Youth Web Spaces: Design Requirements to Promote Well Being

Shahper Vodanovich
University of Auckland
New Zealand
s.vodanovich@auckland.ac.nz

David Sundaram
University of Auckland
New Zealand
d.sundaram@auckland.ac.nz

Abstract

Youth is a period of rapid emotional, physical and intellectual change, where young people progress from being dependent children to independent adults. Young people who are unable to make this transition smoothly can face significant difficulties in both the short and long term. Although the vast majority of young people are able to find all the resources they need for their health, well-being and development within their families and living environments, some young people have difficulty in locating resources that can help them and moreover, difficulty in integrating into society. One way to support this transition is to create an environment that enables youth to be well supported through the provision of information and the creation of a community where youth feel empowered to collaborate with their peers as well as decision makers and legislators. This article focuses on the exploring the use of the Internet by youth and how youth well-being can be improved through the design of a youth-friendly web space. This article begins with a definition of youth well being and what this means in the context of the Web. We propose key requirements for the design of youth web spaces that will result in their well being. We use these requirements to analyse existing web spaces and conclude with the problems and issues that need to be addressed.

Keywords: Youth, Well-being, Web spaces, Community, Collaboration

1 Introduction

Youth is a period of rapid emotional, physical and intellectual change, where young people progress from being dependent children to independent adults. The Austalian Insititute of Health and Welfare asserts that young people who are unable to make this transition smoothly can face significant difficulties in both the short and long term (AIHW 2003). The presence of an environment that enables youth to be well supported through the provision of information and the presence of a collaborative, community may enable youth to make this transition smoothly.

The popularity of the Internet as an information source has grown extensively. Its sheer expanse and convenience is ideal to disperse information. This makes the internet a potentially powerful tool to enable youth to gain access to resources and information they need. Our interest lies with web spaces for youth that enhance their well-being and empowerment. Web spaces open up a whole range of possibilities for using web technology (for example Web 2.0) to interact with youth and provide them with knowledge in an interactive manner. In addition they are also able to provide a community environment which allows the youth of today to voice their opinions on issues that matter most to them and thus foster a collaborative space. These three key ingredients enable youth to be empowered and in turn enable their well-being in some regard.

There are few frameworks or guidelines available for the design of web spaces to cater for the well-being of youth. As such there are not enough youth web spaces which provide youth with up-to-date and relevant information, and which allow youth to collaborate and participate in an online community in an interactive manner such that it enables youth well-being. In the next section we discuss the motivation for the creation of such a web space; in particular we examine the different elements that are required to enable the design of a youth web space that facilitates well-being.

2 Well-being of Youth

Youth workers as well as policymakers, teachers, parents and researchers have highlighted concerns about young people's wellbeing and the need for improvement in this area (Bourke 2003; Eckersley, Wierenga and Wyn 2006). However, the concept of wellbeing has not been clearly defined, theorised or measured (Diener, Lucas, Suh and Smith 1999; Ryff 1989), especially when applied to young people (Ben-Arieh 2005).Therefore, before we turn to an exploration of existing youth web spaces which allow youth to contribute in some form to their wider community, it is perhaps useful to further define what we mean by "the well-being of youth". According to Action for Children and Youth Aotearoa (ACYA) New Zealand this means that "the rights of every child and young person in New Zealand are recognised and each enjoys good health, education, safety and economic wellbeing" (www.acya.org.nz). Moreover, a recent report by United Nations Children's Fund (UN 2007) asserts six dimensions of well being of youth, material well-being, health and safety, education, peer and family relationships, behaviours and risks, and young people's own subjective sense of well-being.

Moreover, family and friends dominate the social environments of youth. Consequently, loneliness and perceived social support from family and close friends (Subrahmanyam and Lin 2007),a socially supportive network (Argyle 1992; Henderson and Argyle 1985), the level of emotional support (Caplan and Turner 2007), relationships and friendships (Argyle 1992) as well as feeling close and connected to others on a daily basis have all been found to contribute to youth well-being (Hartup, Neil and Paul 2001). Moreover, feeling

understood and appreciated and sharing pleasant interactions with friends and family are especially strong predictors of well-being (Reis, Sheldon, Gable, Roscoe and Ryan 2000). The importance of having friends, and more significantly having good quality friendships is an important developmental element for adolescents (Hartup et al. 2001). These findings underscore the importance of schools as a primary source of connectedness with adults, and with the broader community as perceived and experienced by the adolescent (Resnick, Harris and Blum 1993). Resnick et al (1993) assert that family connectedness still plays an important part of youth's well-being

3   Youth Well-being in Web Spaces

Computers are an important tool in achieving this environment as they are an important aspect of youth culture(Valaitis 2005). Youth are not only exposed to a plethora of technological tools that allow them to connect to the internet, but they are equally surrounded by friends and family who go online. According to a survey done by the PEW Online American Study (Lenhart and Madden 2005), 83% of all the youth surveyed stated that "most" of the people they know use the internet while only 6% say that very few or none of the people they know use the internet (Lenhart et al. 2005). The youth of today has variously been referred to Net Generation (Rickard and Oblinger 2003; Tapscott 1996) Digital Natives (Prensky 2001a) and the Millenials (McMahon and Pospisil 2005). This generation are said to prefer receiving information quickly; be adept at processing information rapidly; prefer multi-tasking and non-linear access to information; have a low tolerance for lectures; prefer active rather than passive learning, and rely heavily on communications technologies to access information and to carry out social and professional interactions (Gros 2003; Oblinger 2003; Prensky 2001a, b). Prensky (2001a) maintains that the digital culture and environment in which the Youth of today have grown up has changed the way they think: "It is now clear that as a result of this ubiquitous environment and the sheer volume of their interaction with it, today's students think and process information fundamentally differently from their predecessors." (p.g. 1). Youth are more than just consumers of digital content; they are also active participants and creators of this new media culture, developing content themselves, designing personal websites, and launching their own online enterprises (Sharp 2000). The proliferation of youth-created Web pages and message- board postings, and the popularity of instant messaging among young people all contribute to the booming use of the digital media for communication among youth (Madden 2003).

The sense of empowerment and in turn the well-being of youth comes from the ability of computers and other information and communications technologies to provide better access to information, anonymity and the ability to include their views in decision making (Cockburn 2005) Moreover, networked computers empower people around the world as never before to disregard the limitations of geography and time, find one another and gather together in groups based on a wide range of cultural and sub cultural interests and social affiliations (Kozinets 1999) .

It is empowering for youth to know that they are in control of the information that they are receiving and a key part of this is them being aware of the tools and paths that are open to them in achieving changes to policies that affect them. A survey conducted by Valaitis (2002) about youths creating and implementing their own websites, found that they felt that technology empowered them in three ways, sharing their views and information with the community, getting other's opinions and getting access to influential people. Furthermore, she also found that youth felt more confident, better prepared and more knowledgeable when expressing themselves to the wider community.

Figure 1 demonstrates the three modalities of interaction that youth can undertake in an online environment, that is, interaction with the computer/web space to gain or elicit information, interaction with their peers as well as legislators and decision makers. In addition, the Figure also draws attention to an important issue regarding the Internet – governance. Gross, Juvonen & Gable (2002) note that the Internet can either undermine or foster well-being and in turn empowerment. They are referring to the importance of governance and control issues surrounding the Internet, especially web spaces that youth have access to. A report by Livingstone (2001) suggest three main concerns regarding youth use of Internet; contact –who are the youth interacting with, content – what are they viewing and being exposed to as well as commercialism – this could include online marketing through to gambling and pornography. Therefore the aspects of governance should be given careful consideration in the design of youth web spaces. In the next section we review web spaces that enable one or more of these modalities. However, due to the limitations of space we leave out discussion of governance and control, as that in itself is an immense topic that has many facets and dimensions that cannot be adequately expressed in the limited space of this paper.

It is useful to carefully define what elements contribute to the well being and empowerment of youth. As shown in Figure 1, the well-being and empowerment of youth online is impacted by three factors relating to the efficiency and effectiveness of information exchange, Information, Community and Collaboration. In the following sections we explore how these three modalities of Information, Community and Collaboration contribute to the well-being of Youth in web spaces.

3.1   Information

Enhancing youth knowledge about how issues in the media, changes to government policy at the local, national and international levels affect them is crucial to their understanding of themselves. The exponential growth of the web and the growing availability of collaborative tools and services on the Internet have facilitated innovated knowledge creation / dissemination infrastructures, such as: electronic libraries, digital journals, resource discovery environments, distributed co-authoring systems and virtual scientific communities

(Chen and Gaines 1996). The transformation of such a rich information base is vital for youth. Transformation of this information may include filtering, aggregation or visualisation. This transformation can facilitate the explanation of issues impacting youth to the youth community. This in turn is an important step towards ensuring that youth understand how local, regional and international issues impact them and as a result ensure the well-being and empowerment of youth through knowledge acquisition.

Figure 1: Visual Representation of Youth interaction in web spaces
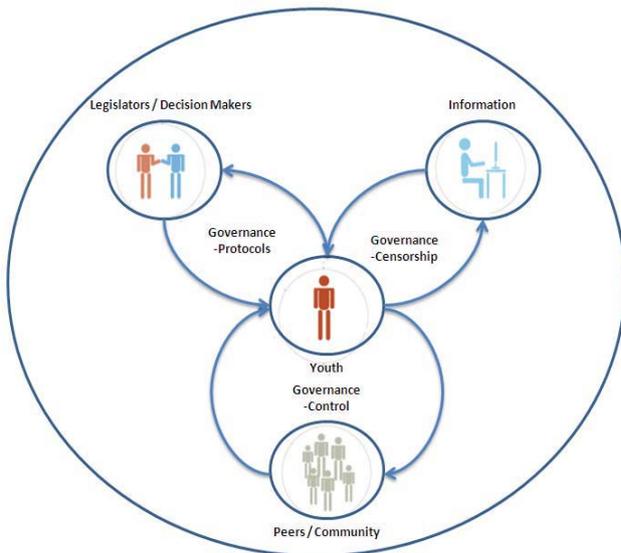
3.2 Community

The role of youth in participating in their well-being is important to recognise. Not only are they capable of providing support for each other but also, as previously mentioned, they are more aware of what their concerns and issues are and thus their participation needs to be encouraged in all spheres of society and in decision-making processes at the national, regional and international levels. There are increasing calls for young people to participate in the debates and decisions made concerning their well-being, their education and their communities. These calls are fuelled partly by a growing recognition of children's rights to express themselves, participate and be heard in general and partly by the decline in civic and political participation both generally (Livingstone and Bober 2004) and, especially, among young people (Kimberlee 2002; Prout 2000). The Internet can be seen as a means of increasing young people's participation in a community environment (Hall and Newbury 1999).

3.3 Collaboration

Collaboration amongst youth, between them and legislators and decision makers is a vital part of ensuring that their "voice" is heard. Calvert (1999) asserts that collaborative and group-based activities can promote pro-social behaviour, or "positive social interaction skills such as cooperation, sharing, kindness, helping, showing

affection, and verbalizing feelings (p. 209, Calvert 1999). Some scholars see digital technologies as a way to enable children to have more control and navigation in their learning, mostly through direct exploration of the world around them, ways to design and express their own ideas, and ways to communicate and collaborate on a global level (Huffaker 2004). This type of collaboration will improve decision making processes at national, regional and international levels and more importantly will help frame future discussions around issues that youth and children consider most important for themselves and their well-being.

4 Conceptual Requirements of Youth Web Spaces

The three modalities of information, collaboration, and community can additionally be analysed in terms of their Content, Quality of Information and Interactivity. Content, quality of information and interactivity all play a vital role in the design of a web space for youth (Figure 2). We discuss these in the following paragraphs.

Figure 2: Content, Quality of Information and Interactivity
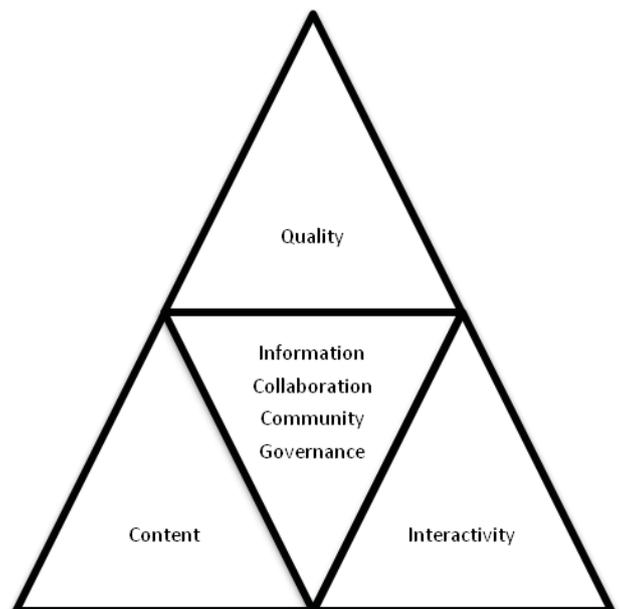
In terms of what content should be covered by web spaces for youth, it is perhaps useful to first consider what issues are of the most importance for youth. Recent surveys conducted by Harris Interactive (Markow 2003) and United Nations Youth Association of Australia (2008) found that young people wanted to find out information and contribute information on topics that they felt strongly about and that were central to their lives (Markow 2003).

The quality of the web space for youth is impacted strongly by the quality of the content of information within in it as well as the quality of the information presented within in it. That is, there is a phenomenal amount of content available for the consumption of youth regarding a variety of issues and concerns that may be of

interest to them. However in order to ensure a better quality of information available to the youth two steps could be taken, the first is some form of intelligence density, defined as measuring 'how quickly can you get the essence of the underlying data from the input'(Dhar and Stein 1997). Intelligence density allows the user to filter data to satisfy their particular interest and also to present the data in levels of abstraction given the depth they want to focus on. Intelligence density in this form can be enhanced immensely by the voice of the youth. In another way, the more emphasis there is on listening to the "voice" of children and youth the more the quality of the information provided regarding youth advocacy and policies will improve. As an increasing number of youth turn to the Internet as a research tool (Lenhart et al. 2005), the quality of the information provided in terms or accuracy and relevance should be quite an important consideration in the design on a youth oriented web space.

For example, the range and quality of information provided by Epal – an interactive site to assist the provision of the Connexions service in Britain, is noted as a major factor behind its success (Livingstone, Bober and Helsper 2005). Similarly, Rizer's - which is a Nottingham site aimed at educating potential youth offenders about the Criminal Justice System and the consequences of crime - success is due in part to the fact that it fills an important information gap on the web with up-to-date information and that youths find it 'interesting and stimulating'(Livingstone et al. 2005). Therefore, the presentation of content is important in determining the success of a youth web space. In this regard the interactivity and ease of use is an important factor as is the kind of language used, all of which will ensure that it is appealing to youth.

In addition, interactivity is another dimension that should be considered in the design of a youth web space. Terdimen (2005) reports on a study that observed American and Australian youth using dozens of websites across a variety of genres. They found that the participants want to be "doing something as opposed to just sitting and reading, which tends to be more boring and something they say they do enough of already in school." Therefore interactivity is very important especially when it comes down to capturing youth attention.

There is much debate about the definition of interactivity; Steuer (1992) defines interactivity "as the extent to which users can participate in modifying the form and content of a mediated environment in real time. However, not all observers agree about the importance of real time. For example, Rheingold (1993) suggested that the asynchronous characteristics of tools such as e-mail, newsgroups, and listservs is one of the key benefits of these interactive media. We agree with Heeter (1989) who defines two components of interactive websites, the first is ease of adding information, meaning the degree to which users can add information for access by a mass,

undifferentiated audience. And the second is interpersonal communication facilitation, which comes in at least two forms: asynchronous (allowing users to respond to messages at their convenience) and synchronous (allowing for concurrent participation in real time).

Furthermore, Ha and James (1998) identified five dimensions of Web interactivity that fulfil different communication needs: 1) Playfulness - measured by the presence of such curiosity-arousing devices as Q and A formats and games 2) Choice - measured by the number of alternatives for colour, speed, language, and other non-informational aspects 3) Connectedness - measured by the presence of information about the product, company, third-parties, and other content of interest to visitors 4) Information collection - measured by the presence of such monitoring mechanisms as registration forms and counters 5) Reciprocal communication -measured by the presence of response mechanisms, including the Webmaster's e-mail address, surveys, and purchase orders. Hugh-Hassell & Miller (2003) echo similar sentiments, their research identifies that visual appeal of the site, ease of navigation, currency and accuracy of information are all key elements when it comes to creating an interactive web space for Youth.

5   Types of Youth Web spaces

A review of web spaces that are appealing to youth can be categorised into four: entertainment, information provisional, collaborative, and community. For the purposes of this paper we will concentrate on only three types of web spaces for youth, information provisional, collaborative and community.

5.1   Information provision oriented Youth Web Spaces

Horrigan (2006) asserts that 87% of online users have used the internet as a research tool. Network technologies and the popularisation of the World Wide Web further provoked the evolution of encyclopaedias. New media forms that range from search engines to portals and web directories have gradually transformed the ways people search for information. At the same time, e-learning and gaming platforms blur the boundaries between education and entertainment and suggest new possibilities for enhancing teaching and knowledge acquisition. Examples of organisations in this space are Encarta, Britannica and National Geographic, all three provide standard text based versions of their encyclopaedias as well as interactive multimedia environments and selected web links to up-to-date information on whatever it is that they are searching for (Alevizou 2002). Although these websites are created specifically for the purpose of being information provisional, other web spaces can contain elements of information provisional. Such web spaces often have sections devoted to providing information on a wide variety of topics.

5.2 Community oriented Youth Web Spaces

Virtual environments present an opportunity to promote the positive development of young people and their communities (Barab, Thomas, Dodge, Carteaux and Tuzun 2002). Despite the growing popularity of virtual communities, there is no consensus among researchers regarding the appropriate definition or types of virtual communities (Porter 2004) The term 'virtual community,' was coined by Internet pioneer Howard Rheingold (1993), who defined them as 'social aggregations that emerge from the net when enough people carry on public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace. The term virtual communities usefully refers to online groups of people who either share norms of behaviour or certain defining practices, who actively enforce certain moral standards, who intentionally attempt to found a community, or who simply coexist in close proximity to one another (Komito 1998). For the purposes of this paper we will refer to virtual communities for youth as member-initiated communities (Muniz and O'Guinn 2001) with member-generated content (Kozinets 2002), which includes: listservs and newsgroups, chat rooms, linear asynchronous bulletin boards and threaded asynchronous bulletin boards.

5.3 Collaboration oriented Youth Web Spaces

Panitz (1996) sees collaboration as a philosophy of interaction and personal lifestyle. In terms of youth learning, Garrison, Anderson and Archer (2001), assert that collaborative learning leads to a deeper level of earning, critical thinking, shared understanding and long term retention of the learned material. One example of a collaborative web space is wiki enabled websites. Wikis build on these foundations of collaborative knowledge building. Common for all of them is that they allow for open asynchronous editing of content, where incremental growth is favoured over upfront design and where all users are encouraged to become designers of the hypertext (Désilets, Paquet and Vinson 2005). Another example is ThinkSpace, which is a simple web space combining computer-based concept mapping (Novak and Canas 2006) and wikis, into a tool that can be used for structuring and clarifying thoughts about complex material. The tool is used by groups of students for creating an interlinked online knowledge repository – a mini encyclopaedia - in a wiki with a corresponding concept map. This repository is dynamic and is a means of analysing and interlinking content knowledge. Each concept-bubble on the map represents a wiki article about that concept. The two are linked to each other so that clicking on any concept on the map takes the learner directly to the article on the relevant concept. Collaborative web spaces and e-tools are popular in the education field, where the teacher is not an instructional transmitter; in fact, she is a facilitator to social learning whereby learners construct their own knowledge, their own world.

6 Problems / Issues

Some of the problems found in our analysis of youth web spaces (Vodanovich and Sundaram 2009) are organised below in Figure 3, alongside these are the issues that relate to the various problems. The analysis was undertaken by the authors according to the set of requirements determined in section 5. The results of this analysis were then validated by domain experts such as representatives from both non-governmental and governmental agencies who are working in the Youth domain in New Zealand. A more detailed explanation of the issues raised from the analysis is presented in this section.

Figure 3: Problems and Issues in Current Youth Web Spaces
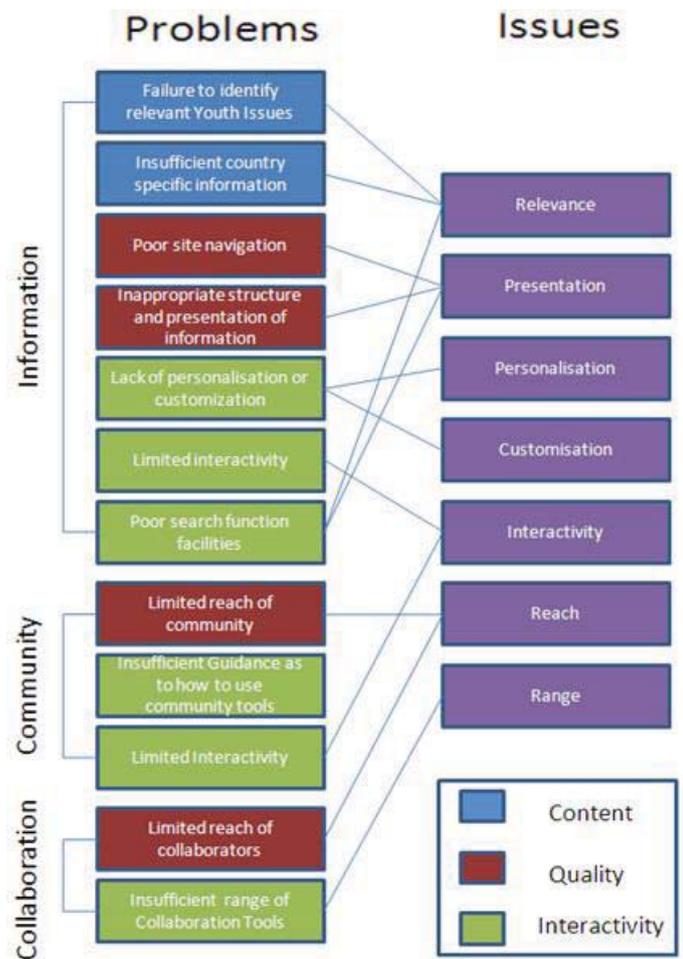
Relevance – This issue relates to the relevance of issues presented on web spaces. As noted above youth are searching for information relevant to what is important in their lives at the present time. Often these concerns are different from the perspective of many adult designers of youth web spaces.

Presentation – The presentation of information, features and content of a web space needs to in a youth-friendly format. As Livingstone et al (2005) note, youth are fickle web users, who need to be active in their participation of web spaces as opposed to "just sitting and reading",

thereby making presentation a key issue to be considered in the design of an effective youth web space.

Personalisation and Customisation - Moreover, as Ha and Chan-Olmsted (2001) note, personalisation and customization of web spaces are vital to captivating audiences, especially youth audiences. Personalisation involves filtering the types of information being viewed by the user, whereas customization involves changing the appearance (e.g. background and font colours) of the web space.

Interactivity – Interacting with the web space with the ability to change or filter in some way the information being received by the user is an important tool that any web space should take advantage of, in the case of designing a youth web space this becomes even more important. As Ha and James (1998) note, interactivity of web spaces for Youth adds a "fun and playful "element that youth are searching for on the internet.

Reach and Range- These two issues refer to the potential reach that youth are able to have with not only their peers but also legislators and decision makers. The range of tools available to interact with these two groups enables youth to be able to gain and contribute information in a meaningful manner.

7   Design Requirements of Youth Web Spaces

A careful consideration of the design of the web space may address the problems and issues discovered through the case studies, this may include; 1) designing youth-issues specific website pages 2) shaping activities in ways that accommodate young people 3) using language and graphics that reflect commercial youth culture 4) affording opportunities for young people to speak their minds, utilizing the unique tools of the digital world 5) allowing youth to determine what topics will be addressed online and 6) strict governance and control over the web space which ensures a safe space for youth to interact.

In terms of requirements of youth based web spaces, Livingstone et al (2005) assert that Internet can facilitate participation in so far as "encouraging its users to 'sit forward', click on the options, find the opportunities exciting, begin to contribute content, come to feel part of a community and so, perhaps by gradual steps, shift from acting as a consumer to increasingly (or in addition) acting as a citizen." Thus the emphasis among academics is clear that creating an interactive environment is what is required to enable Youth to engage with the Internet in a meaningful manner (Heeter 1989; Livingstone et al. 2005; Montgomery, Gottlieb-Robles and Larson 2004).

Therefore, software designers could develop a genuinely interactive environment in which young people's contributions are responded to appropriately in such a way that further participation can ensue. A big part of this is to improve the appearance and thus experience of websites to ensure a 'youth-friendly' appeal that does not undermine young people's desire to be, and to be seen to be, 'cool' (Livingstone et al. 2005) This could be done by:

- Having a rich and visually attractive web space that enables youth to interactively personalise and customise what they are viewing in terms or information and the presentation of information
- Through the use of a sophisticated mechanism that enables the structuring of information in such a way that dense information can easily be navigated through.
- The presence of both synchronous (chat rooms, web conferencing, virtual meetings) and asynchronous (message boards, polls, discussion forums) tools to promote the production of artefacts in a collaborative manner. This enables a community and collaborative environment
- Allow youth to actively change or add to the features and content of the web space, thereby contributing to the overall design of the web space

8   Conclusion

Youth is a difficult transitory period in most people's lives. This period is often characterised by a plethora of questions along with a persona of being "too cool" to ask the adults in their life for the answers. The Internet can be used as an important support tool for youth given its ubiquity in their lives. The Internet then, can be used to empower youth and ensure their well-being. There is insufficient research at present to suggest comprehensive guidelines in the design of youth web spaces that enable the well-being of youth.

This paper has provided, through the examination of a popular web spaces, a framework that can be used to guide the design of an appropriate youth web space that enables empowerment and thus the well-being of youth. The framework suggests that the well-being online of youth can be achieved with three main ingredients; the provision of information, a sense of a community and an interactive environment which encourages youth to collaborate with not only their peers but also with legislators and decision makers. The framework is also accompanied by a list of requirements that would be useful for consideration in the design of a youth web space.

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