



Understanding
the
Digital World

User-Created-Content: Supporting a participative Information Society

Executive Summary

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1. Background of the study

This study takes place in the context of the i2010 mid-term review. Its particular focus on the user perspective on the one hand and the potential for User-Created Content to support creation and innovation on the other hand has made it necessary for the European Commission to launch a prospective study on the roll-out of UCC and its economic, social, technical and legal challenges.

User Created Content as such is not a new phenomenon. Content generated by individuals or groups of individuals already exists as leaflets, brochures and other forms of paper output. Similarly, the possibilities for users to access radio and/or television services have been made possible by both technological developments and regulation. Several member states introduced community media, either with a traditional broadcasting format or by using an open/direct access model such as the "offenere Kanäle" in Germany.

The differences lies in the scale, economic potential and impact on traditional supply chains of modern user created content. The creation of new networks, in particular the introduction of the Internet, has created new opportunities for users to create, but more importantly, to distribute content. During the first development phase of the Internet, most content was still produced and distributed in line with the old, rather centralised, broadcasting model. Today's Internet contains more and more content generated by individuals or groups of individuals. Some consider this trend of user generated/created content to be one of the most essential elements of what is called the "Web 2.0". A range of new business models is being developed and tested that operates on the basis of user created content. This content includes video- or audioclips, blogs and photos. Although the fixed Internet is used as the main distribution network, creation and distribution is also expanding into wireless environments (and some wireless environments – i.e. mobile networks - have their own specific form of user created content).

Consequently, there are at least five reasons why user created content is relevant to European policies and coherent with i2010 main objectives:

- First of all, the amount of user created content is growing quickly and is starting to become a substitute for other non user created content, such as traditional broadcasting content. The economic impact of user created content is therefore increasing.
- The traditional publisher model is not applicable to UCC. Users can bypass traditional intermediaries and seek alternative ways to distribute their content. At the same time, technological developments lower the entry barriers for participating actively. A new generation of active, participating users challenges traditional media policies that still depart from the concept of the passive user and the predominant role of government policies to safeguard his/her interests.
- New intermediaries are influencing the market (of user created content as well as traditional media markets) by offering and exploiting platforms that largely rely on user created content (i.e. YouTube, Flickr). These new players enter into competition with established players (i.e. broadcasters, music publishers, etc.).
- Existing regulatory frameworks are primarily based on:
 - centralised models and
 - large(r) and incorporated market players.
- The proliferation of user created content as the basis for a whole range of new business models in the information economy challenge existing regulatory schemes. Resulting uncertainties, gaps in legal protection, imbalances or administrative burdens and inappropriate remedies are obstacles to the creation and distribution of user created content.
- With UCC, more private content becomes semi-private or public (i.e.: material posted on blogs, personal videos etc.). This creates/reinforces privacy issues.

All these reasons lead the European Commission to launch an in-depth analysis of the growing UCC phenomenon.

2. Scope and objectives of the study

The objective of the study was threefold:

- To analyse the developments taking place in the field of user-created content,
- To assess their economic, social, technical and legal implications, and
- To consider how these affect EU policies in the field of ICT and media.

The study should be based on an extensive and forward-thinking analysis of existing and emerging types of user-created content.

It should:

- Propose a detailed classification of different categories of user-created content.
- Compile statistical and market data from existing sources on usage and market perspectives in Europe and in the most advanced countries in the world.
- Investigate the new usage patterns, value chains and business models supporting the creation and distribution of the different categories identified.
- Analyse the opportunities, as well as the economic, social, technical, and legal implications arising from the development of each category of user-created content from the perspective of the different groups of stakeholders concerned, of which the users, the traditional content providers, the user-created content platforms, the creator and copyright holders, the network operators and ISPs, the consumer electronics and IT service providers, search engines, advertising companies, and collecting societies.
- Reflect on the economic, social, technical and legal challenges to be addressed to ensure that the development of user-created content supports the achievement of the different EU policy objectives in the field of ICT and media.
- Provide recommendations on the best way to address the different challenges identified, taking into consideration the existing EU policies and regulations affecting the development of user-created content, as well as policy and regulatory developments taking place in other parts of the world.

In the context of this study, the European Commission has chosen a definition of UCC largely based on the definition proposed by the OECD¹. User-created content thus refers to content made publicly available through telecommunication networks, which reflects a certain amount of creative efforts, and is created outside of the professional routines and practices. But the definition given by the European Commission differs from the one from the OECD in the following aspect: it does not deal only with content made publicly available on the Internet but with content made available through any telecommunication network and platform.

The analysis should cover Europe and the most advanced countries in the world, in particular the USA, Japan and South Korea.

This document presents the full results of the works conducted by a consortium comprising IDATE, the Institute for Information Law (IvIR) and TNO.

¹ Participative Web: User-Created Content; DSTI/ICCP/IE(2006)7/FINAL; 12 April 2007: "Content made publicly available on the internet, which reflects a certain amount of creative effort, which is created outside of professional routines and practices".

3. Methodology

3.1. Description of the overall methodology deployed throughout the study

The methodology proposed by the consortium relies mainly on desk researches and interviews with the stakeholders. Desk researches and interviews have been conducted between April and August 2008.

Some literature already exists in the field of user-created content and has been collected by the consortium and used as a basis throughout the mission. In particular it has helped us in structuring the global reasoning, establishing an UCC services' classification, identifying the potential case studies and interviews, drawing up a preliminary analysis on drivers, implications and obstacles, analysing the existing EU legal framework.

The 50 case studies have been elaborated on the basis of information collected from the web sites of the companies as well as from the press and some dedicated web sites. They provide a rich and broad catalogue of all kinds of UCC services currently existing, already interesting in itself. The huge amount of information thus gathered has largely fed the assessment of the UCC market as well as the business models' analysis.

Around 52 interviews (face to face and phone interviews) have also been conducted during the mission. They have mainly been used for a better understanding of potential drivers, implications and obstacles. But they have also contributed to refine the forecasts and have provided some helpful indications for the identification of legal and policy issues as well as for the formulation of policy recommendations.

Basically, the work has been shared out among 4 work packages, closely interrelated:

- WP1 has been dedicated to:
 - The definition of an UCC services' classification;
 - The creation of 50 case studies;
 - The compilation of market data and the elaboration of market forecasts (UCC assessment);
 - The business models' analysis.
- WP2 has been dedicated to:
 - The exploration of drivers of, implications and obstacles to the different types of UCC;
 - The realization of 80 interviews with the stakeholders.
- WP3 has been dedicated to:
 - The analysis of selected aspects of the existing EU legal framework with regard to UCC;
 - The indicative analysis of the terms of use of some major user-created content services in Europe;
 - The concise overview of the most important co- and self regulatory measures for the UCC sector;
 - The identification of legal uncertainties which can potentially hinder the development of UCC;
- WP4 is dedicated to:
 - The organisation of a workshop in Brussels with a representative set of stakeholders in order to present and validate the major findings of the study;
 - The aggregation/consolidation of the results of the study and the formulation of concrete policy recommendations.

3.2. List of case studies

While elaborating this list of case studies, our main concern was to find the right balance between:

- Services representative of all natures of content;
- Services representative of all kinds of role that the user can play;
- Services representative of all types of content;
- Services representative of all social aspects;
- Services representative of all economic aspects;
- Services representative from a geographical point of view (Western Europe, Eastern Europe, Southern Europe, Nordic countries, North America, Japan and Korea).

Moreover, we also put the stress on innovative UCC services.

Among the following list, at least one case study is representative of each of these criteria. That is to say that we identified at least one service for each possible nature of content, one for each kind of role, one for each type of content, one for each social aspect, one for each economic aspect and one for each geographical region. However, it proved to be difficult, if not impossible, to provide a perfectly balanced list of case studies taking into account all these considerations, in particular because innovation comes mostly from some specific regions like the United States and because some natures of content, like video, are more widely spread than others.

So we decided to highlight innovative services (possibly at the expense of other criteria like geographical representation) and to favour the presence of services based on appealing and successful contents (since they play a major role in the appropriation of UCC services by users).

Table 1: List of the 50 case studies

	Name of the service	Type of service	Brief description	Localization
1	DailyMotion www.dailymotion.com	Video sharing site	Free video hosting website that enables users to access, view, upload, store, share and comment upon their personal videos.	France and 20 countries
2	Neogen.tv http://video.neogen.ro/	Video sharing site	Romanian video sharing site	Romania
3	Pandora.TV www.pandora.tv	Video sharing site	Leading video sharing site in South Korea. One can create, upload and share own videos and can also run own live video programs/shows. Viewing videos or its own personal TV station is possible over the Internet and the mobile network.	South Korea
4	Tuclip www.tuclip.com	Video sharing site	A video sharing service developed by the Spanish commercial channel Antena 3	Spain
5	Flickr www.Flickr.com	Photo sharing site	The site was designed as a social application, geared to creating networks of users thanks to tags, and to the blogs affiliated with each group. Flickr launched geotagging: users can associate their photos with maps, and access other photos from the maps. Each photo can be accompanied by information on the location where the picture was taken.	USA
6	Fotosik www.fotosik.pl	Photo sharing site	Polish equivalent of Flickr	Poland
7	Photobucket http://photobucket.com	Photo sharing site	Photobucket is used for personal photographic albums, remote storage of avatars displayed on Internet forums, and storage of videos.	USA

	Name of the service	Type of service	Brief description	Localization
8	Cyworld www.cyworld.com	Social network	Web community site operated by SK Communications. The main feature of Cyworld is the service called minihompy, which combines a photo gallery, message board, guestbook, video, and personal bulletin board. Blogger's avatar lives in the "miniroom" in which items can be bought thanks to Cyworld money called "dotori".	South Korea
9	Dada http://it.dada.net	Social network	Italy's largest social network, Dada is a fixed and mobile Internet community built around blogs and text-messaging	Italy
10	Islandoo www.islandoo.com	Social network	One of the first U.S. based social networking site set up specifically for particular program: where people can audition for the popular series "Shipwrecked". The most popular community members become candidates in this reality TV show	USA
11	LunarStorm www.lunarstorm.se	Social network	Most popular social networking site in Sweden. Includes profiles, chatting functionality, uploading of pictures and video. Recently added more advanced privacy enhancing features	Sweden
12	MySpace www.myspace.com	Social network	The globe's largest social network with a particular focus on discovering new musicians and groups. The site allows independent groups to sell their songs in MP3 format directly to other members, and this with no copy protection.	USA
13	Serious Talent www.serious talent.nl	Social network	Dutch talent development social networking site of public broadcaster for starting musicians. Popular community members win wildcards to National Pop Event and airtime on radio	Netherlands
14	LibriVox http://librivox.org	Audiobooks	LibriVox is a digital library of free public domain audiobooks, read by volunteers. Recordings are available in over twenty-one languages	Canada
15	Wikipedia www.wikipedia.org	Knowledge sharing/ Collaborative work	Most popular on-line encyclopaedia worldwide. Includes a strict social hierarchy in moderating and editing, controversy over identity revealing of members that edited pages to their own benefit. Insecurity over business model as foundation behind the service is dependent on donations.	USA and global (more than 200 languages)
16	RocWiki http://rocwiki.org	Knowledge sharing/ Collaborative work	The People's guide to the city of Rochester, New York. This site is updated, expanded, and improved by people in Rochester, NY to share what they love or loathe about their city.	USA
17	Wer.weiss.was www.wer-weiss-was.de	Knowledge sharing	Free knowledge sharing site. Registered users can address specific questions to experts by e-mail. Each user classifies his own degree of expertise.	Germany
18	Wikilengua www.wikilengua.org	Knowledge sharing / Collaborative work	Collaborative site on the usage of the Spanish language, with a practical orientation. Registration is necessary for contributing but not for reading.	Spain
19	Agora Vox www.agoravox.fr	Citizen journalism	French citizen journalism site. 70% of revenue generated by advertising, the remainder from the resale of editorial content	France
20	OhmyNews www.ohmynews.com/	Citizen journalism	A South Korean citizen journalism site, now international, ranking among the top sites of this type	South Korea

	Name of the service	Type of service	Brief description	Localization
21	Skoeps www.skoeps.nl	Citizen journalism	Popular Dutch citizen journalism site set-up by publisher PCM and Talpa, which consists entirely of eyewitness images. People capture news events with their phones and send the pictures or videos directly to Skoeps.nl. Active in several African countries as well as China, in 2008 introducing the service into European countries	Netherlands
22	Habbo Hotel www.habbo.com/	Virtual world	European branch of global virtual world (each member has own hotel room), popular with young teenagers. Users can build their own character, furniture and room, join virtual events etc	
23	VirtualMe www.virtualme.com	Virtual world	Virtual reality TV gaming platform created by Endemol and Electronics Arts. Users create their avatars from their real appearance, but can modify it, and participate to real TV shows like Big Brother or Star Academy.	USA / Netherlands
24	SecondLife http://secondlife.com/	Virtual world	Second Life® is a 3-D virtual world entirely created by its Residents. They can buy, sell and trade with other Residents thanks to inworld unit of trade, the Linden™ dollar, which can be converted to US dollars.	USA and global
25	Machinima www.machinima.com	Video games	Online entertainment network showing original videos from the favourite video games. Possibility to watch trailers, gameplay, montages, music videos and original machinima series and movies created in World of Warcraft, Halo, Sims 2, GTA, Battlefield, Counterstrike, etc., as well as to learn how to make machinima videos by collaborating with others via forums	USA
26	WeGame www.wegame.com	Video games	A media sharing platform for gamers, in public beta since January 2008	USA
27	Kongregate www.kongregate.com	Video games	Kongregate is a social games website. It allows visitors to play games, and create and share games with members	USA
28	Last.fm www.last.fm	Music recommendation	The world's largest social music platform. By using each user's musical profile, Last.fm proposes personalised recommendations, allows to create personal music charts automatically, connects users who share similar tastes, provides custom radio streams	UK
29	Deezer www.deezer.com	Music recommendation	French free Internet-based music-on-demand service. Deezer offers on-demand ad-supported streaming, with a portion of the ad revenue being delivered to content partners.	France
30	LibraryThing www.librarything.com	Book recommendation	Social cataloging web application for storing and sharing personal library catalogs and book lists.	USA
31	Biblioteket.se http://biblioteket.se	eBook recommendation	The "social library web" = National project to connect government libraries in Sweden. Online service that let users browse library archives, download books, leave user reviews on books and papers. Books and magazines available in several languages.	Sweden

	Name of the service	Type of service	Brief description	Localization
32	Manuscrit www.manuscrit.com	Talent Search – Writing	Le Manuscrit Publisher aims at making writing more democratic and supports the circulation of knowledge. It provides interactive information about literary and cultural life (interviews, podcasts, press review etc). It collects around its diverse authors, readers, active partners and web based blog communities to encourage networking and cultural exchanges.	France
33	Lulu www.lulu.com	Talent Search – Writing	Lulu is a printing company. In addition to printing it also offers online order fulfilment. The creator retains copyright. Optional services include ISBN assignment and distribution of books to book retailers who make specific requests. Electronic distribution is also available.	USA
34	SellaBand www.sellaband.com	Talent search - Music	Sellaband is a music website which allows bands to raise the money to record a professional album. Bands are required to set up a profile and upload some of their music to attract "Believers". Any band that is able to sell 5,000 "parts" can then record and promote an album. Parts are sold at 10 USD each.	Germany
35	Blurb www.blurb.com	Talent search – Photos, artwork, text	Blurb is a creative book publishing platform that lets users make, share, market, and sell real books. Blurb produced nearly 90,000 unique titles in 2007.	USA
36	Backstage http://backstage.bbc.co.uk	Talent Search – Video	Developer/designer network launched by the BBC, in order to encourage innovative use of the content across bbc.co.uk and the BBC News Website and to identify new talents	UK
37	KijkmijTV/ SeeMeTV http://seemetv.spaces.live.com	Talent Search – Video	Dutch variation of SeemeTV by Vodafone UK. Service where people can upload their content in different genres. Uploaders share in revenues if clip becomes popular. Leans on peer recommendation. Failed in the Netherlands, still popular in the UK	Netherlands / UK
38	MTV Flux www.mtv.co.uk/channel/flux	Talent Search – Video, music, text, etc.	Different services in Europe, including on-demand channel MTV Flux where people can vote for UGC videos that will be broadcasted: Virtual MTV which hosts a number of Second Life like virtual worlds based on MTV series such as the Hills; Quizilla, a teenage website to share poetry, quizzes and song lyrics, and neopets, a website for children where they can create their own pets. MTV Flux stopped in 2008	UK mainly
39	Ziddio www.ziddio.com	Talent Search - Video	A user-generated video platform developed by Comcast. Contests are organised. Best rated contents are also made available on Comcast's VOD service and will soon be distributed through mobile	USA
40	Zizone www.zizone.tv	Talent Search - Video	Dutch service set up by cable operator Ziggo, where people can upload their UGC with the chance it will be broadcasted on television. Contest/event driven website targeting a national audience	Netherlands
41	Fame TV www.fametv.com	Video sharing on the TV set	Viewers that submit content receive a share of revenue: 0.10 GBP per "vote" received. Viewers have their own tag that appears on screen every time they interact by SMS or MMS, allowing them to communicate with others while watching.	

	Name of the service	Type of service	Brief description	Localization
42	TV Perso http://adsl.free.fr/tv/tvperso/	Video sharing on the TV set	A video sharing service developed by the French ISP Free directly available on the TV set. Uploading is possible via the Freebox. The access to the content is limited to the "Freenauts" community	France
43	Perso TV http://www.mobibase.com/onetv/persotv/	Mobile specific services	A mobile user generated content channel developed by Mobibase and available within One TV, a mobile TV bouquet distributed by Orange (and soon by SFR and Bouygues Telecom). A subscription fee is needed	France
44	Mobango www.mobango.com	Mobile specific services	A content sharing mobile community service present in Italy, Germany and in the UK.	Italy, Germany, UK
45	ShoZu www.shozu.com	Mobile specific services	Technology tools enabling users to get content on and off the phone. It can be any kind of content, and it all transfers invisibly in the background, without the need to open a browser or interrupt normal phone use	UK
46	Betavine www.vodafonebetavine.net	Mobile specific services	An open community & resource website, created and managed by Vodafone Group R&D, for the mobile development community to support and stimulate the development of new applications for mobile and Internet communications. The Betavine website allows developers to upload and profile their alpha-stage and beta-stage applications, provides interaction tools for members to share knowledge and give feedback on apps, and discuss topics in mobile.	Germany
47	Qik http://qik.com	Live mobile video site	Qik is a piece of software that enables to stream videos directly from a phone to the Web. Videos can be streamed live on a blog or recorded on the profile page of the user.	USA
48	Mister Wong www.mister-wong.com	Social bookmarking	Social bookmarking site, more popular than del.icio.us in Germany	Germany
49	Threadless http://www.threadless.com	Content ranking	Members of the Threadless community submit t-shirt designs online which are put to a public vote. A small percentage of submitted designs are selected for printing and sold through an online store. Creators of the winning designs receive a prize of cash and store credit	USA
50	FixMyStreet www.fixmystreet.com	Government 2.0	FixMyStreet is a civic site to help people report, view, or discuss local problems they've found (anything from graffiti to unlit lampposts and from abandoned beds to broken glass on a cycle path) to their local council by locating them on a map.	UK

Source: IDATE

Table 2: Geographic representation of the case studies

	North America	Japan & South Korea	Western Europe	Southern Europe	Nordic countries	Eastern Europe
Video sharing		Pandora.TV	DailyMotion	Tuclip		Neogen.tv
Photo sharing	Flickr Photobucket					Fotosik
Social network	Islandoo MySpace	Cyworld	Serious Talent	Dada	LunarStorm	
Knowledge sharing/ Collaborative work	Wikipedia RocWiki		Wer.weiss.was	Wikilengua		
Citizen journalism		OhmyNews	AgoraVox Skoeps			
Virtual World	VirtualMe SecondLife		VirtualMe		Habbo Hotel	
Video Games	Machinima WeGame Kongregate					
Recommendation	LibraryThing		Last.fm Deezer		Biblioteket.se	
Talent Search	Ziddio Blurb Lulu		Manuscrit Sellaband Backstage KijkmijTV/SeeMeTV MTV Flux Zizone			
Social bookmarking			Mister Wong			
Mobile specific services	Qik		Perso TV Mobango ShoZu Betavine	Mobango		
UCC service on the TV set			Fame TV TV Perso			
Audiobooks	LibriVox					
Content ranking	Threadless					
Government 2.0			FixMyStreet			

Source: IDATE

3.3. List of interviews

Table 3: List of the 55 interviews

AFP	Frank Alsema	Myvideo (SBS)
AgoraVox	Frankwatching	Neogen
Akamai	Freshnetworks (Freshminds)	Netlog
Alain Bensoussan Avocats	Garage TV	News corporation
andUNITE	Geenstijl	OECD
BBC	Google (Youtube)	Orange
Brainsonic	Habbo Hotel (Sulake)	Red Chocolate (GoSupermodel)
British Telecom	Havas Digital	RIA Novosti
Buma/Stemra	IJsfontijn	RTL Netherlands
Charlie Becket	Khaeon Games	ScreenTonic
Cory Doctorow	Lagardère Active	Skyrock
Dailymotion	Lego	Swinxs
Endemol	Livejournal	Telecom Italia
e-TF1 / WAT	Marketingfacts	Telekom Austria
European Federation of Magazine Publishers	Mediaedge:cia	Twingly
European Newspaper Publishers' Association	Mobibase	William Dutton
Eyeka	Moshi Monsters (Mind Candy)	WoZZon
Federation of European Publishers	MySport	

Source: TNO

4. Executive Summary

This document synthesises the main findings of the overall analysis conducted on the basis of 50 case studies, of around 55 interviews with stakeholders and of an in-depth desk research. The extensive analysis is presented in the final report.

It provides a comprehensive and integrated analysis of the different work packages that were performed by IDATE, IViR and TNO, namely:

- a market analysis, including a classification of User-Created Content categories, an analysis of the available market and usage data and a description of the current business models and value-chains (IDATE)
- an identification of drivers of and obstacles to the development of User-Created Content and an assessment of the economic, social/cultural, technical and legal/policy implications of the developments taking place in the field of UCC (TNO)
- a legal and policy analysis of the EU legal framework affecting the creation and distribution of the different types of user-created content (in particular copyright law, data protection law, contract law, obligations from general and sector specific law regarding content and its presentation, liability exemptions for UCC platforms, existing co- and self-regulatory measures) (IViR)

It examines future developments of UCC services, the obstacles to and drivers of the wide adoption of UCC by European citizens and professional operators, and the implications for the European goal of attaining a participative Information Society.

This document also proposes some recommendations for the European Commission and policy makers which could serve to favour the sustainable development of UCC platforms in a safe environment.

In the context of this study, the definition used for UCC is largely based on the definition proposed by the OECD. User-Created Content thus refers to content made publicly available through telecommunication networks, which reflects a certain amount of creative efforts and is created outside of professional routines and practices. The definition used by the European Commission does differ from that of the OECD in the following aspect: it deals not only with content made publicly available on the Internet but also with content made available through any telecommunication network and platform.

4.1. Final analysis

4.1.1. User-Created Content is not just a fashion, it is a long-term phenomenon

The data gathered in this report gives a clear indication of the extent to which UCC is being created and consumed, despite some remaining uncertainties. The interviews with stakeholders and the case studies show that the UCC phenomenon will undoubtedly develop and spread in the future.

Amateur content appears in different forms (in terms of nature and types of content but also in terms of level of professionalism) and can be found on generalist UCC platforms, targeted UCC platforms, social networking sites, traditional media Websites or even on regular media (in TV programmes or in newspapers, for example). In addition, amateur content extends far beyond entertainment and leisure aspects and starts reaching e-government and professional applications (Cf. Part IV, paragraph 1.1.4).

UCC services are part of a more comprehensive trend in which online platforms and tools are used to actively participate in the virtual world. They provide a platform for the ever-present need for self-expression, communication, exchange, and creation of links, either with one's "natural" family or with one's "chosen" family through social networks and communities. UCC platforms give individuals a new platform for creativity and social interaction and extend their reach beyond physical and territorial borders.

If a great part of amateur content which is shared online corresponds to a growing need of being creative and keeping in touch with one's community, another part of amateur content is being developed by authors with more continuous and serious aspirations whose aim is to achieve a reputation. It is in particular this last group that contributes directly to the increase of global knowledge, culture and creation. In other words, depending on the type of UCC, it can have predominantly personal value for those who share it, or can generate value in a broader sense, in the form of monetary profit or cultural, social, or scientific gain.

It is important to note that, so far, the use of UCC has grown massively in a rather short period of time, despite some apparent obstacles, including the apparent lack of viable business models, relative low numbers of creators and lack of quality of the creations, and uncertainty regarding regulation. However, once the initial phase has passed, these obstacles will have to be overcome to ensure the sustainable growth of UCC, and to avoid their being an impediment to the further development of this nascent sector. In this framework, policy makers will obviously have a major role to play in creating the conditions for this sustainable growth, in terms of such issues as safe legal environment, technical skills, broadband access and economic certainty.

4.1.2. Rich diversity of content and platforms

From both the interviews and the case studies, it becomes apparent that there is a wide variety of UCC platforms and content available to users.

In terms of nature of content, UCC consists in video, photo, image, drawing, painting, music, audio (other than music), texts, games (such as video games) and virtual objects mainly (but not exclusively). Moreover, UCC is starting to contribute to domains that are beyond personal or entertainment content such as medical information, political issues and development aid (Cf. Part IV, paragraph 1.1.4 and Part IV, paragraph 1.1.6).

In terms of platforms, amateur content is available on different kinds of platforms, including:

- Platforms which have developed specific tools designed for easily sharing certain kinds of content (such as photo or video games) and which only play the role of intermediary;
- Platforms which aim at discovering and promoting new talents (whatever the sector, literature or music for example);
- Services which integrate UCC with professional content or with official/formal content (either in the media field – newspaper Websites for example – or on the Website of a company or public service);
- Social networking sites, or knowledge sharing sites (either open to the public or available for a targeted audience such as doctors, for example).

UCC is not only available online, but is also increasingly present on more traditional offline supports (in particular on TV channels).

Diversity is also wide in terms of editorial choices, from the picture illustrating one's profile on a social network to the short film on the "motion maker" programme of a video sharing site; from a post on a forum to a professional blog; from ranking to a full article on a citizen journalism Website. The range of possibilities is large.

For any purpose or interest - however small they might be - a platform or community can be available. This makes for one of the success factors of UCC; it can cater to any interest people might have and provide them with a large - be it only - potential target audience for sharing that interest.

4.1.3. Social and cultural implications of UCC

The rich diversity of content available gives users more choice in terms of the number of sources they consult for their information, thereby increasing diversity. Communities can be set up for any topic, making it easier for people to share their interest with others. Moreover, the accessibility of platforms and tools enables people to be part of multiple communities and take part in multiple interests, thereby enabling them to create their own (digital) identity.

The positive contribution of UCC to a rich diversity will further be spurred by the availability of effective content search tools (and the skills of using them). Equally significant will be the sophisticated solutions that help users to determine the "value" of information (whether it is true, accurate and reliable), particularly where traditional media do not any longer act as filters. In addition, a privacy-sensitive design of UCC platforms and search tools will help users to reap the maximal benefit from UCC.

In a recent study by TNO and DTI² to be published in 2009, a number of potential social and cultural impacts of social computing and UCC were identified. First, these technologies have an impact on *online identity production*. Social networks and online communities provide people with the means to express themselves through language, images and media. This opens up new ways of producing and sharing identities. Moreover, due to this online presence and its importance in setting the (online) identity, the *attitude of people towards personal privacy and the perception of privacy* are changing. Depending on the type of media used, such as social networks or blogs, people seem aware of the risk associated with sharing personal information and take themselves appropriate measures to protect their privacy, for example by keeping particular categories of information private (comments, favourite brands, profile photo, political and sexual orientation are considered the least sensitive information categories) (Kool and Frissen, 2008)³.

The research by Kool and Frissen also shows that users of social networks, in particular, are rather indifferent to the personal information that others publish about them. Another impact is that personal *behaviours, attitudes, values and lifestyles* are increasingly being influenced. Various opportunities for mutual online influencing exist, for example by sharing political views, recommending books, music and movies, and by enabling users to organise themselves around specific interests of political issues. There also seems to be evidence of an impact on *social cohesion*. Social networks enable people to maintain friendships that would be much more difficult to maintain in person (for example, due to geography) and makes it easier to be found by others with similar interests. This impact is even more prevalent in communities with special interests, such as medical communities, which are quite often set up by individuals rather than professionals or institutions and lead to an increase in social cohesion among the people participating. This implies that the communities can contribute to *social inclusion* as well as *social exclusion*, depending on who will profit from these new technologies. This then depends on access to the Internet and the skills and interest of people to participate online. However, groups that might be considered as profiting less from these new developments, such as people in the higher age categories ("silver surfers"), are showing increased participation, while examples exist of communities aimed at other groups that might run the risk of exclusion, such as immigrants⁴. It should be kept in mind that these specialised communities can lead to integration as well as social segregation as it might limit groups to only those that have similar interests⁵. A last identified impact

² TNO (2008) *Social computing and its implications for future public services: WP5 - Key areas of social computing impact in the public service clusters*. report commissioned by IPTS.

³ Kool, L. and V. Frissen (2008). *Rethinking privacy in online environments*, paper for ITS 2008, in press.

⁴ The communities Magreb.nl and Marokko.nl are aimed at immigrants in the Netherlands

⁵ Frissen, V. (2008). *De digitale diaspora: de virtuele realiteit van de multiculturele samenleving*, Forum jaarlezing, Utrecht.

can be felt on the perceived *quality of life* of individuals: people are able to use communities and networks to find online support, for example regarding health or emotional issues. By being able to find information and share experiences online, patients might perceive their quality of life to improve.

4.1.4. E-government and professional applications

As the skills of users increase and UCC platforms enter the next stage of their development, these will be used for more "serious" applications (such as company wikis or exchanging medical information). The sharing of content will then go beyond holiday pictures and funny videos. Organisations (public as well as private) are increasingly starting to integrate UCC into their activities, pointing out growing opportunities for users to contribute "informative" content, as well as the need for users to develop the skills that are required to actively participate in social discussions and use the skills in such professional settings as business. In that sense, having the ability to "play" with UCC in open environments has the added bonus of providing a fertile "learning-by-doing" platform where users help themselves online and share knowledge and skills.

In the private domain, studies and cases illustrate an impact on new, networked forms of organisation, where particularly social software is increasingly being used for knowledge development, cultural interchange and networking between professionals of different organisations and users (TNO, 2008). Studies suggest that there is value in, for example, wikis for enhancing efficiency, effectiveness and quality of service.

An area in which the importance of these skills for participation and its potential impact is starting to become clear is in online communities which provide public value that used to be the domain of public organisations and government agencies (TNO, 2008). Examples are peer counselling, educational communities and health communities. In these examples, users create public value instead of public institutions. In the online community "My language exchange"⁶ over one million members from 133 countries learn languages from each other. Moreover, in the healthcare sector there are numerous self-support communities where patients conduct peer counselling of which most communities have been set up by individuals rather than healthcare professionals (TNO, 2008). An effect of the availability of these communities is the availability of information, not only on well-known topics, but also on topics for which there used to be relatively little information (such as rare and uncommon medical disorders). Also users can provide services that traditionally were provided for by government agencies. An example in the social security domain is Zopa, a social lending and borrowing marketplace⁷.

Another impact in the public domain is the increase in transparency. Although this might not always be regarded as positive by the institutions that are being made more transparent, it can be regarded as a positive development for users and particular citizens. There are numerous examples of Websites that aim to make healthcare, education and law enforcement more transparent. Examples are sites such as ratemyteacher.com, ratemyprofessors.com, ratemycop.com and ratemydoctor.net on which students, citizens or patients can give their opinion on the performance of teachers, professors, policemen and doctors (TNO, 2008). These types of sites are available in the US and several European countries.

4.1.5. Creativity and innovation

The platforms, communities and tools that are available to users lower the barriers to creation and creativity. To some extent this has led to a democratisation of the creation and creative process where tools are no longer restricted to professionals, for example due to costs or difficulty of use, and any user with access to a computer and the Internet is able to use low cost tools that are available online for creating and sharing content. This process is spurred by access to computers and mobile devices, the availability and affordability of broadband Internet and the development of tools that can be used easily by even the most inexperienced users. Not every attempt to create and to be creative will be seen as good, for example by traditional media which are used to professional standards and which may expect the same level of professionalism. All the same, having a significant population which is creative will at least lead to a new set of skills in users (broader than mere UCC) that will also be

⁶ www.mylanguageexchange.com

⁷ <http://uk.zopa.com/zopaweb/>

beneficial in their professional environments. In particular, younger generations have incorporated the use of UCC in their everyday life, thereby creating a generation that will be able to develop these skills quite easily and apply them later in professional contexts. This is important since public and private organisations are testing or already using UCC in their activities and they will increasingly address users/consumers familiar with an UCC environment.

Innovation can be stimulated further as there is a large online audience available for testing new tools and for contributing to improving them. Moreover, this large audience can be used to come up with new innovations, for example by addressing them directly for help, a process known as "crowdsourcing". Having this large group of online users can also mean that innovation takes place that was not expected or purposely sought after. In particular the availability of open source tools has given rise to new sources of innovation and new revenue-models also provide a financial stimulus for "amateurs" to come up with new tools, as seen with the financial models used by such companies such as Apple for distributing and sharing applications for the iPhone.

Similarly, even the use of UCC platforms is becoming more creative thanks to their users. For example, video sharing sites are not only used for sharing holiday videos with one's family or funny videos with one's friends or community but they are also emerging as the new place to be for job seekers. The traditional paper CV is being replaced by the video CV.

Creativity and innovation will thus not only be in the content itself but also in other ways such as how the content can be used for communication purposes.

4.1.6. UCC and political participation

Through UCC, people can be mobilised quite quickly around specific political issues. Within online communities all kinds of advocacy and issue groups instantly emerge and disappear. UCC can enable new forms of fundraising, candidate exposure and mobilisation, using social networks for networking, video platforms for campaigning and several platforms for fundraising. Moreover, there are early signs that blogs can not only play an important role in providing information on politics⁸ but also in providing platforms for public debate and opinion forming.

"Wright (2003) and Bloom (2005) for instance found that blogs have played a major role in the fall of Senator Trent Lott in 2002 in the U.S. Whereas the traditional press ignored a politically sensitive comment of Senator Trent Lott, weblogs made Lott's comment becomes a major story and even caused the resignation of Trent Lott." (TNO, 2008)⁹

Another way in which UCC can influence politics is by means of online community activism (TNO, 2008). Although European evidence on online activism is still lacking, studies in the US show a substantial growth in the use of UCC (particularly by means of social networks) to advocate specific political interests. Examples include giving commentary or analysis, exchanging political commentary, going online for donations and helping defining political debates (particularly by young voters)¹⁰. The latter provides early clues as to the new ways in which young people can engage in the political process and use new technologies and platforms to renew their interest in politics.

Moreover, politics can become more transparent by means of UCC and the speed at which it can be shared and thereby generating great and acute attention to a political subject or event. Political incidents can be viewed by millions of citizens turning the incident into a considerable phenomenon that impacts the image of politicians or their party. There are many online communities and mashups on which information and politics, policy and political process is collected and made accessible (TNO, 2008). Examples of these communities are OpenCongress¹¹, providing news related to a bill, vote or a Member of Congress, and OpenSecrets¹² which provides a searchable database for campaign financing data of all federally elected politicians since 1989.

⁸ TNO (2008) *Social computing and its implications for future public services: WP5 - Key areas of social computing impact in the public service clusters*. report commissioned by IPTS.

⁹ For further analysis of this particular case see TNO (2008).

¹⁰ Pew Internet Center (2008). *The Internet and the 2008 Election*. found at http://www.pewinternet.org/PPF/r/252/report_display.asp

¹¹ www.opencongress.org

¹² www.opensecrets.org

"Types of social computing seem to erode the traditional political structures. New forms of party financing arise and the political process seems increasingly organised as a grid rather than by committee spokes around a hub ... Mashups and crowdsourcing websites enforce the cognitive surplus; the political knowledge of citizens. Herewith, citizens are increasingly empowered to hold politicians accountable for their promises, statements and actions." (TNO, 2008)

4.1.7. Economic implications: commercial UCC services are still in their infancy, with a potential to grow

Broad variety of different business models

UCC platforms – such as the vast majority of Web 2.0 sites – are still experimenting with viable business models, suited to a Web 2.0 audience and not merely replicating existing business models from the offline world.

Monetisation of User-Created Content includes the two following aspects:

- *Direct monetisation*: when the amateur content is directly sold to users such as Lulu or Le Manuscrit, or through sales of by-products using this amateur content, such as happens with tee-shirts on Threadless;
- *Indirect monetisation* through the monetisation of audience to advertisers, which implies to gather both a large enough and qualified enough audience to be attractive to advertisers.

The analysis of the case studies has shown a broad variety of business models, depending on the type of platform, on the nature of the content and on the part played by amateur content and in relation to whether UCC is the core business of the service or only a minor share of it). When UCC is at the heart of the service, then most strategies consist of monetising the content, the audience or the traffic. Currently, a vast number of UCC platforms heavily rely on advertising revenues.

Complementary strategies have also been developed: in particular strategies based on subscription and paying revenues, donation revenues and revenues derived from licensing and e-commerce.

In most cases, business models are built on a combination of several sources of revenues, with widely varying proportions.

Basically, the more generalist a platform, the heavier its dependence on advertising revenues. The more targeted it is, the more it will be able to make the users pay for its service. Talent search services, for example, are more likely to derive direct revenues from their users than generalist video sharing sites.

There is a growing awareness that the real financial value of UCC is often not in the content itself but in the services surrounding the content. Obviously, this also depends on the kind and quality of the content. While semi-professional UCC might be able to attract direct or indirect revenues, other types of personal UCC will not. Here, commercial profitability depends on the added-value of the additional services a platform offers. Consequently, new, innovative business models are needed that develop services around the amateur content itself (such as a legal access to professional content, or extensive storage capacities) and that promote the non-direct economic value of the UCC services in such terms as audience, traffic, amount of content, links and opportunities for fame.

Even if the current business models have not proved to be viable for UCC platforms, the massive success of these platforms among all generations of Internet users is a clear indication that there is a market for this type of content and consequently a profitable future for these platforms. Another interesting clue is given by the major media and Internet companies which have all either developed their own UCC Websites or bought out existing UCC platforms. We may legitimately presume that their close interest for this kind of content and platforms is a sign that they regard these new activities not only as possible competitors but also as new opportunities to develop their business, to keep their audience loyal (or even attract broader audience), and ultimately to generate revenue. If companies such as News Corp invested EUR 484 million in 2005 to acquire Intermix Media (the owner of MySpace) or Google USD 1.65 billion in 2006 to acquire YouTube, it could be taken as an evidence of the economic potential of this sector.

To find the right balance between a target too narrow, or too broad

Popular UCC services could be the first victim of their own success: on the one hand, the more popular they are, the more costly they become in terms of storage capacities and delivery networks; on the other hand, the more users they have, the less homogeneous the community is. It could then become less attractive for advertisers as well as for the members of the community themselves, who will no longer show the same interest in a too broad community.

The opposite holds too: those UCC services which are more focused on a targeted audience attract a very homogeneous and coherent audience – which could be valuable for advertisers – but risk not having enough users to build a sound business model. Having said this, it seems that a broad audience is not a guarantee of higher advertising revenues. Estimates of YouTube turnover are between USD 100 million and 200 million for 2008, whereas that of Hulu should reach USD 100 million for the same year with a far lower audience (and far lower costs of bandwidth).

To provide mobile versions of fixed services

This is not specific to UCC services but it is also part of the global evolution of the Web 2.0. People are now familiar with accessing the "fixed" Internet and they intend to benefit from the same services also in mobility. Already, producers of mobile phones are advertising their devices with the argument that users can upload text, pictures or videos directly on blogs and social networks.

Though fixed broadband has been a major driver of UCC and services and platforms are set up with that in mind, particularly mobile broadband is regarded as a major driver in the future by most stakeholders interviewed for this study. Besides the advantage that mobile broadband provides users with access to platforms on the road, it may also provide a good alternative in areas where fixed broadband is not available. This emphasises the need for platforms and services to be accessible through mobile broadband, taking into account the specifics of hardware used for this access, namely mobile phones. To benefit from the potential that mobile platforms offer, UCC platforms and services would need to adapt their services accordingly: make tools available, notably software, that are suitable for use on these mobile devices, and cater to the need of user for large download and, even more importantly, high upload capacity. Subscription contracts and pricing schemes should take into account the heavier use that comes with UCC, in form of either lower data charges or flat rate subscriptions.

4.1.8. Implications of UCC on related industries

Cooperation with professional industries

The role of professional content, released by such content providers as broadcasters, is growing on platforms which previously focused almost exclusively on amateur content, created outside of the professional routines and practices.

Some UCC platforms are now dealing with official companies, for example in form of licensing deals, so as to get access to some professional content. For the platforms, it is a way to legally provide their users with attractive high quality content, and to alleviate concerns of rightholders about the unauthorised distribution of their content. The ability of some generalist UCC platforms to conclude agreements with major media companies might also reassure some advertisers who prefer to place their ads alongside professional content.

These agreements between media companies and UCC platforms are also a clear indication that UCC platforms have become in few years key players in the field of content distribution. The main video sharing sites, for example, are managing to attract a broader audience than any TV channel, and Internet users do watch more videos on UCC platforms than on TV channel Websites.

UCC platforms are now seen by established media as key partners to better expose their content online, to value their inventory and to generate extra revenues, provided they implement efficient tools to prevent unauthorised distribution.

Integrating UCC into the offers of professional media

Aside from the interest of professional media companies in displaying their content on these new platforms, they are also increasingly integrating amateur content into their own traditional activities. For them, it is a way to reinforce the links they have with their own users and consequently a way of keeping them loyal to their brands. The Websites of nearly all media companies now provide space for their users to comment, give their views, inform other users and share their own creations. It allows media companies to develop a community based on their own brands and value.

Amateur content is not only available on Websites alone, having also found its place on regular TV shows or on the pages of newspapers. The creators take advantage of the opportunity to be viewed widely on an official media to get their "15 minutes of fame".

Even some advertisers ask amateurs to contribute to their future ad campaign and organise contests on UCC platforms so that amateurs develop video clips or posters to promote a brand, a product or a service. Advertisers are beginning to consider such opportunities as an interesting way to let users engage actively with their brand, whereas consumers, especially younger audiences, tend to increasingly reject traditional ways of advertising.

Beyond the effective use of amateur content by established media and advertisers, these companies are also developing UCC-like products or contents. Some advertising campaigns are based on short clips which look like amateur videos but which have been produced by professional advertisers.

In a similar vein, UCC has also started to adopt traditional media for reaching out beyond the Internet. For example, in France, a newspaper – called "*Vendredi*" – has been launched in October 2008 whose concept is to publish weekly news available on the Internet, based on more than 400 sources, including blogs and citizen journalism Websites. Another example is the CurrentTV satellite network which specialises in airing User-Created Content through traditional broadcasting infrastructures.

Cooperation with network providers and device manufacturers

Without adapted broadband networks and creation tools, the huge success of UCC platforms would not have been possible. According to most interviewees, the availability and affordability of broadband access and of devices are key to the further development of both creation and distribution of UCC.

Here, the rapid spread of amateur content can also be considered as a new opportunity for network providers and for manufacturers to develop. Demand for extended symmetric broadband capacities will increase in the near future, whilst the sale of easy-to-use devices and software will develop as usage patterns pervade all the categories of the population.

From the perspective of network providers and manufacturers, they can only benefit from the success of UCC platforms and the extended possibilities they offer for users to express themselves and share their own creations widely.

4.1.9. UCC, from the user side

A global and widespread phenomenon

All categories of people are now UCC consumers and/or creators

A new generation of citizens is growing up with UCC, and the under-age users of UCC platforms and social networks today are the citizens of the Information Society tomorrow as future digital-literate employees, as potential professionals in media industries and as paying customers. Their current usage of UCC platforms is allowing them to develop technical and legal skills. Their training today is all the more important since it will enable them further to put their digital capacities into practice in their professional, social and civic environments. That said, even if UCC consumers/creators are mainly young people and more are men than women, the gap between young and elderly people, on the one hand, and men and women, on the other hand, is progressively narrowing. There are studies pointing to the rise of the "silver surfers", people in higher age categories who have also found their way in ever-growing numbers to the Internet and UCC. In particular, the Mediascope Europe survey shows an increasing involvement of women and the elderly in Internet use, year after year. Thus the number of women online increased by 8% between 2006 and 2007, whereas the "silver Surfers" have been experiencing a boost of 12% year-on-year.

As indicated above, the wide variety of amateur content and UCC platforms makes it possible to find services suited to the needs and wishes of each category of people, whatever their age or their origin.

Drivers: why do people engage in UCC?

Although technology is mentioned most frequently as the driver of UCC, it is the need for self-expression, creative, cultural or political engagement and social interaction which drives people to engage in UCC. It has always been present, but now the available technologies such as access to high speed broadband, online easy-to-use tools and the availability of a wide variety of platforms have fostered this need and provide a platform for users to extend their reach beyond the boundaries of what was possible before. It is the large potential target audience that makes people even more eager to engage in UCC as they can share their interests, ideas and creation more widely.

Having lowered the barriers for entry to the digital content market, UCC platforms now also present a new opportunity for those people with professional ambitions to release their content to a large range of potential customers or fans.

Generating revenue is probably not the main driver for people engaged in UCC. In fact, one major driver is that they elaborate and share content so as to create and reinforce links within a community, whether it be around family, friends, professional needs or a shared interest. For this, they do not expect revenue. Another key driver is the upload of content with the goal of being famous. Here, UCC platforms are simply the online equivalent of sending a manuscript to a publisher, or a music tape to an editor. In this case, creators could, of course, be interested in some form of immediate remuneration, but it seems that they consider UCC platforms mainly as a stepping stone on the path to fame. If creators of such content do indeed expect some direct online revenues, then according to the interviewees, it is these people who usually aim at being broadcast or distributed through the traditional offline media. Already, in the same vein, it is also the case that various platforms, notably those specialising in talent and content scouting, are experimenting with forms of revenue sharing, in order to engage and stimulate amateur creators.

The UCC phenomenon has reached the entire world

UCC services are now widely used throughout the world, provided simply that people have access to a PC and to a high speed Internet connection, both in terms of network availability and of affordability of access.

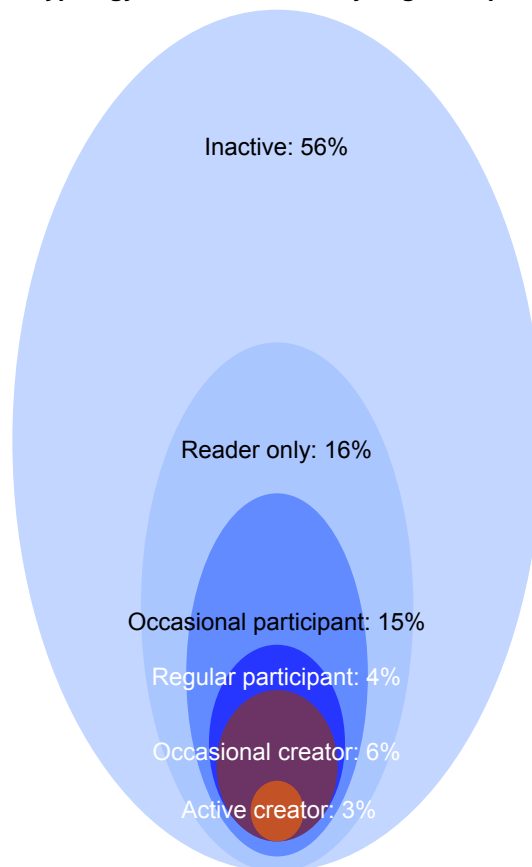
As a proportion of total population, in general the volume of users of UCC services (particularly in terms of quantity) is far more developed in countries which have already attained a high level of broadband penetration. However, there are examples of Eastern European countries where the level of broadband penetration and thereby the number of UCC users is low, but where the few people with access to UCC platforms are very actively engaged in UCC. Such is the case in Romania in particular; it is the European country with the highest proportion of active Internet users engaged in watching videos on the Web, in uploading videos and in podcasting. In the Czech Republic and Poland, active Internet users are also well-engaged, in uploading photos and in subscribing to RSS feeds, respectively. In terms of the proportion of total active Internet users, these countries with low broadband penetration show no significant difference in patterns of UCC usage to those in countries with high broadband penetration. This indicates that the potential for UCC in these countries is very high and thus achieving higher access to broadband and UCC platforms can have great rewards.

The key point is the access to the Internet – and preferably to a broadband access.

44 million amateur creators, and the potential for more

Despite the obvious success of some UCC services, the fact is that the number of active members actually contributing to the content creation process is very low in comparison with the number of content consumers. However, when looking at absolute figures, three percent of the total Internet population (Cf. the diagram below) still amounts to some 44 million creators.

Figure 1: Typology of Internet users by degree of participation



Source: IDATE, Use-IT 2007 survey

Access issues are crucial to massive adoption of UCC services

The promotion of UCC raises several issues:

1. The roll-out of always-on, fixed and/or mobile broadband Internet access with high upload capacity;
2. The availability of devices to access UCC services (PC, mobile phones in particular);
3. The availability and development of devices to create and upload content (in particular digital devices such as cameras), also in terms of quality of the devices (including HD capabilities), affordability and portability;
4. The development of sophisticated, but easy-to-use software, preferably online (SaaS);
5. Interoperability of devices, middleware and applications;
6. The usability and ergonomics of both user interfaces and devices;
7. The availability of (semi-)automated search and filter mechanisms;
8. The costs of Internet access and of devices;
9. Awareness building and training of all people, and in particular of people who are unfamiliar with the digital environment;
10. Legal certainties in particular regarding privacy issues.

This means that for promoting the widespread adoption of UCC services throughout the EC Member States, and favouring the development of creative content generated by users, the European Commission should strive for always-on broadband access at reasonable costs (flat-rate fees); affordable equipment to create, share and view content; interoperable and user-friendly devices and services; appropriate training; and the protection of citizens' privacy.

Pay specific attention to upload capacities

Until recently, Web activities mostly involved the consumption of content rather than its creation and upload. The asymmetric properties of the main technologies available in Europe were well-suited to this former kind of usage. However, the recent development of UCC services, the growing role played by Internet users and the availability of semi-professional devices generating heavy files, all make it necessary to upgrade upload capacities and provide users with the means to share high-quality (large) creations. Countries such as Japan which have widely deployed FTTx networks will not experience the same constraints due to the symmetric nature of the network technologies used. In terms of competitiveness, the use of asymmetric network technologies as the dominant means of broadband access in Europe might prove to be a competitive disadvantage.

One should keep in mind that factors such as upload speed should not be considered on their own. One of the frequently-mentioned obstacles during the interviews was the lack of quality in the creations. Although this also involves professional, creative and artistic competencies, the quality of the content is also determined by the capabilities of the equipment used, including the resolution of camera phones and the limitations faced by uploading high quality content such as HD video. Moreover, if users are able to upload more and larger content, this will affect the use of the infrastructure (can networks cope with such an increase in traffic?), the costs of using the networks (data traffic will have to be paid for) and the need for increasing storage capacity at platforms.

Creating a safe UCC experience

The success of UCC does provide for some challenges in terms of protecting users. Engaging in UCC involves information being shared by users in an open environment. This information not only refers to the creations of people but also to the information which they share about themselves. This includes information that has to be shared for gaining access to platforms and services and personal information that users share by using the platforms, such as real names, place of residence and date of birth. This implies that there are at least two kinds of threats involved: the possible abuse of the information that is required when signing up for services of platforms and for which it might be unclear on how it can be or actually is used by the platform or service, and the possible abuse of the information that users make available voluntarily and which might be used by third parties. Both threats are real as technological developments are making it possible to easily collect, store and

analyse data. Some groups of users such as minors might not be fully aware of the risks that are associated with engaging in UCC, or they may be aware but choose to accept the risks. Either way, policymakers should be aware of these factors and consider ways to minimise risks.

Users are also exposed to certain legal risks. Moving their activities from a strictly private sphere to the public forum which is the Internet exposes amateur users to a range of additional legal obligations, and the possibility of being in breach of such obligations, of which they may not be aware of in the first place (see also Part IV, paragraph 1.2.8). Creating a safe UCC experience means, for example, that users should be able to create content without fear of copyright infringement suits. According to existing rules on copyright, it is unclear to what extent users are entitled to use existing works when making new ones. Since European copyright law contains no specifically-tailored exception allowing transformative uses, any use of another person's work would require obtaining the author's prior permission. Clearing copyrights often poses a challenge to professional content makers, let alone to amateurs. In the case of films, tracking all rights owners to obtain permission is a daunting task. In the case of music, rights are often exercised by collective rights management societies that, as a matter of policy, do not grant licences to private individuals.

A safe UCC experience also entails that users should not be confronted with restrictive contractual practices on a UCC platform. Although this practice is not widespread among UCC platforms, it is not uncommon for a platform to demand, as a condition in its terms of use, that the user transfer all his rights on original content. In some Member States, such a clause would be invalid. However, since copyright contract law is not harmonised at the European level, makers of original content are not protected equally throughout the Union. Speaking of terms of use, uncertainty also arises regarding the validity of standard form contracts concluded with minors.

Existing legislation, both national and European, does address some of the issues that might threaten the safety of UCC. These include existing rules on privacy protection and the protection of minors, as well as national rules on cyber crime. However, these rules were often not written with new developments such as UCC in mind, and are therefore not always equally well-prepared for addressing new threats and security risks. One example is that of the current European regulation on data protection that, for the time being, focuses on the processing of personal data as an incidental activity, rather than as the basis for an entire business model of UCC platforms.

These limitations are tangible indeed, but the need for a safe UCC experience can also create new (business) opportunities. Providing a safe UCC experience can be a distinguishing factor in competition between UCC platforms and provide the value added that users are willing to pay for, thereby helping in building the so sought after viable business model. For example, parents might be willing to pay for access to safe environments for their children, knowing they will be active online anyway. Equally, the proliferation of alternative licensing systems, such as Creative Commons, could benefit from the enhanced need for legal certainty in the online environment.

Stimulating the ambitious amateur

While some users see UCC primarily as a means to communicate and to express themselves in relation to friends and connections, others perceive the UCC phenomenon as an opportunity and stepping stone for more professional activities. These users can potentially add much value to the (amateur and professional) digital content offering, and hence deserve support and stimulation. Encouraging and stimulating these users can occur, and already does so, by means, for example, of revenue sharing models. Talent search services are particularly active in the development of revenue sharing models. Two main models co-exist. In the first, the service collects revenue from, for example, advertising and then remunerates the creators depending on the success of his/her creation. This can be through a fixed rate as with OhMyNews, or a percentage of the total revenue generated thanks to the content, a practice exemplified by SeeMeeTV or Kongregate. The second model, as with Lulu and others, is where the service takes a commission on amateur content sold through its platform.

It is also in the interest of such platforms to stimulate the ambitious amateurs since their audience and their business model rely mainly on their contents. So without qualitative, sellable content, there would be no economy for such services.

It is important to note that the contractual conditions between UCC platforms and amateurs do not always do justice to the ambitions of the latter. Examples are contractual clauses that require amateurs to sign away exploitation rights without receiving and control over the way their contributions are commercially exploited and without sharing in potential economic profits. There is a need for

closer scrutiny of the contracts between professional parties and amateur creators, notably upon their compatibility with copyright law, author's contract law and general contract law.

Stimulating the ambitious creator also requires the right legal setting with rules that enable and promote active users instead of restricting them. In this context, the ongoing consultation on the European Commission Green Paper on Copyright for the Knowledge Economy regarding, inter alia, the question of whether there is a need for a UCC exception and the contours that it could take is of great importance and will pave the way for new solutions. More clarity is also needed about the extent to which amateur creators are subject to legal obligations in the area of media law. Amateur creators will often have not the capacity, resources and knowledge to answer to the same rules that apply to professional creators and disseminators of digital content (see more in detail below); the risk of over-regulation is eminent. On the other hand, where amateur creators perform functions that are similarly important to and beneficial for society, they should also be entitled to the same privileges. An example could be serious citizen journalists who adhere to professional standards of journalism. At present, at least in some countries, citizen journalists are excluded from enjoying journalistic privileges, whereas in other Member States the legal situation might be more open to amateur journalists.

The need for improved quality of amateur content

A widely-made comment in the interviews is that a large part of content uploaded (but it should be noted that there is no data to estimate the proportion) is not original content. Instead, it is a copy of someone else's content without sufficient editing to make it something new. A concomitant comment is that the quality of most created content is rather poor. It must be emphasised that this analysis is made by professionals working mainly in media or telecom industries, who are used to high professional standards and whose expectations regarding quality standards are obviously very specific. In reality, the assessment of UCC quality is relative and very much depends on type of content, its purpose and audience. Clearly, the technical, artistic, creative and innovative expectations regarding amateur content could not be the same for holiday pictures shared with friends and family, for a music band looking for fame or for citizen journalists analysing hot topics.

The fact that some uploaded content is not original touches upon legal questions about the rights to use third-party contents. The alleged low quality of content refers to both the technical quality (for example, low quality video) and the professional, artistic or creative quality. The issue of technical quality has been discussed elsewhere and involves equipment capacities, upload capacity and such limitations of a platforms as the constraints in the maximum size of files stored on it.

The argument put forward in the interviews, that the professional, artistic or creative quality of content is of low quality, is of course also driven by the desire to have content that has value added and thereby creates commercial opportunities, because individuals or companies are willing to pay for access to this content. It is for this reason that such platforms as YouTube or DailyMotion implemented specific programmes targeting talented creators so as to favour the development of quality content. According to DailyMotion, the Motion Maker programme registered some 13,000 creators in November 2008, namely 1% of its total base of registered members.

Content being of low quality, as such, does not have to be a problem, something already implied in the clear growth of UCC despite its lack in quality. When sharing holiday pictures with family, quality will be less of a concern to those involved. For sure, the lack of quality identified by interviewees is only an issue if UCC users expect to get the same quality standards (in terms of technical, artistic or professional terms) as the one they are used to in traditional media. Yet Internet users do look on UCC platforms for content which they will not find elsewhere and they are, accordingly, likely to adjust their expectations too.

It becomes an issue when the quality of the created content determines its usability. In citizen journalism, the argument is a really rather valid one – not only because good journalism is necessary for news sources to incorporate it in their service offering without suffering any damage to their brand, but also due to the risks involved in bad journalism. For example, when not applying principles of good journalism to reporting, such as "listening to both sides", damage might be done to organisations or people that are included in the reporting.

To the extent that normative quality safeguards, such as press codes or rules on the protection of minors or hate speech, and such self-regulatory quality safeguards as journalistic standards, exist, it is at present not entirely clear whether these also apply to the amateur creator. Much will depend on whether judges and regulators take an institutional approach, relating only to professional media or their employees or a functional one, referring to any person or body who performs a certain function.

There are also other policy reasons to strive for better quality in content. An example is the goal to further develop the skills of users and the sophistication of UCC use in regions. It can be regarded as a competitive advantage, having a large Internet population whose levels of use of the Internet rise above those in other countries and thereby provide a fertile basis for a creative industry. Moreover, the skills involved in making good quality content might be skills that are useful in other areas as well.

Privacy issues

Some interviewees pinpointed the apparent contradiction between what Internet users fear and what they are effectively doing. Paradoxically, users value their privacy highly but, at the same time, they do not hesitate to make very personal and even sensitive information publicly available on the Internet. This is probably mainly due to people being either not aware of how their personal data, whether actively or passively created, could be used now or in the future by the platform or by other users, or being aware of, yet accepting, the risk.

Privacy guidelines, even if available on the Websites, are not always clear for Internet users. Stakeholders highlighted the fact that most users do not read the terms of conditions of a platform before signing in or do not understand all their possible implications. Some platforms, especially in the United Kingdom, are trying to invent new forms of privacy guidelines, which are shorter and clearer and that users have to accept before accessing the service.

European data protection law provides little pro-active protection against certain forms of exploitation of personal data, such as behavioural advertising, data mining or making personal data available to business associates, as long as the user has been informed in advance about these forms of exploitation. Accordingly, one may wonder whether there are situations in which the consent-based structure of existing European data protection law affords too little protection to users, especially in context with social networks. A clear gap exists in European data protection law regarding the protection of personal data of minors; until now, there have been no specific rules that would take into account the particular needs and vulnerabilities of minors.

Users as producers and the law

Active users are confronted with an entire different set of legal rules and obligations, notably rules in general and civil laws, in the case of copyright law, audiovisual law, e-commerce law and data protection law. It is unclear, but unlikely that the majority of users is aware of this fact. Presumably, UCC as a phenomenon has flourished despite or maybe even because of a lack of legal awareness. Much will also depend on the motivation of amateur creators. Bloggers, for example, in general show greater interest in, and awareness of, legal issues than participants in a social network site, as the number of blogs and contributions regarding legal issues for bloggers demonstrate.

There are some notable initiatives that seek to explain to individual UCC creators their legal rights and obligations¹³ in straightforward, plain words. Some such initiatives are user-driven, while others result from professional bodies in the media sector, such as Reporters Without Borders. Many of these initiatives focus, however, on US law and in particular on the position of bloggers as citizen journalists. Having said this, many of the legal issues that UCC raises are difficult to judge even for legal experts, leaving many questions still unresolved. This can be explained in part by the fact that many rules in current information law derive from the established traditional assumption that the roles of traditional, professional suppliers and users as amateurs can be clearly distinguished, and that the production and dissemination of content and the provision of Information Society services is reserved to professional suppliers. Accordingly, some rules in information law seem ill-fitted when applied to active users, others might create disproportionate burdens. Note that unlike (large-scale) professional suppliers, amateur users can lack the scale, organisation, permanency, financial resources and knowledge to comply with all the rules that apply to professional suppliers.

13 See, for example, DailyBlogTips, Ten Essential Legal Points for Bloggers, available online at: <http://www.dailyblogtips.com/10-essential-legal-points-for-bloggers/>; Reporters Without Borders, Handbook for Bloggers and Cyber-Dissidents, available online at http://www.rsf.org/IMG/pdf/Bloggers_Handbook2.pdf; Directory Aviva, Twelve Important US Laws Every Blogger Needs To Know; available online at: <http://www.avivadirectory.com/blogger-law/>; Electronic Frontiers Foundation, Legal Guide for Bloggers, available online at: <http://w2.eff.org/bloggers/lgl/> and Creative Commons, Podcasting Legal Guide: Rules for the Revolution, available online at http://wiki.creativecommons.org/Podcasting_Legal_Guide, to name but a few examples. See also <http://www.citmedialaw.org/legal-guide>.

In the light of these considerations it is also obvious that media literacy can only to a limited extent be expected to solve legal problems on the Internet. Moreover, user awareness and media literacy should in general not be an excuse for governments and stakeholders in the future to shift the regulatory burden away from governments and other stakeholders to media literate users. Policy makers need to decide to what extent and under which conditions amateur creators should fall under the same rules as professional media creators and suppliers, where this would impose unreasonable and potentially chilling burdens for users and, finally, where a modified approach might be needed.

A more active role for users in reviewing, monitoring, sanctioning and rule-making?

It is thanks to Web 2.0 technologies that users can participate not only more actively in the creation and dissemination of digital content, but they can, and already do, contribute actively to solving some legal and quality issues with UCC, within the limits of what can be reasonably and legitimately expected from them.

One example is the monitoring of content for unlawful or harmful contributions. Content monitoring can take place *a priori* or *a posteriori*. Even if the *a priori* approach might be the most effective way to guarantee that content fully complies with legal provisions and the terms of conditions of the platform, it proves to be unrealistic in situations where large quantities of content are being uploaded by a variety of different, often anonymous users. This is why an *a posteriori* approach is often more viable. In the context of an *a posteriori* approach, UCC platforms can involve users by encouraging them to report unlawful or harmful content. However, the effective participation of users in monitoring unlawful or harmful content demands considerable attention to the way report-abuse, notice and take-down procedures are organised. Procedures must reflect the need for information to be specific enough about alleged infringements, while taking into account the lack of expertise and experience of users. Procedures must also respect the rights of original authors and posters of such content, and avoid large-scale abuse, and implement appropriate safeguards. This is also and particularly true for user-executed sanctioning, such as naming and shaming which can lead to abuse, false accusations and irreparable reputational damages. Finally, there are, of course, limits to an active user involvement, due to the lack of consistency, legal knowledge and the protection of fundamental rights, such as freedom of expression and privacy.

Other examples of active user involvement are the user-driven initiatives mentioned above in informing and educating other users on, for example, legal or technical issues at hand. User-driven peer review models such as those applied in Wikipedia form another important area where users can actively contribute to raising the level of quality, accuracy and legitimacy of UCC. Finally, an example of active user involvement in rule-making is the Blogger's Code of Conduct which seeks, in the form of a wiki, to reach a consensus on journalistic standards for bloggers.

4.1.10. UCC, seen from the platforms

Demand for more efficient technical solutions (for storage and content delivery)

Currently, the more successful a service is, the more costly it is for its owners, in terms of storage capacities and of content delivery networks.

UCC platforms always face increasing costs due to the growth of the total number of uploaded files and of viewership, but also due to the growth of the size of the files (in particular photos).

The situation will trigger the demand for more sophisticated, cost-effective solutions that keep the technical costs as low as possible without having to downgrade the quality of their service.

Mobile is seen as a future key driver of UCC services

The UCC services as we know them on the fixed Internet are only a first step in the development of the UCC phenomenon. According to stakeholders, the next step, the mobile UCC, is expected to be at least as impressive, or even more so, as the first one. There is a mobility dimension to much of the UCC that is being created; pictures taken and videos shot at locations other than the home, being able to report on events when they occur and being able to use devices that users most easily and most often have access to (even at home) such as the mobile phone. Moreover, mobile networks can provide for access when fixed networks are not available, for example in areas where fixed networks are difficult to provide.

The further evolution of this trend will obviously depend directly on the roll-out of 3G networks, on the availability of (low) flat-rate tariffs, on the availability of user-friendly, affordable, 3G mobile phones with photo and video cameras and extensive storage capacities. If these prerequisites are fulfilled, there will be attractive opportunities for users to access mobile UCC services so as to extend and further develop their fixed experience. The mobile phone is designed to be the key element of the development of UCC services since it gathers in one device all the necessary functionalities to create, store, send and view content.

In order to benefit from this future market, UCC service providers are well-advised to develop mobile versions of their traditional fix platforms and to provide for interoperability between fixed and mobile platforms so that users will have a seamless experience.

Where users are overwhelmed by content profusion, tools to help find the right content easily will be decisive

The direct consequence of the development of amateur content is the availability of huge amounts of content and the difficulty of finding the right information, as well as the corollary difficulty of it being found.

Until recently, in the offline world, users were used to quite a limited choice of guiding tools. In the TV world, TV channels are supposed to know what TV viewers want to see according to the time of day, and the viewers only have the choice between several channels. In a newspaper, journalists select the information which will be of interest for its readers. Traditional media are based on a push model. In the online world, it is up to the user to know what s/he is looking for and where to find what s/he wants – a pull model.

The major issue here is that, because of ever-increasing content and the lack of the traditional filter function of the media, users are finding it harder to locate interesting or relevant UCC.

The availability of (semi-automated) search and filter mechanisms which could help users to easily locate and access what they are looking for and/or to identify what could be of interest for them could be a positive driver for the massive adoption of UCC services.

Obviously, such solutions would need to take user privacy into account. Effective recommendation systems often depend on the availability of large-scale databases of individual user behaviour. The creation and exploitation of such databases can conflict with user privacy and data protection interests and open the doors for abuse. In addition, from the competition point of view rooted in proprietary

issues, control over individual user behaviour data collections on a large scale can create competition concerns. Finally, freedom of expression concerns need to be taken into account.

It will be in the interest of service providers to develop adequate and privacy-sensitive tools. These could turn out to be decisive in enhancing customer loyalty, but also in giving value to niche products. Consequently, privacy-sensitive search engines or peer-based recommendation mechanisms could have a positive impact on the overall development of the market and could more specifically be a differentiation tool for some providers.

UCC services: after fast fame, large communities and massive content, can they now be monetised?

The nature of business models for UCC platforms is still unclear, as indeed they are for the entire Web 2.0). The cost side is obvious – in particular, the technical costs linked to storage capacities and bandwidth – but revenue generation is more a "trial and error" approach. Until now, UCC platforms have mainly implemented business models copied from the traditional media sectors. Monetisation of videos is particularly sensitive in the sense that technical costs are considerably higher for videos than for any other content (video files are particularly heavy) and they do not generate higher revenue even so. An estimate for the average cost per thousand (CPM¹⁴) for pre-roll video ads¹⁵ is between USD 5 and USD 10 (but it will largely vary depending on the origin of the content: UCC or professional), whereas the distribution costs (for delivering videos to 1,000 users) amount between USD 30 and USD 40. Supposing that each single video is financed by one pre-roll video ad, it implies that the CPM should be multiplied by 4 to 6 to make the service sustainable. Innovative forms of monetisation and advertising will have to be developed to better fit the Web 2.0 environment.

Some amateur content has proved to be hard, or even impossible, to sell. Advertisers are reluctant to associate their brands with unpredictable content. Donations could work for non-profit services with limited costs but not for popular services with commercial objectives.

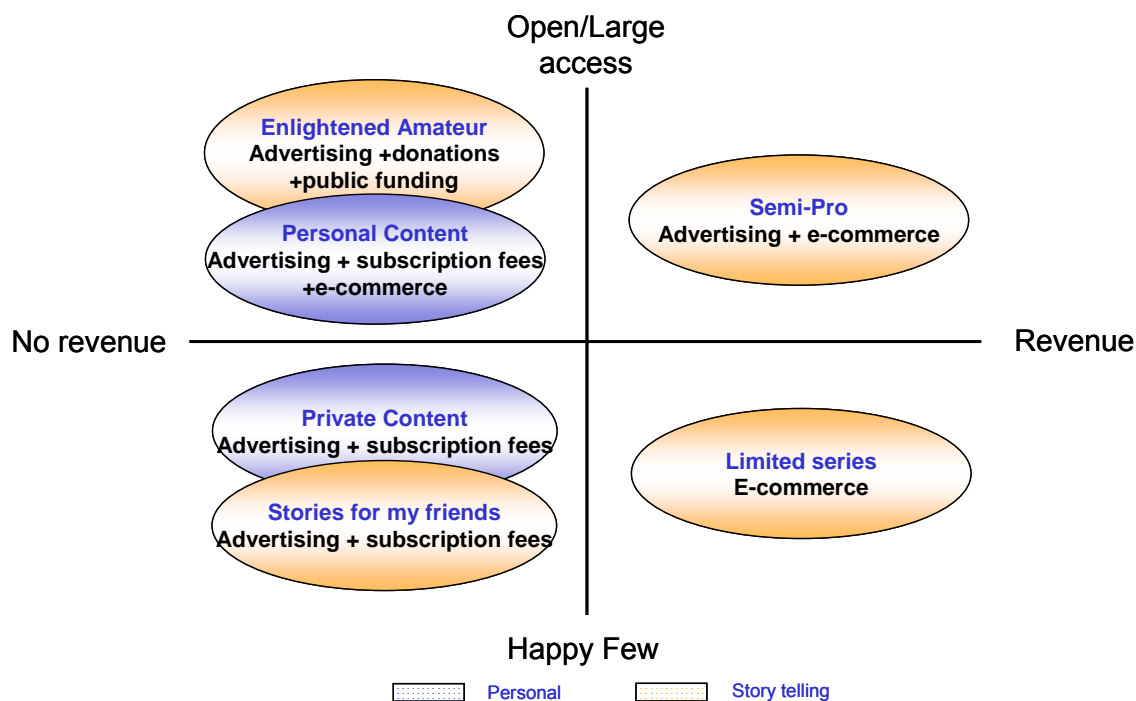
The only certainties at present are that UCC mainly creates non-monetary value in terms of brand awareness, customer loyalty and cross-subsidising effect, and that the sources of revenue will vary according to the nature of the content and the type of platforms. Currently, a huge number of UCC platforms heavily rely on advertising revenue and this should still be the case in the future for large generalist platforms since they can gather an audience large enough to be attractive to advertisers. In addition, they will also develop complementary services (either designed for users, such as access to professional videos, or for third-parties, such as the sale of white-label solutions) so as to complement their revenue. More targeted platforms such as Lulu or Threadless will go on monetising amateur content directly to their users, and will also try to propose complementary services. It will probably take time to find the right balance of revenues between such streams as advertising, content sales, service sales and e-commerce, all of which will depend on the kind of content, type of services, consumer target, geographical scope and commercial objectives of the service.

The following figure gives examples of the main sources of revenues being generated by UCC platforms at present, according to the category to which they belong, (Cf. Part I for further details).

¹⁴ Cost per thousand or cost per mille (CPM) refers to the cost, per 1,000 people reached, of buying advertising space in a given media vehicle

¹⁵ Ads that run before a video

Figure 2: Main sources of revenues for services of each category of the UCC classification



Source: IDATE

Personal: Content developed without editorial views (example: souvenir photos);

Story telling: Content developed with editorial views (examples: online photo album integrating comments, or music).

Happy Few: Restricted access to content. The creator appoints the people who will be authorised to access the content.

Large/Open access: Broad or totally open access to the content, that is to say that every person having access to the service (whether through a registration process or not) will be able to access the content.

Revenue: When it is possible for the creator to earn money (even if not systematically).

No revenue: When it is not possible for the creator to derive revenue from her/his creation (even if the UCC service could earn money thanks to this content).

It should also be noted that, because of the major uncertainties regarding revenues, UCC start-ups experience difficulty in obtaining venture capital. These uncertainties need to be addressed quickly in order to ensure that UCC providers can obtain the necessary financial resources not only to start new activities, but also to develop these activities in a proper way.

UCC platforms can encourage users to enhance content quality, thus adding to the appeal of their services

For platforms and services, to enhance content quality has two sides: quality of content in terms of original content thereby reducing the risks of legal actions, and quality that will help them make a better business case. Although large platforms have already been able to draw large numbers of users and thus become, to some extent, attractive to advertisers, better quality in content could give them better commercial opportunities. These would include users being willing to pay for access, attracting even larger user bases, enhancing customer loyalty and advertisers being willing to pay more because of improved content and larger user bases.

Those traditional media which are integrating UCC in their regular activities also favour quality improvement, in particular in technical terms but also in professional, artistic and creative terms. This stems from their wish to respect certain standards of quality in order to meet the expectations of advertisers and regulators (in the case of publicly-funded broadcasters). For users, having the opportunity of being broadcast could provide an additional stimulus for making high quality UCC, if

they know how to do so. Platforms and media companies could cooperate to educate users on how to make such content.

As far as the integration of UCC into other domains is concerned, other dimensions of quality will play a role. There are already initiatives in other domains in which UCC is used, such as education and health. Here, the ability to monetise UCC is less of a goal. In these domains, quality of content focuses more on expert quality. When dealing with medical information, for example, it is essential to ensure the accuracy of that information. The risks of faulty information can be severe. Of course, safeguarding quality in these areas requires specific knowledge and may be restricted to specialised circles of expert users.

An outstanding qualitative content offer is also a question of the legal environment. The existing legal uncertainty regarding the liability of UCC platforms for UCC could act as a disincentive for platforms to actively engage themselves in quality control and to encourage users pro-actively to produce quality content. The more a platform engages with the content, instead of providing purely technical and support services, the more it risks being held fully liable for the contributions of users according to the strict (national) rules that apply to broadcasters and publishers (see Part IV, paragraph 1.3.8). As far as the legal environment is concerned, innovative solutions are needed that can differentiate the level of liability for UCC, taking into account such factors as the number of user contributions, the type and goal of UCC platform and the sources of revenues.

At the same time, UCC platforms could be more attractive for talented creators

Currently, large general UCC platforms such as YouTube and Flickr often serve as stepping stones for talented amateurs who benefit from the large audience of these services. Once, however, they have reached a certain degree of notoriety or level of professionalisation in their content, users will often try to monetise their quality content elsewhere, in particular on specialised (UCC) platforms which will generate revenue for them. This means there are possibilities to monetise content, where the larger, general platforms serve as stepping stone or talent scouts and are able to cooperate with these specialised platforms to gain from this. Moreover, this would present smaller platforms with commercial opportunities and a value-added besides the large, quite often advertising-driven, platforms.

To attract talented amateurs and to keep them loyal, UCC platforms can cooperate with these specialised platforms, serving as a filtering mechanism for high-quality, sellable content. Revenue-sharing models might be a good way to cooperate with creators and specialised platforms. The more they contribute to generating revenues, the more they could earn.

Main legal challenges

On the legal side, probably the most evident risk at the moment is the increasing number of threats of lawsuits because of allegedly unlawful content, for example because UCC violates intellectual property rights of third parties. Interviews confirmed that this is a matter of considerable concern for UCC platforms, as is the potential tightening of existing legal obligations that is discussed in some Member States. Under existing law, there is still much uncertainty under which conditions UCC platforms qualify for the hosting exemptions from liability under the E-Commerce Directive. At the same time, due to the total amount of content uploaded daily on popular Websites, it would be difficult to monitor all content and intervene quickly if monitoring obligations were laid down.

The more platforms are involved in monitoring and editing UCC, the likelier it is that they fall under the other legal extreme that is the strict liability rules that apply to publishers and broadcasters. Again, the law is ambiguous regarding the conditions under which UCC platforms qualify as publisher or broadcaster.

Early attempts have been made to address the liability problem in form of self-regulatory solutions, notably through agreements between UCC platforms and the content industry. One example is the Principles for User-generated Content, drafted between the professional content industry and some UCC platforms. In the Principles, UCC platforms agree to undertake a number of measures to eliminate IP infringements. In return, the content industry agrees not to sue UCC platforms that adhere to and obey the principles. The idea behind the Principles, namely to jointly define the scope and limits of the responsibility of UCC platforms for User-Created Content, is in principle laudable and useful. Their scope is, all the same, rather limited, being focused mainly on intellectual property law. Overall,

they seem rather thwarting for the content industry, while taking third-party interests, such as those of users and amateur creators, into account to only a limited extent.

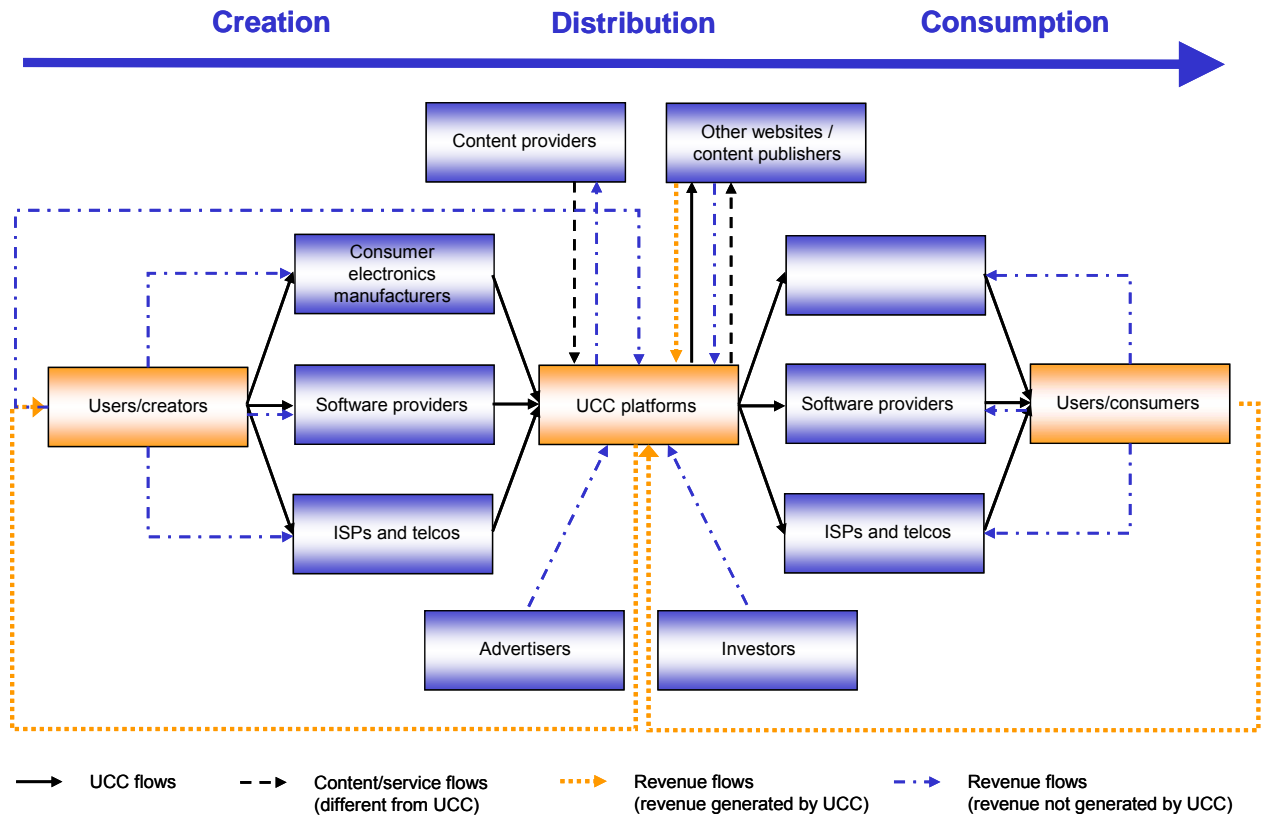
Growing body of self-regulatory solutions

Already today, there are a number of self- and co-regulatory measures for UCC platforms and UCC, and the number of initiatives keeps increasing. Initiatives can be the result of pressure from the content industry (as seen in the Principles of User-Generated Content), public bodies (such as the Key Principles of Social Networking Sites introduced by MySpace and Facebook), traditional media (as with the Blogger's Code of Ethics), users (as in the Blogger's Code of Conduct) or individual platforms (in form of so-called codes of conduct for users). Issues that are typically addressed in such initiatives are the existence of harmful and/or illegal content, respect of intellectual property rights, privacy issues and the protection of minors. Regulators can gain useful insights from the way private actors deal with these issues and, for some questions, the need for additional regulatory intervention might be alleviated by existing self- and co-regulatory initiatives. That said, there are also a number of critical issues that need to be taken into account when assessing whether existing self-regulatory measures are adequate and sufficient. They include a lack of transparency on the measures in place, the way they were drafted and the parties involved; the absence of involvement by third parties, notably users or their representatives, in the making of most existing initiatives; the resulting lack of balance; and, finally, the absence of effective sanctioning and monitoring mechanisms.

Another form of private rule-making is the use of contractual terms between UCC platforms and users. Also here, platforms address such issues as harmful content, protection of minors and privacy. Furthermore, the terms of use could provide valuable inspiration for regulators about possible ways of dealing with obstacles to the safety and lawfulness of UCC, and could lead legislators to the conclusion that certain issues are dealt with satisfactorily within the contractual terms. In order to decide the latter, a more extensive review of contractual terms would be needed. There is a great variety of terms and conditions, usually varying from platform to platform and country to country. For users, platforms and third parties this can also translate into a lack of legal certainty and guidance. It should be noted, moreover, that the terms of use are usually one-sided conditions that are imposed unilaterally upon users, and that the fairness and lawfulness of such terms cannot always be presumed. This is particularly true for terms of use in relation between a UCC platform and minors; according to the laws of some Member States, such terms might be even invalid.

4.1.11. UCC, for related industries

Figure 3: The main players of the UCC sector value chain



Telecom operators, as network suppliers, are essential in UCC roll-out. Can the networks sustain the growth?

Telecom operators play a crucial role in the successful roll-out of UCC services since they are required crossing points to access UCC services, either to upload or to view amateur content.

The revenue they will derive from future broadband subscriptions could be a strong incentive to develop extensive fixed and mobile broadband infrastructures. According to this point of view, there is maybe no need for national or European authorities to develop heavy incentive measures.

Current networks are not, however, necessarily designed for such demanding usage. Massive uploads and downloads of heavy files put a considerable burden on the networks, and especially on asymmetric networks which are not suited to massive uploads. The question arises if the existing networks will be able to support a further growth in UCC consumption and creation. A great part of them (if not the totality) will certainly have to be upgraded in the near future, otherwise user experience will be poor and it will not favour a massive adoption. The problem will then be the following: how to finance such colossal investments? If (rather low) flat-rate fees are highly desirable so as to favour the use of the Internet, it is doubtful that these fees will make it possible for the telecom operators to cover the technical costs – unless the consumers pay for what they really use.

The risk of a new digital divide then becomes multiple:

- Between built-up areas gathering high densities of population in which it should be profitable to develop networks at the cutting-edge of technology and rural areas with low densities of population in which telecom operators will not invest on their own, because of the likelihood of a poor return on investment;
- Between households with high income who can afford expensive Internet access fees and households with low income who cannot.

Ensuring equal and homogeneous access to the fixed and mobile broadband Internet throughout Europe will have to be a main concern of public authorities.

Equipment providers: meeting the challenge of affordable, user-friendly, high quality devices and software

Consumer electronics manufacturers and software providers are also a key link of the value chain, since they provide the tools needed to create, share and view content.

As is the case for telecom operators, the UCC phenomenon could be a great opportunity to further develop their sales, since equipment providers are essential in the process of content creation. UCC could not develop without the help of the equipment industry. In order to support a sustainable growth of UCC, consumer electronics manufacturers will have to adapt their devices and software to a broader public, and to meet very different and sometimes antagonistic demands. Highly-skilled people will ask for more functionalities whereas new users will probably ask for basic devices. To address such a large audience, these tools have to meet high expectations. They need to be user-friendly, and used easily by everyone and not only passionate users; they must be cheaper, so that price is not an obstacle; and they also have to propose high technical quality functionalities, in particular storage and uploading capacities.

Even if it poses the challenge of addressing the needs of a wide range of users, and consequently their requests, UCC clearly widens the usual scope of consumers of electronic equipment to virtually the entire population. This provides the equipment sector with new major business opportunities.

Traditional media: amateur content as a new opportunity to enhance the consumer experience

The traditional media are showing considerable interest in original amateur content, in the sense of creative works made by amateurs. Most media companies have either developed their own UCC service or are seeking to take over popular UCC initiatives, at least in part.

Quality amateur content is used in offline media as well as on the regular Websites of media companies. It contributes to enhancing customer loyalty and to developing brand loyalty.

For traditional media companies to be able to integrate amateur content into their services, a necessary precondition is that such content complies with their standards of quality. This resulting demand for high quality UCC can also create incentives for amateurs.

In this discussion, quality refers mainly to technical quality – a video should meet the professional technical standards to be broadcast during a TV show – but also to creative and artistic quality. One should keep in mind that the notion of quality is multidimensional. The quality expected by the traditional media is closely linked to the "money making" dimension, that is to say that content should be of sufficient quality to be monetised. In other areas, however, quality is not perceived in terms of creativity but in terms of professional rigour. In the domain of citizen journalism and medical information, for example, it is the methodological approach and the rigour of information which is imperative. In other cases, the appreciation of the quality of content could be subjective, sentimental or cultural (such as family pictures, diaries and recipe books) and has low or even no damaging impacts on users.

Having said this, media companies have shown a great interest in amateur content in the recent past, as shown in the following table:

Table 1: Web 2.0 initiatives of media companies

Media company	Web 2.0 initiatives
News Corp.	Acquisition of MySpace, acquisition of Photobucket
Viacom	Acquisition of Xfire, community-centric video game platform, development of a series of virtual universes based on MTV programmes
CBS	Acquisition of Last.fm
BBC	Launch of Backstage
Skyrock	Launch of Skyblog, the largest French blogging platform
M6	Acquisition of Wideo and YooTribe, partnership with Habbo Hotel for the French version
TF1	Launch of Wat, backed by DailyMotion, acquisition of a 95% stake in "1,001 listes" (e-commerce), 26% stake in the Overblog blogging platform
ProSiebenSat.1	Takeover of German video site, MyVideo, 30% share of German social network Lokalisten.de, majority stake in German knowledge sharing service, Wer-Weiss-Was
Axel Springer	Acquisition of a 68.15% stake in Auféminin, online women's community

Source: IDATE, *Web 2.0 and social networking - New applications, new business models?*, July 2008

Conversely, UCC platforms are also demonstrating a great interest in professional content and are beginning to offer legal professional content delivery services.

The two sectors have obvious converging interests and should try to develop stronger links and cooperation.

Advertisers: great potential but need for reassurance

Advertising spending on the Internet will experience the fastest growth in comparison with all other media. UCC platforms gather among the largest audiences of the Internet and yet they are facing major difficulties in attracting advertising revenue.

It follows from the interviews that advertisers are reassured by what they know. UCC services are still in their infancy and advertisers are not used to this recent and fast-moving environment. Many advertisers still fear associating their brands with content over which they have no control for fear that it could negatively impact their brand or their image. Consequently, most of them are still quite reluctant to invest in such media.

Nevertheless, UCC platforms cannot do without advertising revenues and advertisers should have interest in reaching such large audiences. Therefore, their common interest would be to find new ways to advertise on UCC services.

UCC platforms give new opportunities to advertisers: they can help in reinforcing brand attachment, in creating a new relationship between the brand and the consumers (in particular for young people), in developing viral marketing and interactivity.

There is a need for UCC platforms to educate advertisers in a variety of approaches. These include efforts to emphasise the advantages of communicating through UCC platforms; to teach them how to use these services efficiently; and to provide them with new innovative forms of advertising. The current generation of advertisers has not grown up with the Internet, and is thus not adequately familiar with all the opportunities offered by this media; it may even have some rather irrational or exaggerated fears about the Internet. As the sector becomes structured and provides advertisers with clear legal certainties, thanks to national, European or self-regulation, then so will advertisers come to feel more confident and invest increasingly in UCC platforms.

4.2. Policy recommendations

It should be noted at the outset that several issues raised here are not necessarily specific to UCC. They can form part of larger issues of online digital content (markets) and ongoing consultations, such as those on copyright, consumer protection and communications law, the pending reviews of the E-Commerce Directive and the Data Protection Directive or the implementation of the Audiovisual Media Service Directive. In consequence, some policy recommendations touch upon ongoing broader discussions. Moreover, dealing with UCC will require an integrated approach since all issues are intertwined.

4.2.1. Access issues

Considering the opportunities UCC can provide for people, policymakers should, to foster UCC and the further development of the Web, further stimulate the access of users to the Web and UCC platforms in particular:

- Ensure availability of high capacity broadband networks, fixed or mobile;
- Ensure affordability of access to broadband networks;
- Ensure access to equipment such as computers or mobile devices;
- Ensure availability of easy-to-use software;
- Ensure the development of skills in people to be able to take full advantage of UCC.

This can be done by:

- Stimulating network operators to invest in networks or, if this proves difficult, play an active role in providing infrastructure in, for example, public-private partnerships;
- Stimulating competition by means of (self-)regulation;
- Taking measures to promote the ownership of PCs, or by making them available through public places such as schools and libraries. This might also be a way of providing access to broadband Internet;
- Promoting R&D programmes focusing on user-friendly applications;
- Developing necessary skills to take part in these new developments by means of the regular curriculum in schools or by providing courses at public institutions.

Providing people with the means to access the Web is a prime requisite for getting them involved in UCC. This is, of course, already on the agenda of policy makers as the importance of access to the Web and the ability to participate have already established. The development of UCC only confirms this importance as it illustrates the rapid development of the Web, its role in people's lives and the skills necessary to participate. It is important that no new or additional digital divide appear. Although the presence of such a divide is being heavily discussed in countries where access to networks is not so much of an issue anymore, the inability to participate in new developments, in spite of access, might create a new digital divide that is not based on inequality in access, but based on inequality in skills. Obviously in countries (or regions) where there is still a digital divide based on lack of access, the divide might be further widened by a deficiency in skills.

4.2.2. Interoperability issues

When dealing with UCC, users employ a number of different types of hardware and software. Content is created by means of cameras, Webcams, computers, mobile phones and more. Once content is created it can be edited using the same device that was used in its creation or another device if the former does not have an editing functionality. Once the content is ready for sharing, the user will need an account at a service or platform, prepare the content according to the specifications of this platform and upload the content. Simplifying this process so that the different hardware and software is more interoperable will provide a significant stimulus to UCC.

Standards, and thereby interoperability, are often developed in a global setting involving large producers of hardware and software. This makes it an ambiguous task for policy makers to actually directly influence standardisation. There are examples in which policymakers have been able to promote the adoption of standards in the industry, such as having DVB as a standard for digital TV. Equally, there are also examples in which this was less successful, for example promoting MHP as an open standard for set-top-box (STB) middleware. In several countries the proprietary standard OpenTV from LibertyGlobal is the main middleware used in STBs.

European policymakers are already engaging in the promotion of standards and the development of new standards for technologies in development. In that of the Interoperable Delivery of European eGovernment Services to Public Administrations, Businesses and Citizens (IDABC), the European Union actively promotes interoperability in ICT systems for cross-border public sector services to citizens and enterprises in Europe. In June 2008 the Semantic Interoperability Centre Europe was opened as part of this programme. The European Union is also funding the Global RFID Interoperability Forum for Standards (GRIFS) with the aim of improving collaboration between industry partners and standards organisations such as ETSI¹⁶ and CEN¹⁷ and thereby trying to maximise the global interoperability of RFID standards. Moreover, European policymakers can assist national, regional or local policymakers in dealing with interoperability issues. An example of this trend is the European Commission Recommendation on cross-border interoperability of electronic health record systems, which aims to provide Member States with a set of guidelines for developing and deploying interoperable electronic health record systems, allowing for cross-border exchange of patient data within the Community¹⁸.

As was indicated earlier, UCC involves a broad array of hardware and software used and promoting interoperability directly might prove difficult. However, it is important that interoperability and standardisation issues are addressed. To some extent, these issues will be sorted out by industry itself or provide opportunities for third-parties to be active, but there will be issues that need to be addressed by policy makers. The latter issues could be addressed by creating a level playing field by actively promoting standardised, interoperable technologies; by being actively involved in discussion platforms; by funding research; and by creating the right conditions for industry, such as by facilitating cooperation in research projects.

4.2.3. Economic issues

The discussions on the value of UCC are centred on its financial value in terms of direct revenues from content sales. It is understandable that this is a primary concern of commercial platforms, but focusing solely on this can lead to an underestimation of the potential gain to be made from UCC. Although the development of UCC is taking place largely in the entertainment domain, there are also cases where the value of UCC is regarded as something other than finding a viable business model.

In other domains, UCC is proving to be a valuable addition to content that is generated by established (traditional) content providers or professionals. There are numerous platforms and communities in which users create content that can have significant value (other than financial) to others. On several large medical platforms, users exchange medical information such as experience with treatments and medical drugs¹⁹; there are sites where people can exchange information on teaching methods²⁰ and in November 2008 the Dutch government announced plans to make financing available for Dutch educational professionals to draw up "open" teaching material²¹. There are also sites where agriculturalists make available information on farming, for example for the benefit of farmers in Third World countries²². Although this application of UCC is still developing, there seems to be great value other than direct revenues by selling content or by advertising.

This provides opportunities for applying UCC in the form of crowd sourcing in domains in which policymakers have set goals such as education, development aid and crisis management. As was indicated in Part IV, paragraph **Erreur ! Source du renvoi introuvable.** there is value-added in UCC that goes beyond generating revenues, for example in terms of developing skills, enhancing political

¹⁶ European Telecommunications Standards Institute

¹⁷ European Committee for Standardization

¹⁸ http://ec.europa.eu/information_society/newsroom/cf/itemlongdetail.cfm?item_id=4214

¹⁹ For example HealthBoards, PatientOpinion and PatientslikeMe

²⁰ For example Curriki, WikiEducator and CCLearn

²¹ *'Boven het maaiveld' – Wikiwijs* (2008), Speech by the Dutch Minister of Education, Culture and Science

²² For example Collecting and Exchange of Local Agricultural Content (Celac), Kenya Agricultural Information network (KAINet)

participation and inclusion. This value-added is difficult to measure by current standards and would require new ways of determining value.

4.2.4. Legal and policy issues

UCC platforms as well as users are currently confronted with some legal uncertainty regarding the scope and applicability of existing laws, such as audiovisual law, copyright law, e-commerce law or data protection law. Concrete guidelines which deal with such issues as the conditions under which UCC platforms and/or amateur users are considered as providing "audiovisual media services", "e-commerce services", "data controllers" or "hosting services" could all do much to improve this situation. Having more clarity in the near future regarding the question of when UCC platforms/amateur "broadcasters" qualify as audiovisual media services would help Member States to implement the Audiovisual Media Service Directive correctly. Similarly, the question of when UCC platforms qualify as hosts or users as data controllers could be addressed in the framework of the pending reviews of the E-Commerce Directive and the Data Protection Directive.

Another potential subject matter for the review of the E-Commerce Directive, or for a separate consultation, is the conditions under which UCC platforms qualify for the liability exemption for hosting services in the E-Commerce Directive. Here too, more guidance is needed, and further consultations could serve to help determine the nature of an appropriate solution. In the course of the review of the E-Commerce Directive, the legislator should also issue clear conditions for notice and take-down procedures, also taking into account the rights of users (transparency, proportionality of sanctions, counter notice and put-back procedures) and a more active involvement of users in detecting and notifying unlawful content. At present, the E-Commerce Directive relies in this respect predominantly on initiatives from the industry and self-regulatory solutions. Nonetheless, the existing self-regulatory solutions examined in this study fail to define adequate and comprehensive rules for notice and take-down, counter notification and put back procedures. In particular, they fail to involve consumers and their representatives in the process of drafting self-regulation, contrary to the requirements of the directive.

In the medium-term, the hosting rules in the E-Commerce Directive should be revisited in the light of new information intermediaries such as UCC platforms, online fora, auction sites and search engines, and in the light of a more active role of the user. In this context, the issues of how the shared responsibilities of users and UCC platforms for the lawfulness of contents, the protection of minors and user privacy could or should be given form and become an element of future legal or self-regulatory solutions need to be investigated too.

An issue of great concern for users, and especially for their protection, relates to privacy threats. It must be noted that in many situations the real problem in the adequate protection of user privacy is not so much the existence of gaps in the legal framework, but its application in practice. There is a need to scrutinise the privacy policies of UCC platforms more closely in the light of their obligation to properly inform users about the processing of their personal data and certain practices, such as sharing personal data with third parties or particularly intrusive forms of direct marketing such as behavioural advertising. Policymakers should, moreover, encourage platforms to develop user-friendly and yet accurate forms of informing users about the processing of their personal data. In addition, there are also gaps in existing data protection law that require attention, for example with regard to the protection of personal data of minors. These are issues that could be taken into consideration in such opportunities as the forthcoming review of the Data Protection Directive, as well as in the ongoing review of the ePrivacy Directive.

It is clear that amateur creators can provide valuable contributions to the existing media offering, and enrich it with artistic creations, critical news analysis, entertainment and discussion. As such, amateur creators deserve full support. This also requires a supportive legal environment. Policymakers should provide for more legal certainty regarding the rules that apply to amateur users. Ideally, the applicable legal framework must respond to the function and capabilities of amateur users. In particular, it should not lead to over-regulation. In this regard, it might be necessary to formulate thresholds or introduce other differentiating criteria. On the other hand, where amateur users perform similar functions and have a similar impact to professional users, policy makers must also consider to what extent reasons of fairness, free competition and protection of the interests of third parties make it necessary to treat such amateurs in similar ways to professional suppliers, with regard to both their obligations and journalistic or other privileges.

Policymakers should, moreover, consider the need to protect and support amateur users in their contractual relationship with professional suppliers. In particular, there is a need to develop guidelines and best practices regarding the extent to which users can be required by contract to transfer their copyright in favour of UCC platforms. On-going legislative developments at Member State level that aim at increasing the legal protection of authors in their contractual relations with producers should be closely followed. In addition, new solutions that would favour the production of transformative or derivative works might prove necessary and beneficial so that users can build upon existing works. At present, however, there is still considerable uncertainty as to how this objective should be best achieved. The on-going consultations on the European Green Paper on Copyright in the Knowledge Economy may provide valuable insights on the issue and could pave the way to a new solution.

Adequate solutions to legal problems need not always be legal ones. Technical solutions might be able to address some issues, such as certain privacy concerns or issues of unlawful content. Yet before mandating technical solutions, there is a need to examine the viability and limits of any such solution. Most importantly, technical solutions must respect the legal order and may not create new problems in terms of interoperability, access issues and exclusion, disabled users, private autonomy, security and privacy. Another alternative to regulatory intervention are self- or co-regulatory measures. The number of self- and co-regulatory solutions in the field of UCC is increasing. Policy makers should closely monitor the development of self- and co-regulation and whether these initiatives are viable and adequate. In this context, particular attention should also be paid to the way users and their representatives are involved in the self-regulatory process, and whether effective monitoring and sanctioning mechanisms are in place. An interesting question that merits further research is to what extent users can actually be part of effective solutions to legal problems, such as guaranteeing the lawfulness of UCC, protecting privacy or elaborating European policies with regard to the protection of minors. Finally, educating active users about their obligations and privileges under information law ("User's Guide to UCC"), and educating UCC platforms about the rights of users can also prove beneficial to the extent that legal obligations are clear and easy to understand.

4.2.5. Socio-cultural issues

UCC can provide a powerful tool for achieving great diversity in terms of content and viewpoints. Providing users with the means to express themselves will not only result in a wide variety of content that might have entertainment value or enable users to share their content with family and friend. It will also provide them with the means to voice their opinion on important issues. Again there are already many examples of platforms or communities where users attribute content on matters such as news, politics and activism potentially developing into a powerful way of putting across a viewpoint other than that from established sources. Besides giving people the opportunity to participate in discussions that are important to them, UCC can be viewed as an increase in pluralism, which is an important policy objective behind the regulation of media market.

This diversity in content and viewpoints not only translates into a diversity of platforms, services and communities, but also into the ability of users to express themselves or their (virtual) identity based on this myriad of individual platforms, services and communities leading to cultural fragmentation. This might make it more difficult to identify homogeneous groups of people who are bound by one specific culture. Although this aspect is not new to UCC and has, to some extent, always existed, it is strengthened by the opportunities offered by UCC, and the Web in general. Knowing this can enable policymakers to incorporate issues of cultural fragmentation in their policy, and even target specific groups of users, not by the whole of their cultural identity but by specific areas of interest. If active participation in education-related UCC is part of the identity of users, policymakers can address education policy through the platforms and communities that are available in this domain.

Active participation in online environments does present users with certain risks, as pointed out in Part IV, paragraph 0. Part of the risks stems from potential abuse of the personal information which users have to make available if they want to use platforms or services. Another part stems from the large amount of data which users make public voluntarily in the process of engaging in UCC. In Part IV, section 7.3 of the legal chapter the involvement of users as part of the solution is discussed extensively.

This would also involve educating users, not only on the threats, but particularly on the opportunities which UCC can provide them, thus promoting media literacy in the broadest sense possible. This involves providing those who have already incorporated UCC in their daily life (namely, the younger

generations) with the knowledge and skills to use it to the fullest potential. It further involves helping those groups that are less well at home in these new environments (such older generations, parents of the younger generations) to educate them on the possibilities of these new environments and to provide them with the skills to keep the younger generations safe.

There are already policy instruments in place that can be extended to deal with some of the issues mentioned. Media literacy policies are aimed at improving the skills and competences related to media. This concept of media literacy can be – and in many cases is already – extended to incorporate new media²³. The acquisition of these types of skills has already been established in many European curricula²⁴ and this can provide an excellent vehicle for also including new developments such as UCC. Moreover, there are examples of Member States having adopted rather active media literacy policies that include a responsibility for regulatory bodies. In the United Kingdom, for example, the media regulator Office of Communications (Ofcom) has the statutory duty to promote media literacy, including monitoring progress of media literacy²⁵.

4.2.6. Quality content issues

The extent to which the lack of quality of content is an issue depends on the purpose that is foreseen for specific types of UCC. As was pointed out in the interviews, it is expected that users will not be more creative, or better at content production, simply because of the availability of UCC tools. Indeed, this should not be a goal in itself. However, if the percentage of talented creative people is stable, providing more people with the means to get involved in UCC will potentially increase the absolute number of users that are able to provide high quality content. Moreover, as there are indications that UCC is starting to be incorporated in the activities of public and private organisations, the skills which people develop in informal settings might prove beneficial or even necessary for participation in social and political debates, and they could become more valuable employees.

It must be kept in mind that quality has several dimensions. In current discussions, quality is often focussed on the "money making" dimension, whereby content has sufficient quality for people to be willing to pay for it. However, there are more dimensions to quality that will be desirable or even necessary to strive for. To make UCC more relevant for traditional media, it will be desirable to have content available that has certain professional, creative or artistic quality. In other domains quality is a necessity because low quality might prove to be damaging. In news reporting, particularly when reporting on specific people or organisations, quality of the reporting in terms of, for example, journalistic principles such as "listening to both sides" will be necessary to prevent faulty reports and potentially resulting damage. Moreover, when dealing with UCC in other domains, such as medical information, faulty information can have severe damaging effects. Again, dealing with this will require a balanced approach of the right policy instruments, aimed at specific groups of users and educating users on quality requirements that are necessary in certain fields. This can be done through general education of users through the curriculum of schools and through targeted education via platforms and services. Here policy makers could cooperate with these platforms (or at least stimulate them) to draw up guidelines for content.

4.2.7. Future monitoring and future research

UCC is at its beginning, and this study has outlined the potential for a number of exciting new developments. These include the arrival of new business models, mobile UCC, greater participation of users in quality control, content monitoring and data protection, the increase in broadband capacities, innovative usages, and increasing participation in social and political debates. Moreover, this study was intended to provide a broad overview of technical, economic, socio-cultural developments, drivers, obstacles, implications and legal and policy issues. It identified various subject matters that would require further in-depth research such as in the fields of user privacy; protection of minors;

²³ This includes empowering users to critically assess online content, extending digital creativity and production skills and encouraging awareness of copyright issues, inclusion and awareness of tools to find content such as search engines. European Commission: *A European approach to media literacy in the digital environment* (2007). COM(2007) 833. Brussels.

²⁴ *Current trends and approaches to media literacy in Europe* (2007), study for the European Commission. found at: http://ec.europa.eu/avpolicy/media_literacy/studies/index_en.htm

²⁵ Section 11 of the Communications Act December 29th, 2003. found at: http://www.opsi.gov.uk/acts/acts2003/ukpga_20030021_en_3#pt1-pb4-l1g11

business models; the contribution of users to the realisation of such public policy goals as diversity and pluralism; bridging the digital divide and a safer user environment; competition issues; technical solutions; and the relationship between established and new media, including UCC. Other important issues that should be researched further are the impact of UCC in different private and public domains; the actual use of services by users and citizens; and new models for determining the value of new developments such as UCC or social computing. It should be noted that many of these issues are part of broader issues and should accordingly be seen and studied in this context.

5. List of acronyms used

3D	Three Dimensional
3G	Third Generation (of mobile telephony)
ADSL	Asymmetric Digital Subscriber Line
API	Application Programming Interface
AVMS	Audiovisual Media Service
AVMSD	Audiovisual Media Services Directive
CBIR	Content Based Image Retrieval
CC	Creative Commons
CCi	Creative Commons International
CD	Compact Disc
CEN	European Committee for Standardization
COPPA	Children's online Privacy Protection Act
CPI	Code de la Propriété Intellectuelle
CPM	Cost Per Mille <i>or</i> Cost Per Thousand
DAB	Digital Audio Broadcasting
DMCA	Digital Millennium Copyright Act
DRM	Digital Rights Management
DSC	Digital Still Camera
DVD	Digital Versatil/Video Disc
DVR	Digital Video Recorder
ECD	E-Commerce Directive
EPG	Electronic Programme Guide
ETSI	European Telecommunications Standards Institute
FTTx	Fiber to the x
GFDL	GNU Free Documentation License
GNU-GPL	GNU General Public License
GPRS	General Packet Radio Service
GPS	Global Positioning System
GRIFS	Global RFID Interoperability Forum for Standards
GSM	Global System for Mobile Communications
HD	High Definition
HSDPA	High Speed Downlink Packet Access
ICT	Information and Communication Technologies
IDABC	Interoperable Delivery of European eGovernment Services to Public Administrations, Businesses and Citizens
IP	Internet Protocol
IPTV	Internet Protocol Television
ISP	Internet Service Provider

IT	Information Technology
MMS	Multimedia messaging service
RFID	Radio Frequency Identification
RSS	Really Simple Syndication
SaaS	Software as a Service
SME	Small and Medium Enterprise
SNS	Social Network Service
SOA	Service Oriented Architecture
SSL	Secure Sockets Layer
STB	Set-Top Box
ToU	Terms of Use
UCC	User-Created Content
UGC	User-Generated Content
UMTS	Universal Mobile Telecommunications System
URL	Uniform Resource Locator
USB	Universal Serial Bus
UV	Unique Visitor
VOD	Video on Demand
WiMAX	Worldwide Interoperability for Microwave Access
WLL	Wireless Local Loop