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Social Live Streaming tools for the development of Virtual Workshops

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Abstract

The increase of Social Media on the Internet has brought an unprecedented revolution which has changed the existing social communication systems to date. Currently, a high percentage of population in the developed world has a smartphone with Internet connection that allows being permanently connected. This enables new ways of approaching some types of tasks that have traditionally required of simultaneity in space and time, such as the development of creative proposals by a large number of people.

Technological advances have allowed, in a relatively short period of time, the size reduction of a computer to today's mobile devices. Among the multitude of specifications offered by next-generation devices, the continuous evolution of the imaging capture systems is a highlight. The existence of both front-facing and rear cameras, both capable of taking pictures or record video has become widespread in the majority of mobile devices.

This paper proposes the use of Social Live Streaming Tools in mobile devices in order to facilitate the development of creative workshops, using the virtual territory as a co-creation area with the aim of promoting one-to-many communications, so that a lecturer can perform a mass communication, in real time and delocalized, without losing the possibility of interacting with the audience. These tools also allow the possibility for each member of a creative team to swap between different roles (viewer at some times or lecturer at others), thus stimulating the creative process through social participation.

Keywords

Social media; virtual workshop; creativity; live streaming; co-creation; social learning.

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1. Introduction

The arrival of Web 2.0, about a decade ago (O'Reily, 2006) made users change from passive agents into active elements of the system, so being called *Prosumers* (Adell, 2012; Ritzer, 2013). This fact has led to a virulent evolution of a great number of Internet-based social communication platforms, commonly known as *Social Media* (Couldry, 2012; Ponce, 2012).

During the last five years, *Smartphones* have also joined this revolution. This has been feasible thanks to the increase of processing capacities of this type of devices and the appearing of several applications or *APPs* (mostly free) which have increased their utility range, as well as with the democratization of mobile data rates. Thus, a huge number of users are permanently connected to the Internet and, consequently, to their social, personal or professional circles (Telefonica, 2016).

This permanent connection between users encourages the development of collaborative creation processes among a great number of users, by using *Social Media* as social communication platforms (Cenich and Santos, 2006; Chulvi et al., 2016). This trend has also been used in educational frameworks by means of *Massive Open Online Course (MOOC)* (Cormier, 2008; Downes, 2013; Siemens, 2013), trying to expand the range of a local educational action towards an open and massive space.

The incorporation of image capturing devices in Smartphones has also contributed to a change in the paradigm of social communication. Currently, almost every Smartphone has one or two high definition cameras, capable of capturing both high quality steady images and video sequences, either of the own user (selfies, video conferences, video calls… by using the frontal camera) or third parties' (by using the rear camera). Thus, audiovisual media have been incorporated as native and usual elements of social communications.

In this sense, some platforms allowing the broadcasting of live videos throughout the Internet have been recently developed for Smartphones. They use an *APP* to record the

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videos and a general-interest *Social Network* to notify the potential audience of their broadcast. This feature is known as *Social Live Streaming Video*.

2. Aims of this work

Here, it is proposed the use of *Social Live Streaming Tools* in mobile devices (Rugg and Burroughs, 2016; Stewart and Littau, 2016) as a way of organizing and developing *Creative Workshops*, trying to make the most of the virtual territory as a *Co-Creation* space (Prahalad and Ramaswamy, 2004; Sanders and Simons, 2009). The aim in doing so is adapting the usual organizational structure of a creative *Workshop* to the new social and educational paradigm.

So, the analysis of the new possibilities that *Live Streaming* offers as a *one-to-many* communication tool, taking into account features such as the possibility of avoiding interaction limitations with the event's audience or of considering rotating roles, thus enabling every spectator, or group of spectators, to develop the role of *Lecturer* at a certain moment. In this way, massive real time and delocalised communications among a high number of creative professionals could be favoured, thus enhancing creative processes and social participations in a work group (Hart, 2011).

The methodology proposed in this work, which has been devised focusing in the development of massive *Workshops*, could even have an application not only in creative fields but also in educational ones, thus enabling a displacement from the traditional academic approaches towards *Informal Learning*. In this sense, Baser et al. (2013) define *Informal Learning* as a continuous learning process that happens throughout life.

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3. Methodological Proposal

Prior to define the methodological steps of the proposal, a preliminary analysis of the various available technological tools that are capable of enabling the development of *Creative Workshops* would be required.

3.1. Preliminary analysis of Live Streaming Tools

Two types of tools, close to the concept of *Life Streaming Tools*, which could be useful for developing *Creative Workshops*, may be differentiated: video conferencing tools and video streaming tools.

3.1.1 Video Conferencing Tools

These tools allow bidirectional communication between a limited number of users, in a way that all of them can see and listen simultaneously the other ones. In order to establish a communication, there has to exist a previous relationship between the users. Examples of this type of tools are the following:

- **Google Hangouts** (https://hangouts.google.com/). It allows the simultaneous connection between ten (Smartphone app) or fifteen users (web platform). The broadcast quality is very good and this system pioneered free group video conferences.
- **Skype** (https://www.skype.com/). It allows the possibility of establishing video conferences between twenty-five users. This is one of the most extended communication tools, actually under property of Microsoft. (https://www.microsoft.com/).

3.1.2 Video Streaming Tools

V*ideo streaming* tools allow unidirectional one-to-many communication. They differ in the way the broadcast is accessed and the emitter's feedback possibilities. The following ones are examples of this type of tools:

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- **Google Hangouts On Air** (https://hangouts.google.com/). Apart from the video conference features, the Google Hangouts tool allows streaming broadcasts by means of the service *"Hangouts On Air"*. This tool has the peculiarity of requiring receiving an invitation from the emitter to be able to access the broadcast. Usually this is done by means of the *Timeline* of the Social Network Google+ (https://plus.google.com/). Once the broadcast ends, it remains recorded in the Youtube (https://www.youtube.com/) channel of the emitter, so it can be subsequently viewed by the rest of receivers.

- **Facebook Live** (https://live.fb.com/). It allows live broadcasting from the own *Facebook APP* for Smartphones, with a maximum time length of ninety minutes. Once the broadcast ends, it remains published in the emitter's *Facebook* profile.

- **Ustream** (http://www.ustream.tv/). This application, under property of the multinational *IBM* (https://www.ibm.com/), is one of the first *video streaming* platforms acting from a Smartphone *APP*. There is a basic trial version, as well as an advanced one (*Ustream Pro*) with different price plans according to the offered features and the amount of viewer hours.

- **Livestream** (https://livestream.com/). Formerly known as *Mogulus*, it allows the creation of a television channel on its own for live broadcasting. It has a Smartphone *APP* which allows broadcasting from anywhere.

- **Bambuser** (http://bambuser.com/). This application allows video streaming both from Smartphones and from computers.

- **TwitCasting Live** (http://es.twitcasting.tv/). It allows live video broadcasting from a Smartphone, while using *Facebook* or *Twitter* (https://twitter.com/) to notify the broadcast airing to followers. It is possible to receive the broadcast via *TwitCasting Viewer*.

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- **Periscope** (https://www.periscope.tv/). This popular tool allows video streaming via a Smartphone *APP*. At the beginning of the broadcast, it is published at the emitter's *Twitter* profile, thus enabling followers to join the live transmission. Once the broadcast ends, it remains registered in the *Twitter* timeline, as well as in the emitter's *Periscope* channel. This application also allows spectators' interaction by means of text messages that appear on the screen. This way interaction is enhanced not only towards the emitter but also among all the broadcast receivers.

- **Meerkat** (http://meerkatapp.co/). This tool, also very popular, allows live video broadcasting from a Smartphone and notifies the broadcast airing to followers via *Facebook* or *Twitter*, as well. This is currently *Periscope*'s direct competitor, in terms of audience and popularity. This tool also allows spectators' interaction via text messages shown on the screen, in a similar way *Periscope* does.

3.2 Proposal of a Live Streaming Tool

After analysing the current main streaming tools, *Periscope* is considered as the most suitable tool for developing *Creative Workshops* (Siekkinen, Masala and Kämäräinen, 2016). Therefore our methodological proposal will focus on this application taking into account the features that would help achieving the various objectives that are intended with de development of this type of activity: massive real time and delocalised communication and interaction among participants, and dynamic roles definition, in order to obtain a final co-creative result.

On a first step of this choice, video conferencing tools have been ruled out as they are limited to a concrete number of users, which also need a previous relationship between themselves in order to start the interaction process.

Regarding the video streaming tools, *Periscope*, apart from having a high number of active users, is spreading fast, so it is easily accessible to prospective users. In this way, it can easily increase the potential audience of any planned event.

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Moreover, its linkage with *Twitter* allows followers in that social network participating in the workshop as lecturers to receive a notification in their *Timeline* at the beginning of the broadcast, or to access later to the recorded contents.

Twitter also allows identifying each publication with one or many labels, created by users, known as *Hashtags*, which are identifiable by starting with the # symbol. Thus, all the publications concerning the same creative event could be easily identified by using a specific label/hashtag (for instance, #EduReWorkshop16).

Another interesting point about the use of these technologies consists of the existence of tools that ease the tracking of an event, or of diverse topics of interests, based on *Hashtags* (#hashtag) or, even, on specific users (@user). In this sense, *Tweetdeck* (https://tweetdeck.twitter.com/) is a *Twitter* client that allows tracking of various contents and concepts by means of a very intuitive system of thematic columns.

Therefore, this application can easily make the most of the *PLE* (Personal Learning Environment) (Norman, 2008) of every creative participating in the workshop, allowing some, or many, of their followers to be added to the massive event, thus yielding to a *PLN* (Personal Learning Network) (Adell and Castañeda, 2010).

These concepts are intimately linked to the *Connectivism Theory*, which states learning can reside outside us and focuses on connecting specialized information groups and in considering rather more important the establishment of good connections than our current knowledge state (Siemens, 2004).

From that point of view, the extent of the event can grow exponentially, by mainly including spectators who are interested in the topics or background of the event, plus some spontaneous lecturers who might decide to participate in a more active way in it, either individually or collectively.

Finally, another good point of the use of *Periscope* is that this application allows accessing the active broadcasts from a map. In this way, it is easy locating the place where all

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broadcasts regarding the *Virtual Workshop* are taking place, thus enabling a visual sample on its extent.

3.3 Workshop Development Considerations

For the development of the *Workshop* itself, different aspects should be taken into account:

- **Event Organization.** An organizing committee has to be created to sort out the topics of the event and publicize it throughout social media, taking advantage of their close and potential contacts.
- **Event Promotion.** Prior to announcing the event, a positioning strategy could be developed. To do so, it can be used the same means as the ones that are planned to be used as a spreading platform of the event: the *Social Media* (García-García, Felip and Royo, 2016; Pérez Ortega, 2006). It could be interesting the creation of specific web spaces, such as a blog, or a *CMS*-system based web. This space can even act as a neuralgic point in which the study cases could be presented, place *News Feed* according to the *Hashtags* of the event or link to the resulting broadcasts related to the workshop.
- **Users' Sign In.** All users interested in participating in the event should have an active *Twitter* account in order to follow it. It could also be interesting to have the *TweetDeck* application for *Google Chrome* web browser installed on a computer, so it could ease the tracking of the whole event.
- **Apps Installation and Smartphones Configuration.** Only the users, or groups of users, willing to participate with any kind of communication or lecture should have a Smartphone capable of admitting the installation of the *Periscope APP* in order to live broadcast.
- **Case Approach.** The organizing committee would expose the study cases by means of diverse *Tweets* and an opening broadcast where the *Workshop* would be presented. In order to link all the interactions regarding to the event, an official

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Hashtag would be proposed (#EduReWorkshop16), so that all the comments and transmissions from the rest of participating users could be easily tracked.

- **Schedule of Sessions.** In order to be able to live interact with the lecturers of each broadcast, notifications with the scheduled transmission time would be published in advance. They should include an emission notification *Hashtag* (#EduReWorkshop16Live) so that locating the programmed sessions could be eased.
- **Event Conclusion.** The event would conclude with a final broadcast from the organizing committee, commenting on the different actions carried out and extracting the main conclusions of the workshop.

3.4 Assessment of the Virtual Workshop

After finishing the event, an assessment of its functioning and the generated activity would be developed. This could serve as a way for measuring not only the results of the workshop but also the suitability and effectiveness of the proposal as a tool in order to boost the collaborative development of *Creative Workshops*¸ from a point of view either professional or educational.

The assessment of the event could be based on a series of *Indicators* that would have been defined prior to the development of the workshop, mainly focusing on the generated interventions and aspects such as:

- **Broadcasts.** Number of spontaneous broadcasts from users participating in the event.
- **Live Spectators.** Number of spectators that have followed the event live.
- **Deferred Spectators.** Number of spectators who have viewed the transmissions after they ended, either until the end of the event or after that moment.

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- **Comments on the Broadcasts.** Number of comments that have been made during each of the transmissions.
- **General Comments on the Event.** Number of published *Tweets* showing any of the *Hashtags* referring to the event.

An anonymous *Twitter* survey would also be launched after the end of the event. The aim of this action would be acquiring the anonymous opinion from the users participating in the event on its development. The survey would be based on three or four simple and direct questions about the use of *Twitter* and *Periscope* as tools for carrying out the workshop. Each of these questions would be launched as a query-type *Tweet* with a response span of seven days, including a *Likert* scale of three options (dislike, don't know, like) and the *Hashtag* of the event.

Previously, during the development of the workshop, users would have been notified on the existence of this subsequent survey and on its relevance as an improvement tool for future editions of the event.

So, the analysis of the *Indicators* values, jointly with the opinion survey, would serve as a reference point for upcoming events.

4. Discussion

This proposal might be a revolution in the development of *Virtual Workshops* both from creative and creative-related educational points of view, such as it can be Design in its various aspects (graphic, industrial, ceramic, illustration, photography, etc.) and teaching in any of these fields.

The proposed organizational system, as well as the chosen tools, might allow an effective development of a *Virtual Creative Workshop* including a great number of participants (spectators) with an undefined number of lecturers (sometimes spontaneous) amongst

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them. The use of free applications and the users' own Smartphones permits a development of this type of events to a wide extent without any direct costs.

From an educational point of view, this proposal can also be adapted to an interaction platform between diverse educational institutions to develop collaborative activities that might favour the interaction and connection between students from different fields and geographic locations, as well as enhance the generation of collective knowledge (Lundvall and Nielsen, 2007). This way, the cost-free status of the event is an extra added value.

Finally, the event assessment system may contribute to improve the proposal by means of the application of an *Actio-Research* methodology (Mills, 2000).

5. Conclusions

Technological evolutions constitute suitable opportunities for creating new ways of social creation which are based on the collaborative potential of the creative team. This paper proposes the use of *Live Streaming* tools to manage *Virtual Creative Workshops* in order to favour both creation and interaction between a great number of potential receivers of the exposed contents mechanisms.

Similarly, this proposal allows breaking the traditional structure *Lecturer-Spectator* in the way every participant, or group of participants, can acquire a dynamic role throughout the *Workshop*, not only by enhancing their interaction with lecturers but also by adopting that same role sometimes.

Virtual Workshops are a great tool for boosting the active participation of the different members of a creative collective, as it easily allows the exhibition of their work proposals, the used techniques for facing concrete cases or, simply, their opinions on the topic defined as the centre of the event (Banks, 2010).

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Moreover, these *Workshops* are an effective educational methodology to show students a widened vision of a creative discipline, far beyond the mere academic framework (García-García, Galán and Izquierdo, 2016; Galán et al., 2014).

From that approach, it could be interesting the adoption of this proposal to the current technological and pedagogical contexts, making the most of the technological resources to go one step beyond their potential extent, by moving from a local concept of *Workshop* to a *Massive Open Online Workshop (MOOW)* concept.

Furthermore, the development of *Virtual Creative Workshops* can contribute to increase the extent of the PLE and the PLN of each of the participants, thus improving their abilities for establishing quality connections and, with them, enhancing their knowledge in a concrete field.

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