

Internet-Based Amateur Video Delivery: The Users and Their Requirements

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Abstract

New technologies and inexpensive gear are about to create an explosion in the number of amateurs creating digital video content. In this paper we identify and discuss factors that affect the perceived goodness of video delivery platforms for amateur video distribution. The work is based on an analysis of amateur video producer categories and the types of videos that are created.

We first discuss people's skills and motives to shoot and consume videos and categorize the amateur video producers accordingly. Once their work is done, people wish to present their video to some audience, either small or big. We discuss what characteristics are needed from a good Internet-based delivery platform in order to satisfy different categories of amateur video producers. The characteristics include technological, sociological, and marketing aspects. We stress the importance of creating a sense of community in a delivery platform. This would compensate for the loss of a physical meeting and learning space that has happened due to the proliferation of inexpensive video creation tools that enable people to work on their own at their homes. Finally, we discuss the mobile future of the delivery platforms.

1. Introduction

Not long ago, when video equipment was very expensive, the average amateur video shooter barely could afford a camera. For the editing work he had to go to video workshops that were upheld by groups of enthusiasts and often sponsored by the community, schools or similar. The workshops might also have other

gear, such as lights, microphones, and good quality cameras for the members to borrow. In these workshops, communities of video enthusiasts were easily born. People could share their interest with kindred spirits, learn from each other and enjoy the company.

As digital video shooting and editing equipment are becoming increasingly inexpensive they have become affordable also to the amateur users. The downside of this development is that it has largely killed the live communities of video enthusiasts, as they no longer need to go to the workshops for editing and equipment. Missing the communities, the video amateurs no longer can enjoy the social interaction and learning from each other. As will be discussed in this paper, this void can be filled with new technology that enables virtual communities ([1]) to emerge.

Inexpensive gear and their ease of use create an explosion in the amount of video material to be produced in the near future. Digitalization also opens new possibilities to the delivery of the material. Via the Internet even amateur videos can reach people all over the world. So far, this has mainly happened via personal home pages but also more organized Web sites for amateur video delivery have emerged. Different people have different needs and reasons to film video material. Accordingly, they also have different needs and motives for the distribution of their material.

In this paper, we identify and discuss factors that affect the perceived goodness of video delivery platforms for amateurs. We divide the amateurs into user segments according to their motives and skill level. We discuss the varying needs of these user segments and how they could be met from the point of view of a delivery platform service provider. If most of the user needs are met, the

site offering the delivery platform can become the focal point of an active virtual community.

2. Background of the research

The results of this research are based on various ethnographical studies we have conducted on amateur filmmakers. We have studied the use of video camera among various user segments, including short filmmakers per se but also people that are active in some other hobby and like to create videos about their hobby. These hobbyists include skateboarders, snowboarders and teenage horse aficionados [2], [3], [4], [5]. The forms and needs of these communities are changing fast along with the possibilities offered by new technology, and research like ours represents a snapshot of this continuum. The same has been noted in [6]. Our projects that are discussed in this paper were all done in the year 2002.

One of the authors of this paper is the project manager for Pixoff.net [7], a fast-growing, Internet-based delivery platform for Finnish short film - both professional and amateur. The site currently (September 03) includes over 200 films and 2200 registered members and is supported e.g. by the government and several major companies.

Our research methodology has varied in different projects and has included combinations of the following:

- Contextual inquiry and design [8] including observation and interview in context. Details of the research process and methods used in our projects have been described in [2], [3], and [9].
- Storytelling, as described in [10].
- Analysis of related Web content and interaction, as described in [2] and [5].
- Empirical experience.

3. Categorization of Video Amateurs

Different people have different needs and reasons to film video material. Also, some are more skilled and enthusiastic than others. Accordingly, based on our research, we have identified two dimensions of categories for video amateurs: Skill categories and Motivation categories. Although we focus on amateurs, we have included professionals as a reference group in our skill categorization.

We ended up with two dimensions because people with different skills can belong to different motivation categories, depending on the context. A professional film director may not always create commercial feature films but might, for example, shoot a private video from a family gathering.

In the following, the subcategory names are written in *italics* for clarity.

3.1 Skill categories

We have analyzed the skill levels of amateur video makers and come up with the skill categorization presented in Table 1. For each category, we have analyzed their background and relationship with making videos. In "Training" we describe the typical education each skill level has. We also have analyzed what are typical funding, delivery platforms and the equipment used in each category.

A *professional* earns his living from the field of audiovisual media. He might e.g. work for some production company. He may also fund the shooting with scholarships.

The *professional's* achievements can be seen on TV or at film festivals. They have the education for this field, are registered as professionals and often belong to an association. The productions are done in teams of professionals with top quality equipment.

Semiprofessionals work in the field but do not earn a full living from it. Students of films schools are included in this category. They are often future professionals. A *semiprofessional* gets occasional funding for his (school) productions. The equipment used often belongs to their school.

Semiprofessionals form production teams together or with friends or hobbyists. They edit the material at home or at school. Typically the films are distributed via their school but occasionally via festivals or TV. Also the Internet may be used for distribution. The production is rather coincidental but the planning of each production is quite efficient and rational.

A *hobbyist* has video making as an active hobby. He pays for his hobby by himself, with possible "sponsoring" from parents and relatives. He may belong to the video club of his school or community. He may form a production team with other *hobbyists* but more typically does it all by himself. The equipment is mainly his (family's) own and rather inexpensive. Occasionally there might be sponsoring also from video clubs or other organizations.

Videotapes and the Internet are the main delivery channels for the *hobbyist*. His production team or club has their own home page where they upload their work. Often they use platforms like Pixoff.net [7] (as do also the *semiprofessionals*). Occasionally, depending on the style of the produced material, small cable-TV channels may offer a chance for a wider distribution in their "viewers' video" programs. The regularity and schedules of productions highly depend on the *hobbyist's* situation in life, i.e. work, relationships, and school often hinder these activities. Thus, planning a production is much less rigorous than it is with the *professionals*. The *hobbyist* may dream of becoming a *professional* or otherwise working in the field.

Table 1. Skill categories of video shooters

	Casual shooter	Amateur	Hobbyist	Semi pro	Professional
Training	No training	None or self-learned	Self-learned or some courses	Professional education (not graduated)	Graduated from film or art institute
Funding	Own	Own	Mostly own. Minor sponsoring or rewards	Part-time salary, festivals, small sponsoring or scholarship	Monthly salary, foundations, investors, etc.
Distribution	Home video on VHS, CD	Home video, own home page	Cable channels, festivals, home video, home page	Festivals, TV	TV, Cinema
Production	Alone, no editing	With friends or alone, little editing	Production team with friends: separate roles in team. Edit at home	Production team of semi pro's. Edit at home or school	Production company. Team of professionals
Equipment	Family/own camcorder/camera phone 200€-700€	Own camcorder 500€-1000€	Camera, microphones etc. 1500€-3000€	Camera, lights, mics etc. 3500€-10000€	Studio, editing board, etc. 10000€ ->

An amateur shoots for his own fun. He has learnt tricks of the trade from the video magazines and the Internet. His education and profession (if he has one) can be anything. He gets no financial support, let alone payment for his work. He seldom teams with others in a production but edits the material himself on his home PC, that is, if he does any editing at all.

The delivery platform is limited to videotapes, own home page and email that are used for distributing the works for a small audience. The *amateur* differs from the *casual shooter* (see below) in his methodicalness and willingness to try out new things. The *amateur* also spends more time and money for his hobby than the *casual shooter*.

A casual shooter shoots on impulse. He shoots for the "family album". He takes his camera to family occasions, holiday travel and similar occasions. A *casual shooter* has no training whatsoever for filming, and actually he is not even very interested in spending time for learning. On the other hand, he might be very interested in the latest equipment technology such as camera phones. The camera phone might well become the most popular piece of shooting equipment for the *casual shooter* since it is handy for taking "snapshot videos".

Casual shooter hardly ever edits his videos because it takes too much time and effort. Picture and sound quality

or composition are not of primary importance. It is important that you can recognize who is in the picture (or explain this when showing the video). The material is restricted to own and family use.

3.2 Motivation categories

The motives of video shooters are examined in Table 2. In the table, the row "Minimum resources" identifies the minimum equipment that the people need in order to shoot target level material. "Delivery platforms used" identifies how in each category the material is distributed. "Copyright" examines how each category obeys the copyright laws. "Material recorded" lists the typical type of material each category produces.

In *Commercial* use a typical motive to do the work is that a customer has ordered a custom job to be done. An agreed amount of money is paid for the film maker(s) who then delivers the finalized material. Some examples of these are advertisements, music videos, and educational videos. A person doing a custom job has to have already some experience and name before anyone would hire him. He also has to have top quality equipment in his use. The delivery channel for this category is mostly TV.

Table 2. Motives for video shooters

Target use:	Own & Family use	Friends	Hobby	Publish	Commercial
Motive	Own enjoyment, family mementos	For friends	To support another hobby	For publishing and reviewing	Custom job, reward, career
Minimum resources	Video camera, camera phone	Video camera, camera phone	Video camera, camera phone	Video camera	Professional gear
Delivery platforms used	Own videos, home page, camera phone	Videos, home pages, camera phone, email	Club, community, or association homepages; Cable-TV	Short film delivery platforms of the Internet, festivals	TV, cinema
Copyright	Seldom obeyed	Seldom obeyed	Not usually obeyed	Usually obeyed	Always obeyed
Material recorded	Travels, family occasions, good moments and mementos	Occasions together, travels, good moments and mementos	Achievements, games, matches, targets of interest	Short Films (drama, comedy, action, demos, trials)	Ads, docs, music videos, (short) films

Commercialism also binds the user to obey copyright laws. The productions of this category are often seen in public, e.g. on TV or in movie theatres. Copyright law is enforced and penalties are severe.

Publish category includes video shooters that do not seek financial benefit but want to learn and gain new experience. The productions may, however, help get credibility in the professional circles and thus help get work orders. These productions may include work submitted to a competition at a short film festival, music video for a start-up band, or a short film published via Pixoff.net or similar non-profitable delivery platform. The Internet is widely used by the *publishers* as a delivery channel.

The official channels (film festivals, Web sites, etc.) are bound by the law to take care of the copyright issues. Unofficial delivery channels in the Internet are not well controlled, however, and malpractice happens.

Hobby category includes productions that support some other hobby of the user. For example, snowboarders and skateboarders like to record the tricks they perform. The *hobbyists* may belong to a virtual community where the video material is made available to the others (e.g. Nolla.net for Finnish skateboarders and snowboarders [11]). Many small cable TV channels show weekly programs where the viewers can send their own videos for showing and criticism. Major broadcasting companies also have started to show these types of programs, including "funniest home videos", "wedding catastrophes", and skate tricks. Finland already has a program where one can send pictures taken with a camera

phone. At the moment, these are still pictures but it is only a matter of time when they will include moving images as well.

Paradoxically, videos of the *hobby* category often gain more publicity in the media than those of *publish* category, although the quality and content in the *publish* category is significantly better. The *hobbyists* would like to get feedback on how good the tricks are that they have captured on the video. They are not that interested in the quality of the video itself. In the *publish* category, the quality of the video material and the editing work are very important.

Copyright issues arise when a video clip makes it to a commercial forum such as cable TV. Often royalty-free music is used in *hobby* videos since this also is a prerequisite for getting the film on TV etc. If the aim is to distribute the video only within the virtual community, copyright issues typically are ignored.

Friends are people one knows in person and who shoot and send videos to each other mainly just for fun. Most of these videos stay within small circles of people, but via email some exceptionally interesting clips can spread fast around the world. In the future, a majority of the clips may be taken with a camera phone and circulated as multimedia messages in telecom networks as well as in the Internet. It is quite likely that some kind of public video storages become popular among *friends*. There they can store funny incidents, travel videos, and other interesting shots that they want to share with others.

To view the videos, anyone can connect to these video storages via cellular phone or home computer. Or, the

storages can be protected with a password so that only the registered users can see the content.

Friends do not care much about copyright. Copyrighted music and videos are used and edited at will. Camera phones bring forward many ethical questions since they are good for eavesdropping and paparazzing as well. In the near future a massive amount of (semi-) illegal material will be created and enforcing the copyright laws will be virtually impossible in many cases.

In *Own & Family* category people shoot material for the enjoyment of themselves and their families. Typical topics are family occasions, holiday trips, and other events that are nice to remember. The videos are watched at home with own VCR and are not intentionally distributed elsewhere. They may, however, spread further unintentionally, or even on purpose by somebody else. A recent example of the latter case is the so-called "Star Wars Kid" video. The video, which is obviously not for public consumption, shows an overweight teenager fighting a mock battle with a toy lightsaber. Some kids from the boy's school had gotten hold of the video and uploaded it to the Internet. Now the video has spread all over the world. It has been downloaded probably tens of millions of times. [12]

Copyrights may be violated when adding music to the video but because the videos are for own use the violation is not very serious. Consider, however, the danger that the video for some reason becomes an underground hit and gets widely downloaded, as happened to the above-mentioned "Star Wars Kid" video.

The people in the *Own & Family* category hardly ever edit the video material because it takes too much time and energy to enter into. Image and audio quality are not of primary importance. For these reasons, the *Own & Family* category is the most likely one to widely adopt camera phones as the shooting and viewing platform (also, most *casual shooters*, who are likely adapters of camera phones, belong to this category). A prerequisite for this, however, is that improved delivery platforms exist in the Internet or in the telecom networks. The requirements for these platforms are discussed in more detail in the following chapter.

4. Providing the Delivery Platform

As discussed above, video amateurs are not a homogeneous group but include different subgroups with different interests. This makes the question of platform provider a complex one. Not one single solution can fulfill all the needs of the amateur filmmakers. What is wanted from the platform depends greatly on the motivation category (see Table 2), much more than on the skill category of the shooter (Table 1). The *casual shooter* may sometimes shoot a video he wants to publish widely

(e.g. in a "funniest home videos" program) although he usually wants to show his videos only to the family and close friends. Similarly, people in other categories may wish to share some videos widely and keep others for themselves. For the *hobbyist* it is important that the delivery site would also include other services related to his hobby, such as news, articles, and discussion. For the *publisher* it is important to get feedback from others as well as to get his "15 minutes of fame".

Of course, virtually all users want ease of use, reliability and cheap or free service. None of the user groups is willing to pay much to get their films to the public. On the contrary, especially the *publisher* would not mind earning money with good videos. However, more so than money, the biggest motivation for most amateurs is the publicity - regardless whether the audience is one's own family or "the whole world".

Earning money with amateur videos is a tricky task for both service provider as well as the creators of the videos. As long as paying small amounts of money in the Internet is not easy, it is very hard to earn money with such site. Even if it would be easy to charge small amounts it would be hard to make people accept it. As long as the Web includes sites that do not require a fee for watching videos (even if they weren't that high quality) it would be very hard for a site to make people pay for watching them. The users should be convinced beforehand that the material is worth the payment. This is a hard, although not impossible, task to accomplish. The service provider has to be able to create for the service a brand that the users trust and are willing to pay for. The following factors all affect the brand:

1. *Ease of use*. This includes such usability issues as good UI, logical site structure, site map, and search engine. In this category we also include certain basic functionality such as FAQ and contact information.
2. *Good technology*. The site should be able to deliver good quality material fast, reliably and in a variety of formats.
3. *Related extra content* makes the site more interesting and helps the user learn and get more out of his hobby. For the *hobbyist*, such important extra content includes chat, guest books, links to related sites, articles, equipment tests etc. The *publisher* would appreciate peer reviews of his and others' films, etc.
The right type of extra content can help the user feel that he "belongs here". This feeling of belonging is essential for a virtual community to succeed, as is discussed later in this chapter.
4. *Advertisements, sponsors and sales*. While these can be a good addition to the services provided by the site (i.e. the user learns of new products and can buy them), pushing too many ads and other extra

material to the user might cause great annoyance. However, the income from advertisements might keep the site alive and leave the service provider no other choice but to have them on the site.

5. *Handling of copyright issues.* There are many ways to handle these issues, and their importance heavily depends on the motivation category, as was discussed previously (Table 2).

The feeling of belonging is the key to the success of a virtual community [1]. The users have to feel that "this is our thing". According to [13] the key factors to achieve this feeling are:

1. *Satisfying needs.* The community should satisfy the needs of the members.
2. *Openness.* In a good (virtual) community, the members are open to each other.
3. *Interaction.* The members actively interact, sharing information and affecting each other.
4. *Shared emotions.* The members may share their personal experiences such as weddings, funerals, illnesses, and success stories.

How, then, can these factors be implemented in practice when constructing the service? By letting the future users take part in the development work [14], [15]. This can be done, for example, either by letting the users be responsible actors in the design process (as in so-called "Scandinavian approach" [16], [17]), or through consultative participation, where the designers use the users as information sources, but make the design decisions by themselves [18], [19]. The users should be allowed to scrutinize all aspects of the service and to influence its development. If they feel they are part of the team constructing the site, they will not complain that the service is incomplete or has faults. Instead, the target group becomes very much committed to the community since it was "built by themselves". Also, there is no need for expensive market analysis of the language and style of the user group since the service automatically reflects their usage patterns as well as their content and technology bases.

An example of successfully using this approach is a site for the development of a new online multiplayer game, found at [20]. The site has actively involved interested Web users already a year and a half before releasing the game. The game developers report on the development status, ask feedback on open issues, arrange beta tests etc. This not only improves the product but also creates a large customer base for it long before it is ready.

5. The Future: Mobile Networks?

Already, tens of millions of phones and PDA's with integrated still cameras have been sold and the number is rapidly increasing [21], [22]. Similarly, mobile devices

with video capability will become common in the near future. Films that were created with traditional equipment can be viewed with these devices as well, although not necessarily as fluently as from TV or big screen. The viewed films can be stored on the phone memory but also in a server on the telecom network or in the Internet. The number of video amateurs will vastly increase. People will carry the devices all the time and shoot in new contexts. For example, a bystander photographed an armed bank robbery with a camera phone in Turku, Finland in 2002.

The mobile environment also creates new genres and forms of moving image. Multimedia Messages (MMS) with still and moving images are very different in nature from the traditional short film or amateur video [23]. Inspired by the new, unexplored possibilities, Tampere Film Festival [24] organizes an annual competition for micromovies, i.e. movies that are specifically meant for viewing from the small screen of a mobile device. Last year, Pixoff.net took another step further by arranging a screenwriting contest for mobile devices. Among the 110 received works there were many ideas that innovatively integrated functionality of the mobile devices (such as positioning, calendar, or MMS) and their physical characteristics into original scripts. For example, user interaction with the device could influence the story of the film in real time.

The new mobile technology will affect virtual communities. Anytime and anyplace access will make the members of the community more active in viewing the films, chatting, reading articles etc. It is no longer necessary to carry along videotapes, CD-ROMs or DVDs and find a device to show them. The films can be downloaded and viewed anytime and anywhere. For the Publisher, it is possible to reach even wider audiences than via the Internet alone.

In practice, although on-line technology develops fast, issues such as network bandwidth, image quality, screen size, and service price will keep other delivery formats alive also in the future. But the importance of mobile and online interaction will increase.

One big problem currently in the Internet is how to pay small amounts of money e.g. to the author. Telecom networks already have efficient billing mechanisms in place. This opens new possibilities for the delivery platform sites to collect, say, 3 cents per watched movie.

6. Discussion

Different subcategories of amateur video creators can all exploit the Internet as a delivery platform for their work. For the most enthusiastic subgroups it can offer much more. The virtual communities that have formed at certain sites continue the tradition of the now almost

extinct video workshops as social and educational meeting places for the video enthusiasts.

For some, the audience they are seeking are just a few close people, e.g. friends or family members. For those who wish to publish to a wider audience the Internet is a two-folded thing. On the other hand, it is easy to publish one's own work. On the other hand, it still is very hard to attract the audience due to information overflow: there simply are too many sites in the Web and the content in the majority of them is of poor quality or uninteresting. It is very time-consuming to surf the Web for good new sites. Thus, people tend to search for the same names that are familiar from the old media. [15]

It is not enough for a service provider to find good quality material and to create a Web site with all the basic and extra properties that attract people. The user faces great challenges in filtering the data and finding the right places in the Web. How does one find things that most interest him? What brands, channels, and content community members recommend to each other and how do they inform outsiders about the content. Why would the people come back to a site over and over again?

When starting up a delivery platform, it is important to understand that the people wish to identify themselves with various existing subcultures. The same person may be active in many virtual communities at the same time. A growing number of the video amateurs operate as "hybrid actors": they are not satisfied with only one role but act as a consumer, artist, developer, user and content creator at several sites. These factors should not be ignored and a site should enable the existence of a variety of subcultures. This may lead to conflicting requirements for the site structure and content. A solution to avoid this problem is to make the page structure of the site follow the structure of the user subcategories [2]. The user can then easily find all that interests him from a certain subsection of the pages. This enables the service provider to reach big masses but maintain the distinctiveness that makes people feel they belong.

A new site should not just try to cannibalize or compete with old sites. On the contrary, it is important to operate as a strong node in a network. Link lists to other good sites make people come back.

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