# Tabletop Game Meets Live-Streaming: Empowering the Audience

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## Author Keywords

Co-presence; audience influence; audience integration

## ACM Classification Keywords

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous

## Introduction

Live-streaming of games has become a topic for research recently [2, 4, 5, 6, 7]. Not only are digital games streamed, but also card and tabletop games. Today's gaming live-streaming platforms offer a direct communication channel between audience and streamer via a live-chat. The latter is often used to integrate the audience into the stream, e.g. by letting the audience participate in a poll that decides what should be played next. Games also have appeared that allow the audience to alter game mechanics while the streamer plays the game (e.g., ChoiceChamber [9]). While many of these games are digital, it seems reasonable to extend this to analog games, potentially, by augmenting the underlying game as well. In this white paper, we will present as examples two categories of analog games that are already used in streams today and we elaborate on how these games have been extended for this context and how these could be augmented further. With this paper, we illustrate not only how non-digital games have been altered but also want to emphasize that having an audience is an im-

portant aspect that is of relevance for augmented tabletop games—similar to video games that have already started to take this design dimension into account—in the future as well. The latter is especially important when the inherent social component of tabletop gaming is considered.

## Audience Integration In Analog Games

To exemplify how non-digital games could be used in the live-streaming context, we selected two categories of games. In example 1 we discuss pen&paper roleplaying games; in example 2, creative card games like "Cards against Humanity" [1] and "Superfight" [8]. Both categories were selected as they were already used in live-streams and were adapted to account for the audience.

*Pen&Paper Roleplaying Games*
Several channels on today's live-streaming platforms exist that broadcast pen&paper roleplaying game sessions. A pen&paper roleplaying game is a mix between a tabletop game (as fights in the game often have a complex rule set and need to be played on a "battle map" on a table) and an improvisational theater, with one person being the game master that has imagined the world and the story the other players play in while he or she plays all the non-player characters. Every player represents one character in this imaginary world. Rocket Beans TV[1] is one such channel that offers this experience and is keen on integrating their audience. Their roleplaying sessions usually attract more than 30,000 viewers. A more detailed overview can be found in our previous work [4]. Here we focus on what has been altered in the game by the Rocket Beans to be able to integrate the audience.

- *Polls*: With pre-made (i.e., the game master has developed the options beforehand) and open (i.e., the audience can submit answer options and vote on them later on) polls the audience can alter what happens in the game for the players, e.g., the audience could decide which character they meet next and the game master would follow this.

- *On-screen visualizations*: Some graphics, especially when they concern riddles, are shown as an overlay in the stream. This allows viewers to also directly participate in these riddles.

- *Indirect participation options*: Viewers have the option to use Twitter to contribute tweets (potentially with pictures), that are directly visible on a screen in the game room and thus can be read by the players. With this, the audience can give hints to riddles or suggestions on what the players should do next in the game.

- *Asymmetrical information*: The viewers see results from dice throws the game master has made. With this, viewers have more knowledge than the players.

- *World and story co-creation*: Viewers are able to change specific aspects of the world. In the first episodes they could, for example, propose names for specific buildings that were then adopted by the game master. Later, a platform (based on a MediaWiki[2] was made public, in which viewers could add details to the game world from which the game master could take ideas/concepts. Additionally, viewer tasks that directly influenced the game for the players were formulated that had a direct impact on the players, depending on how the viewers decide/perform.

These elements show that the audience has options that put them in the position of a game master (e.g., the co-story

creation) or in the players' position (e.g., while solving riddles). This already augmented the way usual roleplaying is played. The mentioned elements can be realized without the need to have a sophisticated custom software running. Two ideas that would integrate the audience even more but would require additional technical effort would be:

- *Representing viewers in the game world*: Every viewer could have a virtual character that is an inhabitant in the fictive game world the game master has imagined. Viewers could elaborate on their characters (e.g., define personality traits, a background story, where are they from exactly, etc.) and they could receive rewards that have an influence on the character (such as items for their character or achievements such as titles) by simply watching the stream or participating in polls. At certain points in the game selected characters could meet the players as friend or foe. Then, either by integrating the respective viewer into the game via Skype or Discord, or the game master using them as non-player characters based on the description given by the viewer, these characters would have a direct effect on the game.

- *Community items*: Similar to the aforementioned idea, viewers could gain a virtual currency. With it, they could buy elements from a "shop", for example a specific healing potion or a specific enemy creature. These elements, to balance the experience, would be so expensive that they needed funding from several viewers, but as soon as enough viewers spent their resources the game master would integrate this element for the players.

*Creative Card Games*
Another genre is card games that require the players to discuss after having played certain cards. "Cards against Humanity" [1] and "Superfight" [8] are two examples of such games. In these games, players have a set of cards (in "Superfight", for example, players have cards representing characters, such as "Abraham Lincoln" and attributes such as "Riding a Segway" or "Long metal claws") and they play a defined number of these per round. After the players have revealed their selected cards they argue for why their cards are better than the opponent's (in case of "Superfight" why their character would win a battle against the other character). After a bit of discussion, the players decide who was most convincing. Both mentioned games are also played in live-stream channels (for example in the official channel of "Superfight"[3]). Here, the other players do not need to be convinced, but rather the audience, which can vote via the chat on which player has won.

Such games are especially suitable for a live-streaming scenario, as the audience can be easily integrated. Using polls as a mechanic for this is something that the audience is familiar with in this context already. Additionally, moving this decision away from the players seems reasonable to reach a decision that is (potentially) less biased than having the players decide for themselves. An option for augmenting this genre (even though these might affect the potential bias) would be to visualize each player's hand and let the audience vote on which card they want to see played. Another option is to allow viewers to also provide explanations for why a certain card combination should win over the others that are visualized in the stream itself. Finally, the viewer might suggest new card labels that might be integrated into the deck. If all players play with a mobile app (instead of physical cards), these new suggestions could

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[3]https://www.twitch.tv/superfight, last accessed: 02/08/2017

be directly integrated into their games. Thus, they would have to argue with ideas (in the case of "Superfight", new characters and new abilities) coming from their audience.

## Research Agenda and Approach

Our examples have illustrated how common game genres have been augmented to be a better fit for live-streaming settings. In both scenarios, the importance of the audience as a group has been acknowledged by the channel owners and the augmentations were primarily done to account for this group. In the course of this, though, new experiences have arisen: Games that are usually played with only small groups are capable of handling thousands of users, although not everyone has the same influence as the players at the table. On the other side, the experience for the tabletop players changes as well.

So far, it is unclear which augmentations are appreciated by the viewers and which further augmentations are demanded. By conducting a requirements analysis via focus groups and/or online surveys, more insights can be gained. Based on this, (software) prototypes can be implemented and tested within established streams. This seems more reasonable than starting ones own streaming channel, as this leads to the problem that not enough viewers become available in a short time: Kaytoue et al. showed that many channels on today's live-streaming platforms have only a few or no viewers at all [3].

## Interest, Background, Bio

Pascal, who would attend the workshop, is a PhD student in computer science at Saarland University. He is working at the German Research Center for Artificial Intelligence and his research interests are in the domains of games, gamification and live-streaming. More specifically, he is looking at how individuals and groups in these domains can be empowered with options that increase their (perceived) agency and analyzing the effects of this. One example of his work is the investigation of so-called "bottom-up" gamification in which individuals are able to set up their gamification options by themselves instead of having a researcher, programmer or a superior doig the setup.

As one of his hobbies, he is a passionate gamer of all kinds of digital and analog games. Considering the latter, he is head of a board gaming group that meets monthly (with usually 10-20 players attending) to try out new games and play classic ones. Here, augmented games are also played, leading to a good understanding of current augmented game mechanics, examples are: *Zombie 15'*, *Space Alert!*, *5-Minute Dungeon* (all working with audio support), *Keep Talking and Nobody Explodes* (which provides software for one player), *Descent 2nd Edition*, *Mansions of Madness* (which uses a companion app to simulate the game master) and *Alchemists* (an app is an important component of the game). Additionally, companion apps for *Dominion* and *Eldritch Horror* exist, that help to keep track of all administrative elements in these games. Based on these experiences and his scientific background, he is very interested in taking part in this workshop.

## Research Gaming and Prototyping Session

For the research gaming and prototyping session I would select three different tabletop games (if time permits) as discussion artifacts that are known to every participant that is interested in this sub-session. For each of the games, we would discuss how we could augment it to be a good fit for being used on a current live-streaming platform. Potentially, we would also be able to derive general concepts that apply for every game (e.g., such as using polls) that could lay the groundwork for future research in this domain.

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