led to the creation of a final version that is still not definitive, as the whole design process and nature of the site itself is of a work in progress. Indeed, the main feature of this flexible design process is the value given to information transmitted by the user. There are various communication and participative functions within the Web site so the user can contribute suggestions and modify spaces and contents.

The design

The Web portal was conceived to address the needs of 10-14 year olds, creating an environment with flexible boundaries where children can experiment. The activities offered direct, but at the same time, enable the child to retain control and autonomy regarding final choices and selections. The countless possible options normally available on the Web are in this way reduced to a more manageable number, avoiding disorientation and confusion.

This decision influenced the Web site graphics and a clean structure was created with a maximum of eight different elements per screen. When more information was available, it was classified and divided into easily identifiable sub-groups. Similar efforts were made when introducing content and in the material itself where a number of specific issues were identified which incorporated related topics in a way and number that would not confuse the user. The length of the texts was restricted in order to facilitate reading and to encourage users to analyse the topic in more depth linking to other articles.

This structure facilitates reading, provides ideas to further investigate a subject, enables shifting from one section to another, and recommends paths and tools for implementing users' choices. It is also a useful strategy with regards to the different reading interests in 10-14 year olds. Finally, this way of structuring content avoids surfers getting lost in the mass of information.

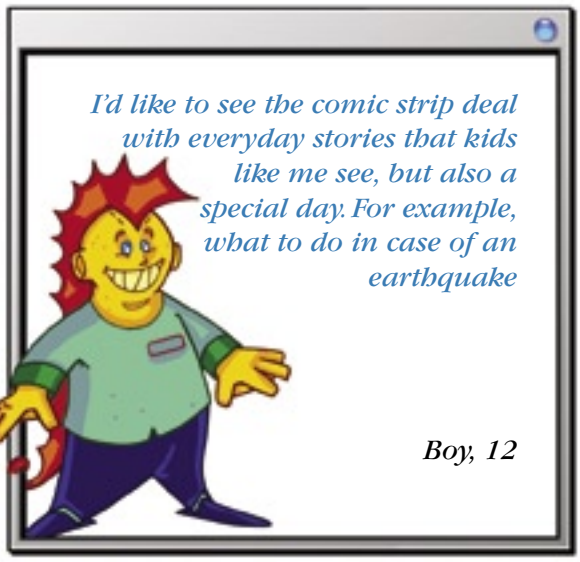
The Kiddanet structure

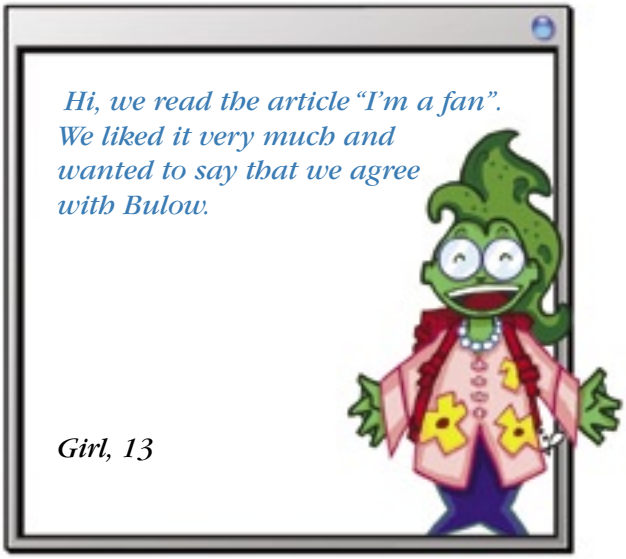
The Kiddanet portal consists of six main sections: Kiddatown, News, Forum, Fun, School, and Info. Each section is further divided into sub-sections and provides information on an imaginary world called Kiddatown and its inhabitants.

Kiddatown section

News: This section has news about what's happening in Kiddatown. The stories are invented, making the town come alive, and are based on current news and affairs. It encourages users to be concerned about burning issues, which are presented in a simple way and are interesting because they directly involve the Kiddatown characters. In addition, readers are asked to provide feedback.

Comic: A weekly comic strip takes the Web site characters on different adventures. The cartoon is enriched with new illustrations every week and it is possible to consult previous episodes. Each adventure, set in Kiddatown, deals with a specific children's right and builds a story around using experiences and issues from everyday life. Messages are implicitly conveyed through the characters' behaviour in a given situation.





Ask the expert: This consists of two advice columns. Aliva, one of the female characters, replies to readers' questions on sentimental matters. Ulla deals with school-related questions. You can also read other readers' questions and in turn send them your advice.

Characters: In this section the Kiddanet Web site characters introduce themselves and you can read what their friends say about them. Presently there are four of them, aged 12-16. They all have different colours and particular personalities with individual points of view and their own sets of problems. In this way, young users can identify with some aspects of the characters.

The characters are actually the outcome of the research and successful results of "Peer Education", an educational strategy directed towards activating a natural channelling of knowledge and experiences from some members of a group to others within that same age and status group. This procedure gives birth to a global communication process, a meaningful and intense experience that encourages individuals to look for authentic and harmonious relationships with the people involved in the process.[60]

News section

This section has news on various topics: music, cinema, sports, fashion and styles, books, amazing facts and horoscopes. Material is constantly produced for each topic, ranging from plain news to in-depth articles on various arguments that raise questions and present issues. Save the Children supports content development for articles aimed at being child-rights-centred, maintaining as much local focus as possible.

Forum section

The forum section houses a single topic discussion group, open to everyone who registers on the portal. Registration, in the form of a game, asks children to give their age and choose a nickname. As soon as you're registered you can enter the forum, which is open two hours a day, and chat with other visitors and Kiddatown characters. The forum is always monitored by a member of the editorial team, who intervenes in the guise of one of the characters to "animate" the discussion.

Fun section

The games section contains activities and information. Playing games on-line is possible, but you can also read about games that can be played alone or in the company of friends, find instructions for building things and discover amusing anecdotes, riddles and jokes. Finally, there is an interactive quiz.

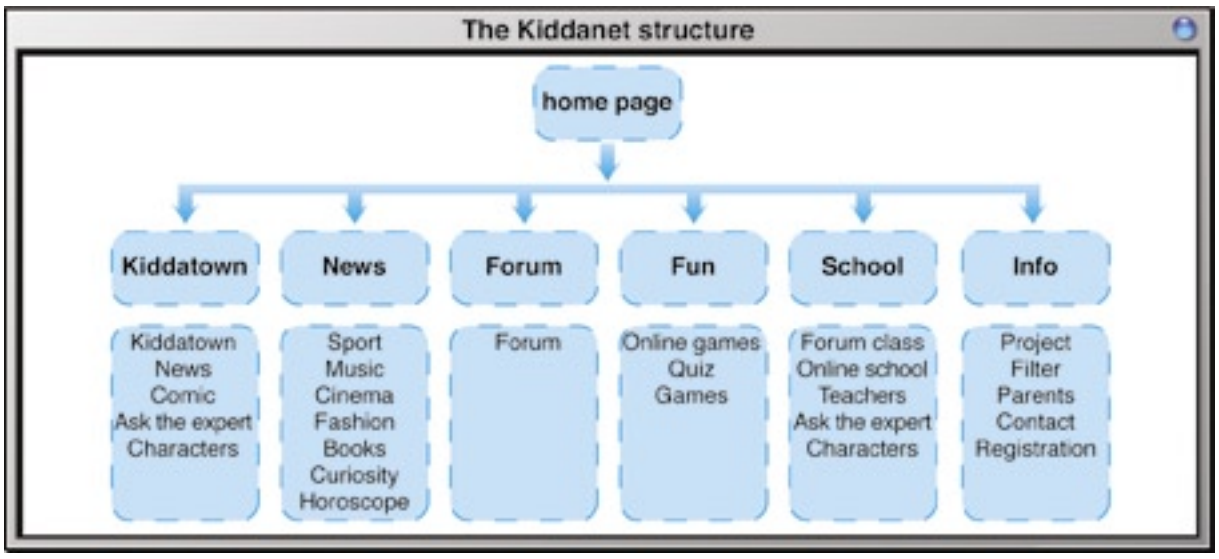
School section

The schools section was created to put school

classes in touch with each other. A section is reserved for classes, represented by a teacher, which gives information about their school, a brief description of their town or village and their activities. This space is a meeting place for children from a class who wish to contact children from another school to swap information, work together on a project or simply get to know each other. A special area allows children to ask the Web site characters questions about school.

Info section

The info section is designed for adults and children and provides information on the Kiddanet system, the filtering system and information about safe Internet surfing.



Conclusion

Kiddanet is the outcome of an integrated and innovative approach aimed at grasping and combining in a single Web portal the different ideas currently offered by children's Web sites. It specifically responds to a lack of Web-based material for 10-14 year old children. This tool intends to help youngsters to be aware, motivated, and in proper command when surfing the Internet, thanks to mechanisms specifically created to answer their particular needs.

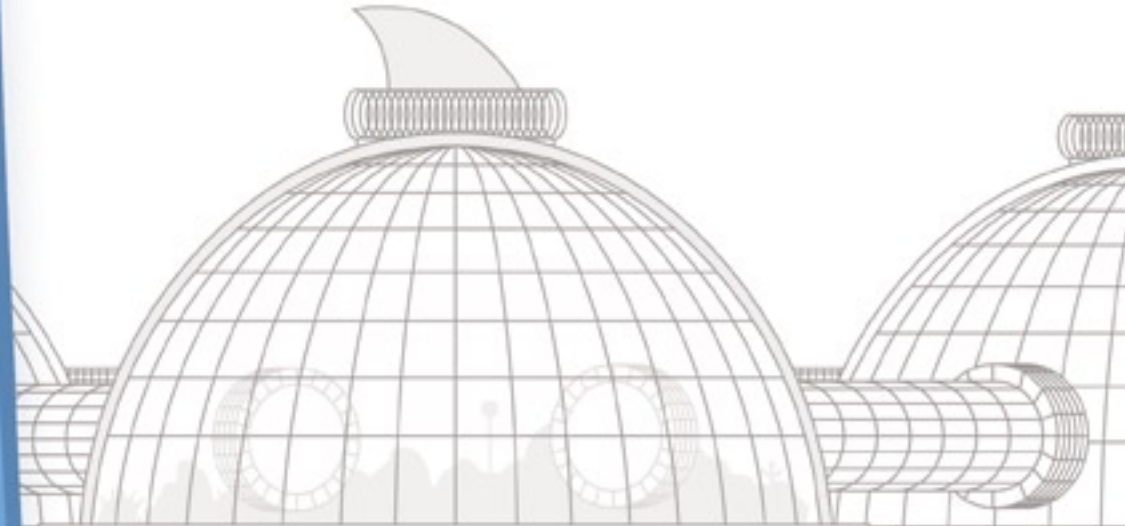
The Kiddanet portal represents something new and different on the Internet, it adds value to what is already on the Web, creating an integrated system. It focuses on giving youngsters a space on the Internet where they can come together, interact and exchange ideas on different issues, always paying particular attention to children's wishes and constantly upholding children's rights.

The portal offers its users the possibility of finding information, communicating, meeting and confronting others, and building relationships. In addition, although the portal does not explicitly address children's rights, they, nevertheless, surface in its very structure, in the way its contents are presented and in its surfing mechanisms.

The site's flexible environment is seen through the virtual underwater city, Kiddatown, where the portal's characters live. With time and according to children's feedback, the city can be modified, new parts can be created as can sub-sections addressing specific issues. This maintains the direct relation between the editorial and technological teams and the users. Youngsters are part of the team and contribute to the decisions regarding which new structure should be presented in order to convey certain contents.

Every member of the team can actively participate towards the portal's design: however, not everyone has the same influence in determining the structure, but anyone can comment or give personal suggestions to improve the process.

Final conclusion



Conclusion

The Internet is a new technology increasingly used by children and which has radically transformed communication methods, even changing children's learning systems. Kiddanet wants children to gain the vital skills necessary to use it in order to develop personally in addition to learning how to communicate with others, especially peers. The overall Kiddanet project approach strongly echoes Save the Children's theory of media empowerment as regards children, their rights and the Internet.

Modern technology and its different tools have introduced new activities which were once impossible. Access to these innovative tools is a chance to develop; however, what is meaningful is not the instrument itself, but the kind of use which is made of it. The Kiddanet project relies on two complementary systems: a dedicated Web portal and filtering software.

The portal produced as part of Kiddanet is not just a simple technological system; it uses opportunities offered by new media to create a system of relationships, interact and communication especially 10-14 year olds. The portal provides a safe environment for these children to build personal skills by actively exercising their independence; a place which fosters creativity and expression.

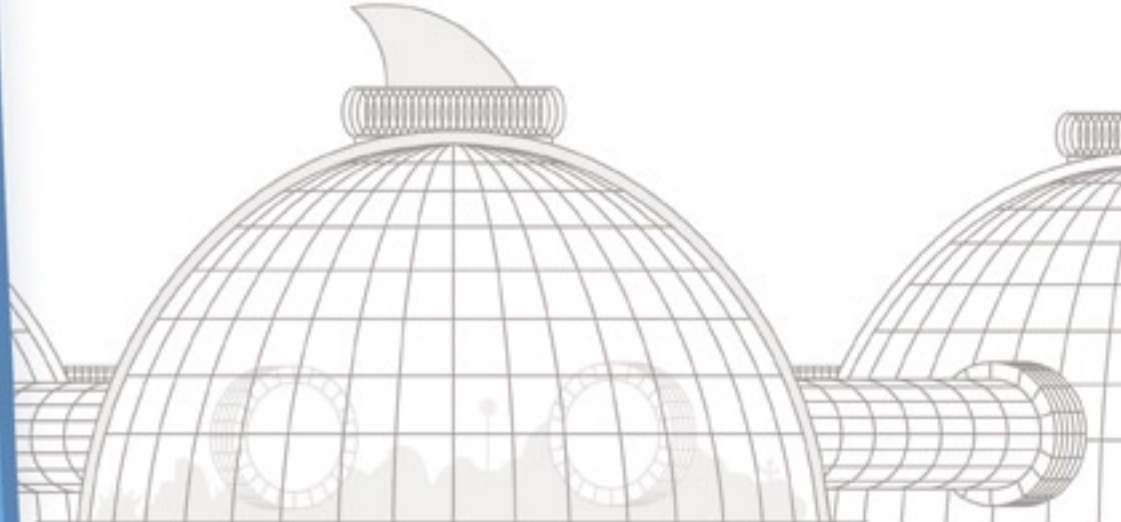
Kiddanet also relies on a software filtering system which upholds independence through suitable 'choice mechanisms' and alternatives for exercising and/or acquiring skills while providing an appropriate layer of protection. This method of developing efficient filtering software represents the practical result of a media empowerment approach.

Kiddanet is a transit point which responds to the specific needs of 10-14 year olds. It is based on reference theories on adolescence and on the practical use of new technologies but also, it is conceived with children's rights in mind.

Main points

- The Internet's rapid entrance into society has required a parallel and equally rapid adaptation of children and adults to acquire the necessary skills for understanding and appropriately managing their use of the media
- Children and teenagers can play a key role in advancing their parents' knowledge of the Internet
- The nature of children's expertise should not be taken for granted
- Research shows that children's first contact with the Internet often occurs before 10, especially if there is a computer in the home
- Internet use at school is generally highly supervised, making exploration of Internet content and services less free than at home
- At home children use the Internet for schoolwork, visit entertainment sites, download music, send greeting cards, search for information on their cartoon or movie heroes, play on-line adventure games and exchange countless messages in chat rooms and by e-mail
- Children's use of the Internet shapes and is shaped by more common everyday practices and routines
- Restrictions and prohibitions on children's use of the Internet can infringe on their individual right to information. Furthermore, legal bans or quick fix technological solutions might also cause parents and educators to lower their guard and feel less directly responsible
- Generally children's own accounts of how they themselves deal with the potential risks of the media is only heard as a whisper
- Children's accounts of risk may vary considerably when compared with adults' accounts
- Risks are part of childhood and not something that exclusively belong to adulthood
- The widespread perception of childhood as vulnerable and at risk calls for increased surveillance and social regulation
- Parental fears of the risks can result in children being anxious or not allowed to go on-line
- Ill-informed exploration can increase the degree of actual risk
- The Internet does have risks but simply adopting denial or censorship strategies will not empower them to develop in a positive and enriched way

Annex 1.
Kiddanet and Kiddatown: the virtual town



Annex 1. Kiddanet and Kiddatown: the virtual town

The Kiddanet Web portal emerged from the need to offer children aged 10 to 14 something different to the Web sites available on the Internet.

As surfing is used as a metaphor for searching information on the Internet, Save the Children has adopted the image of the ocean and the term "immersion" to suggest the idea of entering content related to a specific issue and diving deeper to better analyse and understand it. As a result, a virtual underwater town was created: Kiddatown. Kiddatown allows users to deeply explore issues and not just remain on the surface of the Internet ocean. It is a "sheltered" space where real difficulties and problems are addressed and where solutions are suggested by its characters.

Kiddatown is inhabited by virtual child characters that introduce themselves and their stories and are able to interact with visitors. They appear in the entire portal's articles, write the articles, have distinct personalities and perspectives, and sometimes have opposing ideas. The characters are, in fact, adolescents who live in a virtual world and have adolescent problems which they talk about in the various sections of the Web site. They do not present the "truth", but rather a point of view, inviting the visitor to critically think about what is discussed.

The virtual "world" is based on the real world of adolescents, with areas where they can socialise or be alone, such as the town square, a low wall to sit on, the gardens, the school and the home. In some parts of the portal the characters talk about adolescent problems and offer their replies. Visitors can interact with the virtual characters and understand the difference between the virtual world (Kiddatown) and the real world (their lives). Both adults and children populate the town, but adults appear only when they become important or when establish meaningful relationships with children. The town is therefore geared more towards the world of children.

Kiddatown has a 3D design to allow children who visit the Web site to find a section where they can "get closer to" and meet the characters who write the portal's information, see where and how they live, what problems they have and how they enjoy themselves. Kiddatown is a game of discovery, a desire to enter into relationships, a desire to know.

Virtual tour of Kiddatown

The virtual tour of Kiddatown includes architectural site-seeing, the presentation of the main characters and the possibility of directly interacting with them by sending in questions and suggestions. Similar to a neighbourhood, the dome is a defined space that is protected and familiar. Beyond the dome is a world to be explored, full of information, adventure and things to discover, which are tempting and frightening at the same time.

The main square represents the main and most important place for meeting people and socialising, with its wall to sit on, gardens and the different spaces where adolescents can meet and spend their free time together.

There is a school equipped with computers and set up to make the most of working in small groups, to foster greater contact and the chance of getting to know each other.

Kiddatown section

News

Using invented news on the life of the town and its characters, Kiddatown News gives an account of what goes on in Kiddatown. It encourages visitors to read and to ponder what is happening in the world. Kiddatown is unreal and is a far away place in children's eyes, just as most real places in the world are. The purpose is to make children feel like a part of this town by making them contribute to and keep track of the events in this fantasy world, which nonetheless does have common elements with reality. News about what happens in Kiddatown is meant to stimulate children's interest in the real world, beginning with this virtual and less frightening one. Kiddatown's function ends when the child starts to take an active interest in what is happening in the world, when he/she sets off to explore new countries and cultures, to discover where and how these communities live, together with their differences and similarities.

Comic

Creating a comic strip originates from the interest 10-14 year olds have in comics. The Kiddanet comic strip uses adventures in the main characters' everyday life. A child can observe how the characters act and interact. The focus is not so much on imagination, but rather on watching how others move and react in different situations, what they say and choose to do.

Interviews showed that children are not exclusively interested in fantastic and adventurous stories, but also want to understand how characters manage when confronted with unexpected events in real life situations. The following themes emerged amongst those that children would have wanted to deal with: What would the characters do during an earthquake? How would they react if approached by a group of bullies wanting to rob them? What would Kal do to go out with a girl? The comic strip tries to address such questions also using suggestions forwarded by children themselves.

The weekly or bimonthly structure of the strip, together with the interactive nature of the Web, allows the reader to take on a different role compared to traditional print comic strips. A strip on the Internet gives children the opportunity to contribute towards the story's development, sending suggestions to the editorial staff that can then use them to write future strips. Children can, therefore, actively take part in the creation of the comic strips.

Ask the expert...: agony aunts and problems at school

Kiddanet includes two specific sections where children can read and ask questions about school and emotional problems. This gives children the possibility of discussing their problems and asking others for advice and possible solutions. The interlocutor however, is not an adult, but someone who the child perceives as a peer or perhaps as being slightly older, therefore, as someone the youngster can really trust and open up to. Moreover, the anonymity of using a "nickname" can encourage children to express themselves more freely.

Although children expect an immediate answer; they get one after one or two days. This gap can compel them to more deeply examine the problem and perhaps to personally look for solutions. In this section, children find support as well as having a space in which to share and communicate their problems. The questions are examined by the editorial staff and then published on the site, together with an answer.

Over time a FAQs (frequently asked questions) section is produced. The child also realises that others share the same difficulties.

Children are allowed to view all the questions and answers that have been published in this section. Youngsters can also try to actively help others by sending their personal advice to a peer's question, in which case, the message is published next to the suggestions given by the Kiddatown character.

Examples of questions sent to Aliva

(real children's names have been changed to respect their privacy)

To: Aliva
Question: Hi Aliva. Can you help me out with a big problem? There's a boy I fancy, and he seems to fancy me. He's really handsome and all the girls are after him. I'm very shy, and I can't pluck up the courage to tell him. What can I do? Bye Aliva, and please help me. Dany (aged 13)

To: Aliva
Dear Aliva, our names are Barbara and Francesca and we go to secondary school. We think your Web site and the characters, especially Ulla, are great. How did your group get together? How did you meet each other?

To: Aliva
Question: Hi, I'm Roberto and I think my life is terrible. My mum says it's because of my friends, but I don't know what to do? Do you think it could be true?

To: Aliva
Question: Hi, I'm Filippo, I'm in love with Caterina, but I don't know how to win her over. Can you give me some advice? Thanks. Filippo

To: Aliva
Question: I fancy a boy in my class. I don't think he fancies me because I wear glasses that make me less attractive. What can I do to win him over? Please reply quickly. I'm madly in love with him. Arianna (aged 11)

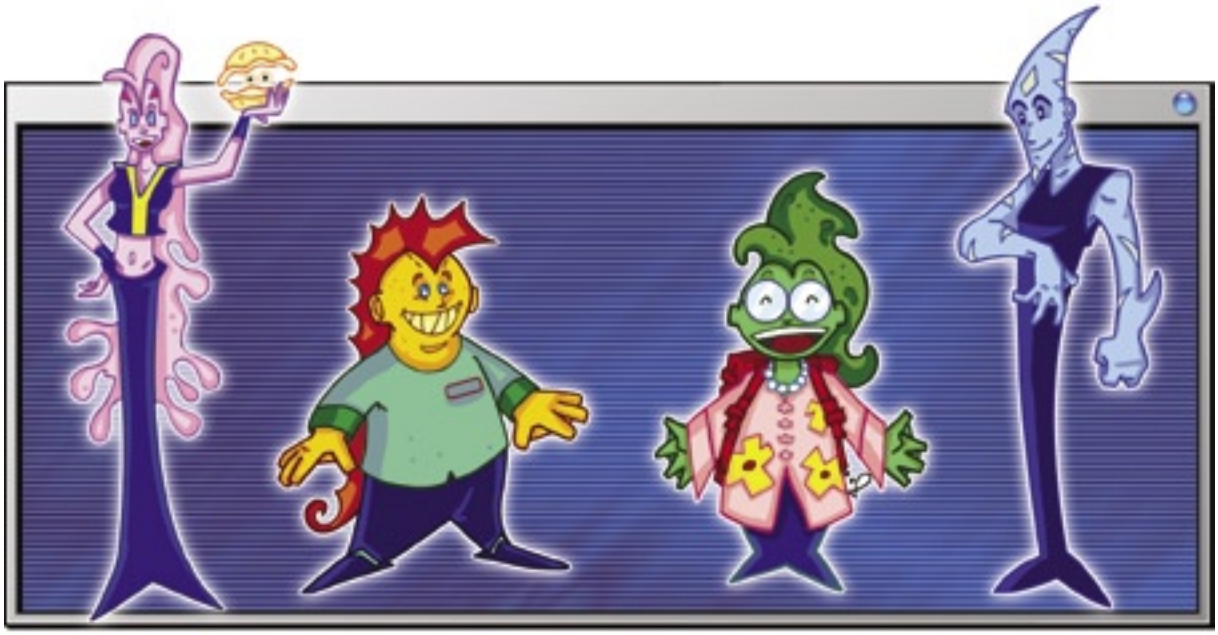
To: Aliva
Question: Dear Aliva, I'm Giuseppe and I want to go out with Tania. She's beautiful, but she never looks at me! Can you help me out? I'm asking because I'm sure that out of the huge goodness of your heart you'll give me the right answer, just like you do for the other kids!

To: Aliva
Question: Dear Aliva, I feel lonely because no one wants me and my boyfriend has left me because I kissed another boy. What can I do? Yours Alessia

To: Aliva
Question: We wanted to ask you what we can do to persuade our family to buy pets. We're really desperate because the only pets we're allowed to have are a couple of ants. Can you help us?

To: Aliva
Question: Which kind of dog do you like most? Which breed?

To: Ulla
Question: How can I make myself like maths? Lorenzo



Characters

At present, four characters inhabit Kiddatown. They are 12-16 years- old and are very individual.

They don't look alike as they all have different colours and they also have different particular personalities. They write all the articles on the site, and, therefore, clearly express their opinions and points of view, even if in contrast with one another. Their different perspectives help to better deal with the variety of problems or issues users may want to address.

The characters face a variety of adolescent problems. This editorial choice was made in order to attract the readers' attention and to provide a springboard for more in-depth thinking. It is used as a starting point to tackle the widest range of subjects, from the lightest (fashion, music trends, etc.) to heavier and more difficult ones, such as risky behaviours and children's rights. Subjects are not dealt with explicitly, but emerge from reading articles together and encouraging users to offer their own points of view, to get involved and to participate in the development of the Web site's content.

Each character introduces himself and provides information on his life and personality In addition, every character is introduced by his/her "friends". Again this procedure helps to grasp the difference between an individual's self-perception and how others see him/her and to better understand the importance others have in defining what we are.

A Kiddatown character's introduction

Kal introduces himself
"Hi, my name's Kal, and I'm 14 years old. I'm undoubtedly the best water scooter rider in Kiddatown. I want to be a film director and one day you'll hear about me in the world of cinema. I'll be the greatest film director in Kiddawood! My favourite colour is blue, I like playing videogames and I know loads of great jokes. It's not easy for me to talk about myself, so I've asked people who know me for some help from".

What they say about Kal
Buwol: Kal is my best friend. I'm sure he's told you he's the best. He always does that to draw attention... sometimes, to hide his shyness, he seems boastful and arrogant, but, knowing him as I have for years, I can assure that he's a sincere and generous friend... although sometimes he can be rather stubborn.

Aliva: Kal is really nice, except when he starts telling jokes, but I'm sure that if I have a problem I can talk to him about it. He's determined and I'm sure he'll succeed in fulfilling his ambitions, but when he comes on too tough he ends up making a fool of himself.

Ulla: Kal is a great guy and lots of people think he is different to what he really is. We've often stopped for a chat, and I can tell you that he's not as tough as he likes people to think. He's usually embarrassed and awkward with girls, although he obviously thinks quite the opposite.

News section

The News section represents the core of a typical information portal. Four main items are displayed at any one time to avoid confusion and overload and are updated daily. Each article is presented with a brief summary and a relevant image. This structure allows children to easily recognise interesting information, to quickly read the summary and then decide whether to go into further detail or not. The overall purpose is to lead a child towards more information if desired.

The editorial staff is responsible for the subject choice and bases its decisions on the interests portrayed by users in their comments, suggestions and discussions. Different topics, such as music, sports, cinema, books, latest trends and horoscopes are dealt with. All information is archived for consultation and reference. These main topics of interest were identified in questionnaires and interviews with children. Music, sport, games and fashion took preference, and horoscopes, in particular, seemed to attract girls' attention.

A main feature of this section is that topics can be modified according to analyses of the log files or through user feedback. A survey also provides an idea of what the users would like to read in the following weeks.

Kiddanet's articles are divided into five main types:

Factual
Usually connected to items of interest for 10-14 year olds often concentrating on a current or trendy issue. It can refer to a news event, a famous personality or a complex subject. These are included on the homepages of each topic section (sports, music, cinema, fashion, books, curiosity, and horoscopes). Length varies and if the subject is broad, the text is divided into several linked articles.

Dialogue
An exchange in which the Kiddatown characters deal with a subject. The dialogue's aim is to present different points of view and spur analysis, reflection and possibly user feedback.

Springboard
A combination of the first two types where two characters may voice their opinion on a specific matter, providing a springboard for further reasoning and may lead to other information.

Adventure
Describes experiences of one or more characters and may also deal with the everyday ups and downs in adolescents' lives. The aim is to stimulate the user's imagination in reading about a virtual and fantastic adventure the character had gone through, expressing the doubts, difficulties and excitement a typical adolescent experiences.

Comments
The contributions and feedback submitted by the children. The purpose is to encourage a child's active participation through the integration of suggestions, ideas, comments sent to the Web site.

News article (dialogue): an example

What kind of music?

Kal and Buwol are in the main square. Ulla comes along and asks an interesting question. What's good music? The question sounds easy, but there are so many kinds of music and so many singers...

Ulla: Hi there. I've won a CD voucher I can use at the music shop, but I've no idea what to choose. I usually listen to songs on the radio or songs to dance to, but there are so many groups I like, I can't make up my mind. What do you suggest?

Kal: My favourite is Eminem. The music of his songs is really great.

Buwol: You gotta be kidding. The English ska group Madness are the best. They talk about themselves, their rights and their dreams. Their music really is great. Not Eminem. His songs are terrible. They're against everybody and everything.

Kal: You keep off Eminem. Haven't you seen the way he gets up and shoots out rap and bangs out a song in a couple of minutes?

Buwol: That's what I'm telling you. How can you toss out something that makes sense in a couple of minutes, if it's not just a string of swearwords? I don't know what you're on about.

Ulla: Excuse me, I didn't want to get you quarrelling. I just wanted a hint. And anyway, what are rap and ska?

Kal: Two different styles of music. There are many different kinds: reggae, ska, rock, funky, but rap is definitely the best.

Ulla: I do have some idea about music, you know. I just wanted to know what the differences are.

Buwol: I can tell you that ska is the best by far, so you can listen to some good ska music.

Kal: Everyone is free to choose the kind of music they want to listen to and the best way to do it, and you should be able to listen to as many musical styles, groups and singers as you want, and then choose the one you like best.

Buwol: Yeah, I also think it's down to musical taste and good rhythm, but sometimes it's also a good idea to listen to the lyrics. It's worth finding out what a singer is trying to say through the songs.

Kal: I still prefer just listening to music, and I don't care what the lyrics say. I even like Alex Britti who plays beautiful guitar.

And do you know who the most famous Latin music singer is?

OVIDIO MAREQUANTEBBELLO

Really great... hey guys, why are you looking like that?

The Kiddatown news: an example

"Ruby door" discovered at castle near Kiddatown. What does it hide?

A group of archaeologists guided by Stuart Smith have discovered a door covered with rubies in the famous Blue Castle not far from Kiddatown. As the lock is very old, the group was unable to open the door and find out what lies beyond it. The archaeologist, Stuart Smith, who has been studying the ruins with his colleagues for some time, told the press that they won't lose heart and will succeed in their endeavour. Some gossip has accused Smith of being overcautious. Indeed, the scholar is renowned for his love of history, and especially archaeology, which he has been defending for most of his life. This is why some people say that he didn't want to open the door because it might have been damaged and the rubies that cover it might have come off, and because he wants to look into the matter more thoroughly. The whole of Kiddatown is waiting to find out what's behind the door and wants to get a quick answer. Some people reckon there might be a magic mask that goes back millions of years which has great historical value. Could it be true?

Forum section

A forum was created to allow children to meet and interact in a virtual space in order to get to know each other and to express their opinions. The forum lets different personalities come together: extrovert and more "participative" characters can actively confront others and make themselves known, while more reserved and insecure children can passively observe the various exchanges.

The advantage is that the forum, as with the entire portal, is accessed with a "nickname" so identities are not revealed. The forum represents a partially protected environment as children are free to try out and explore new experiences but where confrontation is not as risky as in real life. Protected by an anonymous "mask", they can interact with others, exceed their normal limits and exaggerate their behaviours to see what happens. Youngsters can decide to interpret and to experiment with a different personality, to see how others react.

Fun section

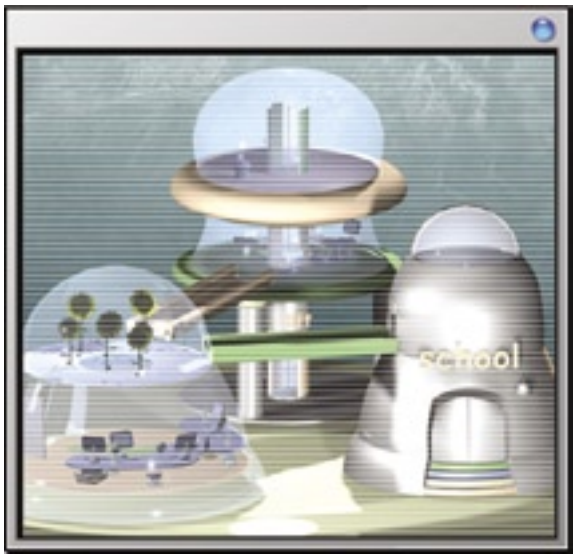
A Web portal especially dedicated to children that respects their right to play, could not exclude games. Although users find games in all the Kiddanet sections in order to balance entertainment and in-depth thinking, this section is specifically dedicated to games.

The on-line games offered by Kiddanet mirror the idea that play can lead to more profound thinking, but it can also purely entertain the player, encourage him/her to confront a challenge, and win. They use play and entertainment to develop participation. The games are simple with the aim to try and challenge mental and motor abilities, as opposed to encouraging play all day.

Different kinds of games have been created with diverse purposes: some help children exercise reflex reactions (sport games), some develop creativity (writing music), while others test general knowledge (quizzes). The idea is to initiate interaction by inviting children to actively participate in the portal's activities. Moreover, the games are designed to reflect Kiddanet's approach to children's rights. Some quizzes, for example, stimulate youngsters' into thinking about their rights, others consider whether violence should necessarily be used to achieve goals.

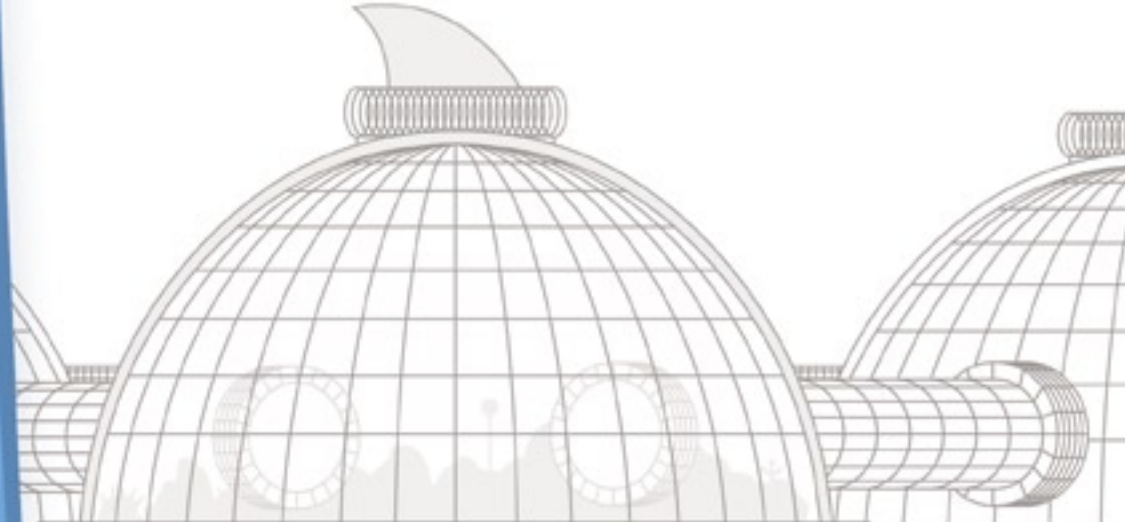
School section

The school section contains two main elements: asking Ulla questions about any matters related to school and the class forum. Anyone can access the school and ask Ulla questions, but the forum can only be accessed by classes who have registered.



The use of Kiddanet in schools requires the commitment of a teacher in becoming the focal point for a set project. During the academic year, the project will develop with content identification and of national or international classes wanting to exchange experiences or form a "twinning" arrangement. The editorial team is directly involved in helping the teachers design the project and find academic partners. Thereafter, it only provides the Kiddanet tools. Once a project/activity is completed, the focal points are asked to prepare a report in order to assess its effectiveness and to provide/share information and comments with other teachers that are thinking of using Kiddanet School. This mechanism allows Kiddanet to become a meeting point for school classes with children from different cultural backgrounds.

Annex 2.
Kiddanet Web portal test phase: key findings



Annex 2. Kiddanet web portal test phase: key findings

Choice of schools

Thirteen schools in four different countries, UK, Spain, Italy and Sweden, were involved in the testing of the Kiddanet Web site. Following is a brief description of the activities that took place in each country.

Sweden:

The two classes involved in the project are in the fourth grade of compulsory school. The children were between ten and eleven years old. The classes were chosen for the simple reason that they showed an interest in Kiddanet. From the start the researchers had contact with two schools and a total of four classes.The original idea was to use these four classes for the evaluation. But it turned out that the teachers from one of the schools had very limited knowledge of the Internet and great difficulty understanding how Kiddanet worked, so the researchers chose not to use their classes.

Spain:

The test was carried out with 220 children from three schools in the community of Madrid during 19th May and 2nd June 2003. The schools were chosen because the Save the Children Spain team thought it would be more appropriate to conduct the test in state schools as this gave the students both extra knowledge and some hours of free entertainment. The schools are all members of Plan Educa Madrid[61] and had the necessary technological infrastructure to carry out the test. Furthermore, thanks to Plan Educa, students have at least basic knowledge of Internet. The aim of the test was not digital literacy, but to analyse the Kiddanet portal, so an intermediate level of Internet skills were in fact essential.

Italy:

Testing was conducted over a two-week period during which the Web site could be seen by everyone. However, attention was focused on a group of 100 children, between 10-14 years old, from schools in Liguria (65%) and Lombardy (35%), who visited the on-line version of Kiddanet at the @peiron multimedia workshop in Children's Town in Genoa, which is equipped with 12 multimedia workstations.

United Kingdom:

The two schools in England were establishments with which the Save the Children UK team had personal connections. As well, one of the two schools had been the school involved in the original research to establish SC UK's understanding of children and the Internet so they were keen to know what had been developed as a result of these initial investigations.

Number of Testers

Country	Schools	Students	Age
Sweden	2	50	10-11
Italy	6	100	10-14
UK	2	49	11-12
Spain	3	220	8-13
TOTAL	**13**	**419**	

Expectations about testing of the Web sites with young people

The purpose of the final test phase was to see what the pupils thought of Kiddanet – language, graphic design, user-friendliness, etc. – and to get tips and advice on what was lacking, what should be developed further, and what the user expects of Kiddanet.

All the partners were deeply interested in finding out whether the pupils would perceive Kiddanet as being unique in relation to what other sites had to offer. The reaction to the Web site's appearance was generally more favourable than had been anticipated. In addition, many students also pointed out that there was material on Kiddanet, for example articles about children's rights, that was difficult to find on other sites.

However, as aptly pointed out in the Swedish report, what should be kept in mind, however, is that the children probably felt chosen, and that they were seen as being "cool" to be the first ones to test a new Internet site. In the presentation of Kiddanet, the teams asked for their advice and comments before making the finishing touches, which should have added to their feeling of being chosen. There is therefore a risk that some of their positive attitude has to do with this.
Nevertheless, the overall first impression of Kiddanet was positive and most would consider visiting Kiddanet again, provided the site were finished and there were more games and other interactive material.

General observations

According to all the research teams it can be said that the age difference did not have much effect on the children's reactions during testing. The results of the testing provided useful suggestions regarding the objectives and content to be transmitted to children via the Kiddanet portal.

Indeed, all the research teams and tests established a positive degree of acceptance of the portal. Likewise, performing the practical tests and attending the different sessions contributed a very important qualitative value to this report, as it has been possible to check what use the children made of the portal and their reactions to the design, navigation scheme, games, content, etc.

Concentration and attention

Most children paid attention to the explanations and they navigated through the portal following the technician's indications. They concentrated well and, in general, there were no signs of boredom. There were some exceptions amongst children who wanted to navigate through other sites. They were all aged above 12. Some of the younger children (8-9 year olds) did not have much knowledge of the Internet, so it was necessary to pay special notice to them. Besides, they said they were getting bored and that they wanted to play with the educational software the school had; that is, with programmes they were familiar with and knew how to use.

Impatience

A general observation made was the children's impatience. When the page took longer than 20 seconds to load, they started clicking repeatedly on the links. Children also lost their patience when searching for content; when one found an interesting link, they all wanted to see the content. However, they did not look for it themselves but, rather, copied the navigation route that their classmate had taken or asked them how to get there. Likewise, if anybody found an interesting link, they immediately told their classmates. In this respect, the intention and the attempt was for children to look for contents themselves and not to tell each other what to do.

Importance of games and content

In general, children liked the games and the news links. For example, in the Spanish test phase, a link on the Harry Potter book allowed them to print out pictures which they could then colour. In the other countries, links were provided to take them directly to external Web sites, where there were many games.

Through the links on the Music News children discovered they could listen to songs. In general, the football game created a generalised stir in all classes: they all wanted to find out how to play and got very excited when they scored a goal. There was major laughter and shouting at that point. They also enjoyed the music game quite a lot. However, most of them did not understand how the film game worked and found it boring.

The relatively high levels of satisfaction show that there is an interest in a portal completely dedicated to children in this age group, but one that is structured, albeit simplified, like those for adults. The idea of the characters seems to have definitely worked, and the possibility for visitors to compare themselves with characters of the same age to be a successful proposal.

The similar ages of the Web site users and the Kiddanet characters, undoubtedly gave rise to a strong desire to communicate and actively participate, but also to ask for help from "non-adults" and those who are more understanding because they've "lived through" the same experiences. The possibility of identifying with and feeling at ease with the characters and the need to interact and communicate were the main findings recorded with various tools during the testing phase.

As a general rule, the children who were critical in this respect suggested there should be more interactive tools to exchange ideas, make contributions, and to give and receive help. The need to have more space to ask questions and remain anonymous frequently came up. Replies, however, were asked for in real time.

In general, if the subject is interesting, children like to submit their opinions. This implies the need to create a space where contributions regarding a specific article can be sent in. The two "ask the expert" sections, where children had the possibility to interact with the editorial teams in the four countries – generated particular interest.

The Italian version was the only one where it was decided to test the comic section. This section proved a success: children liked the graphics and the plots.

Children's reaction and children's navigational patterns

In general, children navigated without trouble. Most of them followed the navigation instructions they were given. However, here are some problems that were observed during the sessions:

The contents appear on a page with the title, the summary and the picture of a fish, which is the link to the full content. Many children did not discover by themselves that the fish was the link. They clicked on the title and the summary, but not on the fish.

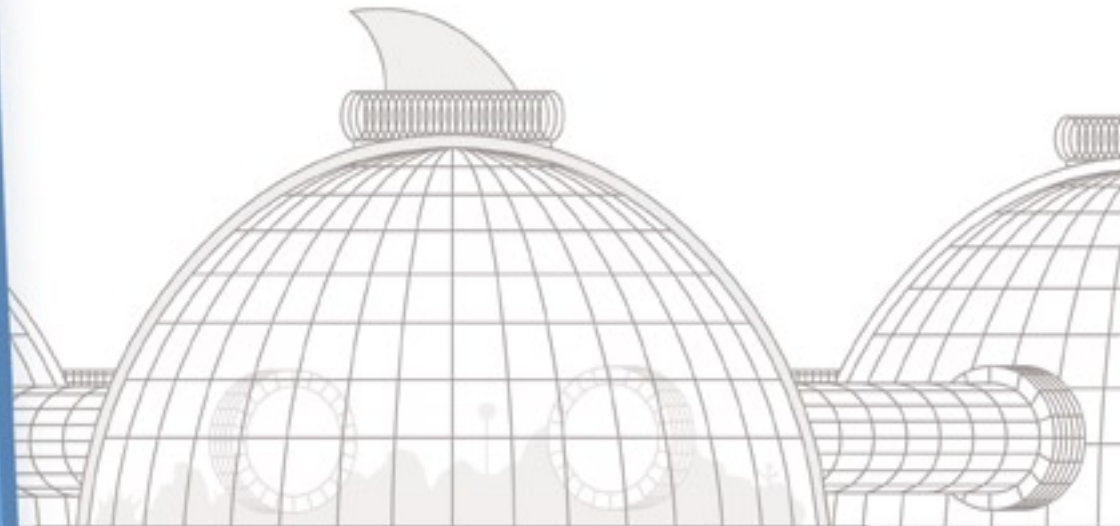
There were certain problems with navigating in Kiddatown:

- Confusing visual indicators: the system of coloured arrows which is not linear or continuous, but alternate, confuses the students. So some of them saw the same image several times but failed to find the more "hidden" screens.

- Scarce use of the vertical scroll bar. Most did not move the vertical scroll bar to the very bottom, so they never saw the last vertical section of the site and lost part of the information. For example, in Fun, On-line Games, they could not see the goalkeeper game. In Kiddatown they could not see the news item that was below the images of the City. This was also the case with the width of the site where it was necessary to use the horizontal scroll bar.

- Navigating links: when they clicked on one or more links (target_blank), they suddenly found several separate screens and they did not know how to get from one to the other. Perhaps it would be a good idea for the links to be target_self. When they clicked on the flags of other countries, they were suddenly presented with the information in a language they did not understand (target_self), and some of them were unable to go back to the site in their language.

Annex 3.
Kiddanet Web portal evaluation questionnaire



Kiddanet Web portal evaluation questionnaire

Name and Surname: _____

Age: _____

Sex: _____

Year: _____

Centre: _____

1. What did you like most about Kiddanet _____

_____

_____

_____

2. What is your favourite News section?

Books (with no games)

Music

Film

Sports

Curiosities (with no games)

Why?

Because of the game

Becouse of the news item (write down the one you liked best)

_____

3. Do you like the news in Kiddatown? Do you think the topics they cover are interesting?

Yes

No

Can you explain why?

_____

_____

_____

4. Which news do you prefer, those in Kiddatown or those in the News section (music, sports, film, etc.)?

Those in Kiddatown

Those in the News section

5. Would you like to know more about any of the contents?

Yes

Which?

_____

_____

_____

No

6. Which of the following would you like to see in Kiddanet?

more articles and news on _____

_____

a forum to chat with friends
more games
other things
the possibility of asking questions about my rights and things that concern me

7. Did you like the games you found?

Yes

Which did you like best? _____

_____

No

8. Do you think it is interesting to have Kiddanet in four languages and for you to be able to exchange ideas with children from other countries?

Yes
No

Can you explain why?

_____

_____

_____

Usability

9. Do you like the design (colours, photographs, lettering...)?

Yes
No

Can you explain why?

_____

_____

_____

10. Do you like the characters' physical appearance?

Yes
No

11. Which character did you like best?

Aliva
Kal
Ulla
Buwol

12. Are you similar to any of the characters?

Yes

Which?

Aliva
Kal
Ulla
Buwol
No

Legibility

13. Have you understood the news you have read properly ?

Yes
No

14. Do you like the language used in Kiddanet?

Yes
No

_____

_____

General impression

15. Is it easy to navigate through Kiddanet, that is, finding the contents you are looking for and moving throught the different sections?

Yes
No

Can you explain why?

_____

_____

_____

16. What did you like least?

_____

_____

_____

17. Was it fun to visit Kiddanet?

Yes
No

Can you explain why?

_____

_____

_____

18. Would you like to return to Kiddanet?

Yes
No

19. Would you recommend Kiddanet to your friends?

Yes
No

Can you explain why?

_____

_____

_____

Thank you all!

Glossary of Common Internet Terms

Attachment - A file attached to an e-mail message. These should always be scanned to protect against computer viruses.

Baud - Technically, a measure indicating the number of signalling elements that occur in one second of time. Generally, this measure is used to indicate the speed of an Internet connection.

Boolean Operators - The words AND, OR, NOT, which are used to connect search terms. AND narrows a search. OR broadens a search by incorporating synonyms or alternate terms. NOT narrows a search by excluding terms.

Browser - Short for Web browser, a software application used to locate and display Web pages.

Chat or Chat Room - A virtual room on the Internet where real-time communication between two or more users takes place via computer. Once a chat session has been initiated, users enter text with their keyboards and the text then appears on the other users' monitors.

Cookie - A message given to a Web browser from a Web server. The message is stored in the form of a text file (filename.txt). The message is then sent back to the server each time the browser requests a page from the server.

Cyberspace - A term coined by William Gibson in his novel Neuromancer. The term cyberspace is currently used to refer to the digital world constructed by computer networks.

Digital - Describes any system based on discontinuous data or events. Computers are digital machines because they can distinguish between just two values, zero and one, in all the data

Domain - A group of computers and devices on a network that are administered as a unit with common rules and procedures. Within the Internet, domains are defined by the IP address. All devices sharing a common part of the IP address are said to be in the same domain.

E-mail - Electronic mail. Messages, usually text, sent from one person to another via computer. E-mail can also be sent automatically to a large number of addresses.

Edutainment - Computerized entertainment comprising both education and entertainment.

FAQ (Frequently Asked Questions) - FAQs are documents that list and answer the most common questions on a particular subject. Many Internet sites have their own FAQ.

Flame - A negative response to a comment or post by a user. Flames are generally not polite, and can end up taking up a lot of space in a group. Flaming is not good netiquette.

Firewall - A system designed to prevent unauthorized access to or from a computer network.

FTP - Short for File Transfer Protocol, the protocol used on the Internet for sending files.

Hardware - The many components of a personal computer. Includes disks, disk drives, display screens, keyboards, and printers.

HTML - Hypertext Markup Language. The coded format used to create documents on the World Wide Web.

HTTP - Hypertext Transfer Protocol. The protocol used by the World Wide Web. HTTP defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands.

Hyperlink - Links in HTML documents that users click on to go to other Web resources.

Hypertext - A document that contains links to other documents, as commonly seen in Web pages and help files.

Icon - A small picture that is displayed on the screen, intended to depict pictorially a task that can be invoked when clicked with the mouse.

Internet - A global network connecting millions of computers through a collection of networks and appearing to users as a single network.

ISP - Short for Internet Service Provider, a company or other entity, such as a university, that provides access to the Internet.

Modem - Modulator–demodulator. A device or program that enables a computer to transmit data over telephone lines.

MUD - Multi-user Domain. A cyberspace where users can take assume an identity and interact with one another.

Multimedia - A combination of media types on a single document, including text, graphics, animation, audio, and video.

Netiquette - Internet etiquette — the unwritten rules of politeness on the Internet ('though there are guides available on the Internet that could be of great use to newbies).

Network - A group of two or more computers linked together.

Newbie - An individual who is new to using the Internet. As a newbie, you need to make sure to read FAQs, and learn general netiquette.

Newsgroup - An on-line discussion group. Requires a program called a news reader which most modern browsers come equipped with.

On-line Service - A business that provides its subscribers with a wide variety of data transmitted over telecommunications lines, such as stock quotes, news stories, magazine articles, etc..

Plug-in - A software module that adds a specific feature to a Web browser. Plug-ins allow browsers to display different types of audio and video files.

Portal or Web Portal - A Web site or service that offers a broad array of resources and services, such as e-mail, forums, search engines, and on-line shopping malls.

Proxy server - A type of firewall that filters requests to a Web server.

Search Engine - A program that searches one or more documents for specified keywords and returns a list of locations where those keywords were found.

Simulation - The process of imitating a real phenomenon. Prevalent in video games, which often simulate real-life situations. Advanced computer programs can also simulate weather conditions, chemical reactions, atomic reactions, even biological processes.

Software - A series of computer instructions or data that can be stored electronically. Systems software includes the operating system and utilities that enable the computer to function. Applications software includes word processors, spreadsheets, and database management systems.

Spam - In general, spam refers to unsolicited and unwanted email, usually of a commercial nature. It can also refer to off-topic posts to newsgroups, especially those crossposted to many unrelated groups and of a commercial nature. Spam is not a good thing and is considered a major breach of netiquette. As an advertising method, it tends to backfire, since most people who receive it either ignore it or actively fight it, and it tends to hurt legitimate businesses more than help them.

Surfing - Moving from place to place on the Internet searching for topics of interest.

URL - Uniform Resource Locator. The global address for the World Wide Web, such as: http://www.savethechildren.org.

Virus - A program or piece of code that is loaded onto your computer without your knowledge. Viruses can cause grave damage to your computer system

World Wide Web (WWW) - The hyperlinked text- and graphic-based part of the Internet.

Notes and references

1. K. C. Montgomery, :"Digital Kids:The New On-Line Children's Consumer Culture", Center for Media Education, 1999.

2. Source: Nielsen/Net Ratings Internet Survey 2003.The number of active users is an estimate of the number of people that actually go on-line in a given month or time period, rather than the number of people with Internet access.

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4. S. Livingstone, : "Children's Use of the Internet:A Review of the Research Literature", 2002, lSE.

5. See Table of Contents for list of annexes.

6. S. Livingstone, :"Children's Use of the Internet", quoted.

7. Source:TeenSites.Com:"A field Guide to the New Digital Landscape", Centre for Media Education, 2002.

8.For a more detailed account of these issues please also see: Jones, S.G 1997, :"Virtual Culture: Identity and Communication in Cybersociety", London Sage and S. Livingstone, :"Young People and New Media: Children and the Changing Media Environment", Sage, London, 2002.

9. Such research is mainly performed in richer countries, such as Japan, North America, Europe,Australia and New Zealand. Children constitute approximately 36% of the world total population. Of the more than 2 billion children on the globe, around 13% live in the richer countries. By focusing only on those richer countries, children represent merely a small proportion of all children in the world, yet in absolute figures they still present an enormous amount of people.

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16. For a more in-depth account of these issues see: http://www.media awareness.ca/english/parents/marketing/marketers_target_kids.cfm

17. See also : G. Pravettoni, :"Web Psychology", Guerini e associati, Rome, 2002.

18.The Observatory on Communications of Università Cattolica del Sacro Cuore of Milan, in its Web Focus, has identified several of the above-mentioned characteristics as variables tending to diversify Web utilisation. For further information, see also : F. Colombo, :"Utilizzo del Web e indagini sui consumi culturali" in, :"Net Sociology. Interazioni tra scienze sociali e Internet", edited by M. Morcellini and A. G. Pizzaleo, Guerini e associati, Rome, 2002.

19. See also :A. Marinelli, :"Dalla media generation alla networked generation", in, :" Giovani a parole. Dalla generazione media alla networked generation", edited by S.Tirocchi, R.Andò and M.Antenore, Guerini e associati, Rome, 2002, p.243.

20. Source:Telefono Azzurro, :"Il bambino fra vecchi e nuovi media", Conference Proceedings, 27-28 March 2001, Rome.

21. Meaning literally being able to read and write on the Internet. Cyberliteracy, as it is often referred to, includes the use of material either broadcast or published on electronic and digital networks.

22. Cultural studies developed in Britain after World War II which have examined communication since the 1960s, using a qualitative research method. However, some trace the origin of this method of investigation communication to the work of the Chicago School in the first half of the 1900s.

23. A definition of Media Literacy including these four elements first emerged in 1992 at the National Leadership Conference on Media Literacy. For major details please refer to:Alliance for a Media Literate America. Since then this definition has been widely adopted.The last term "creation" differs from the original definition, which was "communication" and it has been borrowed from S. Livingstone, :"The changing nature and uses of media literacy",MEDIA@LSE Electronic Working papers N°4, London, 2003, and to which this part of our publication owes many debts.

24. See: S.Livingstone & M Bovill, 2001, quoted.Also availabale at CyberSpace Research Unit, SAFT Conference proceedings available on-line at: http://www.safton-line.org/latestnews/1373/

25. A. Marinelli, op. quot., p. 243.

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30. S. Livingstone, :"Children's Use of the Internet:A review of the Research Literature" March 2002.

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33. A. Marinelli, op. quot., p. 246.

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35. A. Beria, :"Identità telematiche e dintorni" , in,: "Web Psychology", edited by G. Pravattoni, Guerini e associati, Rome, 2002, p.101.

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41. See also: S. Papert, :"The Children's machine". BasicBooks, 1993.

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Save the Children

For more information please contact:
Save the Children Italia Onlus
Programme Department
Via Firenze 38
00184 Roma
info@savethechildren.it

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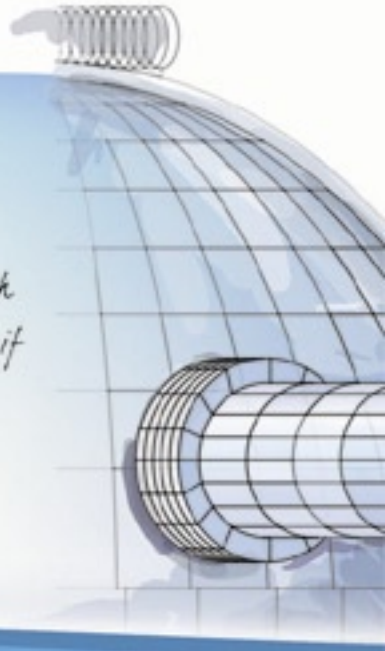

Children's Rights in the area of information technologies is a new and emerging field which has been largely overlooked. Child Right's organisations should seriously consider this area if young people are to benefit fully from the developments in these technologies.

Information Society

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