

Off the Cuff - an improvisation game supporting face-to-face interaction

Cyrill Averbeck

Chalmers University of Technology

Gothenburg, Sweden

averbeck@student.chalmers.se

Daniel Kvarfordt

Chalmers University of Technology

Gothenburg, Sweden

kvarford@student.chalmers.se

Agnieszka Szymaszek

Chalmers University of Technology

Gothenburg, Sweden

agnszy@student.chalmers.se

ABSTRACT

This paper presents the design of the Off the Cuff mobile application aimed to support face-to-face interaction. Off the Cuff is a multiplayer game in which one person tells an improvised story including words given by other players. The concept for the app is based on playful exercises used in improvisation theater. The app is used to manage the game, so participants can focus on the story. We describe our design process from a concept to a fully functional prototype, discuss the results and point to possible directions of future development.

Keywords

interaction design, mobile application, face-to-face interaction, improvisation theater, social gaming

1. INTRODUCTION

Supporting face-to-face interaction can be seen as the next challenge in the field of interaction design. It can be easily noticed that the use of mobile devices affects social interactions, both positively and negatively. New behaviors emerge from everyday use of smartphones, as we are able to continuously stay connected and be in touch with people over distance. However, on the negative side of this development, the phenomenon of a “mobile bubble” can be observed, when people separate themselves from others while using their mobile devices [1].

Technology that allows anytime-anywhere access to communication, information and entertainment tends to cut the users’ relation to their actual social environment. These issues raise important questions for a mobile app developer and interaction designer to consider, such as which tasks and activities can truly benefit from mobile technology and what consequences for social relationships it may have.

Our work aims to respond to that problem by utilizing mobile devices to support a playful experience, where the main communication is face-to-face and takes place in the form of storytelling. The inspiration for the Off the Cuff app comes from various exercises used in improvisation theater, short “improv”, that serve to practice the ability to perform without any preparation [2]. An example of such an exercise, that particularly influenced our project, is a game in which one person invents a short story, that has to use some given words. These random words are provided by another person in order to increase the

difficulty and practice spontaneous creativity. Other listeners can use their body language to give feedback by leaning back or forth to show their level of engagement.

2. BACKGROUND

In general, improvisation as an activity is believed to have many positive effects on personal development, to list a few it can be awaking a person’s creativity or can be a source for inspiration [3]. Although, improvisation is traditionally practiced in performative arts, it is also recognized as an useful skill in dealing with everyday situations, especially when adapting to changing conditions. For these reasons it has been studied and applied in some professional areas, for instance in business management [4].

Besides improvisation theater, further examples of improvisation in a playful context comes from watching entertainment programs, where the actors receive instructions on stage and have to include these actions in their performances. Some examples of such TV shows include Swedish “Tips från coachen” and “På Minuten”, based on the British show “Just a Minute”[5].

While performing the background research we found some already existing apps related to improvisation that are available for the selected mobile platform (iOS7). The one closest to our concept is the Improv Suggestifier app [6], which provides a user with a single, random word to be used in improv exercises. In case of The Amazing Improv Generator app [7] the words are arranged in three categories named Character, Place and Event, and meant to be used in a set. Lastly, Improvi app [8] displays a number of words to serve as probes in improvisation as well as aims to help creativity in general. All above mentioned apps are addressed specifically to the improv community and claim to support improvisation exercises. Their main functionality is displaying a selection of words, but they do not attempt to support game mechanics.

Based on that findings, our focus was to create an app that can be used by the general public and improv enthusiasts alike. We also aimed for a solution that will help to organize the game without interfering with the game flow, making it smooth and enjoyable.

3. CONCEPT

The concept for our app is a game for two or more people, where one player invents a story, and the other players use their phones to send him or her words that must be incorporated into the story. All players have to be co-located and agree on playing together, for example during a drama session or in a get-to-know-each-other situation. It can be played in any environment where it is possible to hear each other, for example at home, school or at a workshop. The purpose of the app is entertainment,

improvisation exercises or an integrating activity. It may be used to practice creativity, presentation and improvisation skills or as an icebreaker.

The storyteller has about 2 minutes to tell the story, and this is displayed with a timer on the screen. The other players have a list of random words they can choose from to send to the storyteller, and when words are sent, they are displayed at the top of the screen for the storyteller. The other players listen and give feedback on how well the word is integrated in the story and on how interesting the story is.

After the performance, the app displays results, which include different aspects such as a list of the used words and the received feedback. A form of visualizations of the performance give the speaker further insight.

4. PROCESS

In order to identify more specific feature set for the app we used several design methods that helped us to make our design decisions.

4.1 Methods

In the design process our approach was to work in small and frequent iterations, which gave us a chance to use several prototyping methods. At the initial stage of the project we found rapid prototyping and drama sessions very insightful. The focus was on understanding the gameplay mechanics and identifying features that should be included in the app.

We selected two different game scenarios and played them with the use of different mediums. The scenarios that were analyzed varied in when and how the words were delivered to the speaker. The first version was telling a story based on given set of words known to the speaker at the beginning of the speech. In the second scenario words were presented to the speaker during the speech. We tested voice, sticky notes and a mobile texting app as a medium to deliver the words to the speaker. Also, we aimed to determine an optimal default duration of a performance. These sessions allowed us to determine that a mobile app has a great potential to help players to manage the game and let them fully emerge into the story.

4.2 Design Decisions

Rapid prototyping, drama playing and sketching served us to refine the concept and specify requirements for the prototype. Our aim was to focus on essential elements of the game and create a platform which would allow to play its basic version.

Our design decisions for the prototype were based on the analysis of core game dynamics which we found during the drama playing tests. From these results we chose dynamics which can be supported by a mobile app and that also had a value for entertainment. The findings showed that using voice interferes with the story being told, while writing or typing a word during the speech severely distracts the listeners. On the other hand, providing words during the performance proved to be more exciting option for all players. Therefore, after discussing pros and cons of every solution, we decided to choose a scenario with words being provided for the speaker in real-time, but being selected from a set of words predefined before the game starts.

5. PROTOTYPE

We used our findings to develop a functional high-fidelity prototype that covers the functionalities described above. The focus for the prototype was to transfer the concept into a playable game with emphasis on gameplay, networks and aesthetics.

5.1 Gameplay design

We considered many different approaches to the gameplay in the app, in particular these regarding feedback. One of the first ideas was that it should be possible for listeners to rate the performance of the speaker through the app, similarly to how listeners lean back or forward during the improvisation theater exercise.

The problem with the feedback is that it can increase the stress on the speaker if he or she is not comfortable receiving negative feedback. One solution could be to only allow positive feedback to be sent. The feedback could be sent using a simple button that could be pressed when the story took an engaging turn, or more fine grained by using a slider or similar user interface component.

On the other hand it could be argued that the feedback given through the app would tend to decrease the face-to-face interaction, and it might actually be better to leave feedback up to spontaneous reactions such as laughing, facial expressions and body language. For our prototype we decided to omit the feedback feature in order to encourage more face-to-face interaction.

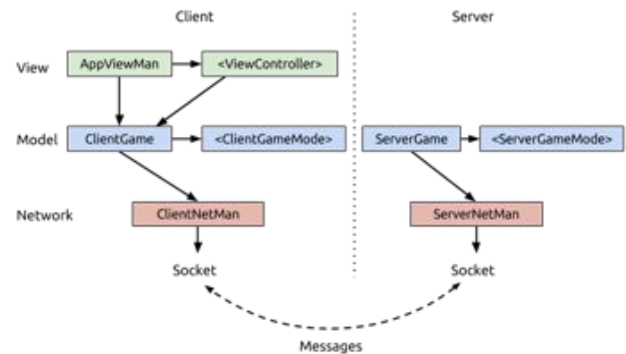


Fig. 1. Software architecture for the Off the Cuff app.

5.2 Implementation

The software architecture was developed to support the concept of social, co-located, gaming. As can be seen in Fig 1. the application is built around a server-client model, where one of the users start a server that other players can join. The server runs in the same application on one of the user's devices, but communication with the server uses the network layer irrespectively of which device is the host, so that the communication interface is the same no matter if the current device is hosting the game or not. The open game sessions on the network are discovered using Bonjour, which is a zero-configuration network discovery service, and can use a WiFi or Bluetooth connection, making it easy to find others and play over a network or peer-to-peer [11].

On both sides the application is divided into three layers; the view, the model and the networking. The separation between the game model and the network abstracts away network implementation details, and allows implementing game mechanics independently.

The game state is stored in the server and synchronized across all devices. This means the server contains the master game state and players can send user interface actions, such as using a word as messages to the server. The server updates all clients with the new game state. This means that we can easily keep the game synchronized and make the game more robust.

5.3 Look and Feel

The graphic theme chosen for the app builds around the app's name "Off the Cuff" and aims to create an unique and enjoyable experience while playing the game. A central element is the classic man's shirt cuffs and the gesture of taking a card out of it (Fig. 2.). The theme was chosen for its association with the app title.

The graphics were inspired by the visual style of opening credits to the James Bond movies and the *Mad Men* TV series, which are distinctive for the use of black and white silhouettes on contrasting backgrounds. It was motivated by their strong and clear visual character, which is not overloading the interface with heavy detailed graphics. This style offered a pleasurable visual experience with minimal use of graphic elements, therefore we believed it stays in line with the principles of the iOS 7 user interface design.

Animations were used to enrich the user experience by making some actions more noticeable and meaningful [10]. Additionally, they help to rise the excitement and provide dynamic visual experience, which is an important factor in the gameplay. Therefore, when starting a new game session, a short count down animation is played matching the graphic theme. Also, during the game a new word appears with an animation of a hand flipping the card on which it is written.

5.4. User testing

In order to evaluate our prototype we performed two short user testing sessions, one with inexperienced participants and other with practicing improvisers. As we tried to facilitate the learning process, we played the role of the speaker in the first round and in the following rounds the test users played the speaker role one by one.



Fig. 2. Design for Off the Cuff app icon.

One important aspect observed from the user testing was that improvising could be an intimidating experience for some players. However, the testers found it very entertaining to choose the the words to be used by the speaker, as they enjoyed their influence on the story.

On the other hand, some players wished for more competitive elements in the game, for example scoring the speaker's performance. As a result it would shift the goal of the gameplay from coming up with an engaging story to using as many words as quickly as possible.

The second user test was performed during an improv session where the app received a very positive response. The group tried the exercise both with and without the app. The experienced improvisers preferred the app over the original exercise, because the game was less distracting for the speaker and the story was more fluent.

One difference found was that the selection of the words was more random when using the app, while they were more related to each other when given by another person.

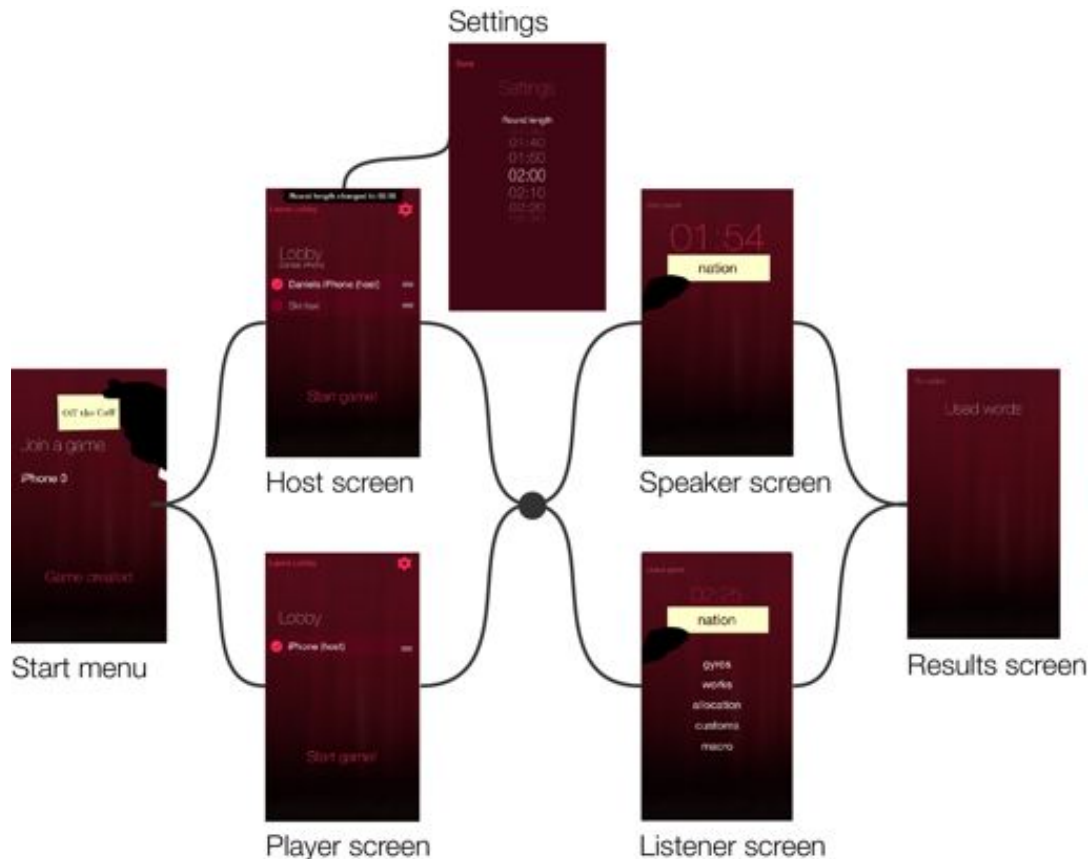


Fig. 3. Navigation flow for the app.

6. DISCUSSION

We found our process, which consist of many small iterations, very successful during the prototype development. Design and coding was done in different working groups and merged after each iteration. We have managed to achieve the goals set for the prototype, as the app is relatively robust and the graphics are consistent and polished. In result we realized a playable prototype that provides the core game mechanics and can be easily extended.

However, the prototype has some limitations in comparison to the concept. The additional features, such as visualizing results and feedback we envisioned in our concept would need to be implemented in a future iteration and extensively tested.

While the prototype supports it technically, further tests in bigger groups would be needed to evaluate how scalable the game design is. In the user testing we examined the game only in groups of up to four people. We did not primarily test the social face-to-face aspect of player interaction, rather we focused on the use of the app with regards to the improvisation exercise.

The app proved to support the gameplay and improved the experience compared to the improvised theater exercise performed without the app. Giving the listeners a list of words to use alleviates them from having to come up with words on their own, and allows them to fully immerse in the story.

In general, test players enjoyed the experience. During the user testing we observed that players who needed to improvise were more stressed during the first few rounds, but the stress level decreased with more practice. On the other hand, the listeners enjoyed the game from the beginning. A possible solution could be to lower the challenge at the entry level and encourage the speaker, for example by providing an initial scenario to kickstart their imagination.

Moreover, an important aspect is to support learning process for the app. Although we recognize a need to include explanatory information for the players, for the moment the app does not provide any. The design was optimized for usability in game and more attention should be given to learnability and discoverability. The interface design integrates interactions with graphic elements to achieve simplicity. However, the user tests revealed that some currently used interface elements and interactions can be unclear. In particular, some users did not realize that they need to tap the word they just used in the story in order to dismiss it and receive the next word. Therefore, we see a need to provide either more intuitive user interactions or adequate instructions.

7. FUTURE WORK

In the current version we managed to implement the basic game mechanics described in our concept. We can see future development happening in the areas of result visualization, word generation and interface design.

Currently for the results screen the app only displays list of words that have been used. One idea would be to implement the feedback feature and show a visualization combining words and feedback together. There could be a timeline where the performance is represented with a graph of the average ratings from listeners over time. This makes it possible to see which parts of the performance were the most exciting for the audience. To augment this overview even more a recording of the speech can be related to the graph as well.

To accommodate different skill levels, we would like to offer more options for customization, such as the ability to choose categories for the generated words. This would make them more related to each other and easier for beginners to incorporate into the story.

Also, the interface design requires some more thought. Affordances of the elements in our minimalistic design are not always intuitively discovered by users. Therefore, there is a need to explain the interface functionalities to new users.

8. CONCLUSION

Off the Cuff can be summarized as an attempt to playfully encourage face-to-face interaction in a world where mobile devices demand more and more of our attention. It supports and enhances the experience of improvised storytelling by taking care of game play mechanics such as generating words, time keeping and showing results. This allows the players to focus on the performance and spending their time together.

We implemented a high-fidelity prototype for iOS7 that proved to be useful for improvised storytelling sessions. It provides the core functionality of our concept, including local networked multiplayer with discovery of nearby devices running the app. The graphics are mature and show that the consistent theme throughout the app adds to the experience of using it. The prototype is implemented to be extendable and can be used as a basis to explore the concept further.

9. REFERENCES

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