Idliketoknow: a mobile tool for interacting with strangers in a collocated area

Nadia Cuotto, Thibault Krebs, Amine Bekkali
Department of Applied IT, Chalmers University of Technology
Gothenburg, Sweden
{cuotto, krebstg, fbekkali }@student.chalmers.se

ABSTRACT
This paper presents the design of *Idliketoknow*, a mobile application that facilitates the interaction among strangers who are collocated. It works as an entertainment and communication tool, where the interaction with others happens in a digital form. The context of use is when people are in a waiting area and will be there for a long period of time. The design process with the different methods applied to develop *Idliketoknow* concept are described, as well as the realization of different prototypes to evaluate the design. Furthermore, challenges that arose during the design process and considerations for the future development of *Idliketoknow* are mentioned; like the need of further usability tests in the proper context and with the right users in order to refine the design and its functionalities. At last, it presents the need of a field test or launching the application to confirm it fulfills its purpose

Author Keywords
Mobile app; collocated interaction; digital communication; anonymity.

ACM Classification Keywords
H.5.2. Information Interfaces and Presentation: User Interfaces.- Graphical user interfaces.

INTRODUCTION
This project started with the aim to design a mobile application to encourage collocated interaction. Early in the design process, the target users and context of use was defined to be people who were alone (without friends and family nearby), bored and sitting in a waiting area for longer than thirty minutes, and they are highly interested in meeting new people (strangers) but due to several reasons they inhibit themselves of doing so.

Exiting applications such as ask.fm and chatting apps were used as inspiration and also, to understand people's behaviors and the reasons behind why people use them. The design process followed implied four stages: define, ideate, prototype and evaluate. Each of these stages are described thoroughly in the methodology section, mentioning relevant methods applied that influenced on reaching the final concept.

The early decision on narrowing down the scope with the target users and context and defining the design challenge helped the design team to move forward and focus on the implementation

of *Idliketoknow* concept. *Idliketonow* is a mobile tool that aims to help users to interact with strangers who are in a collocated area through a digital platform. Furthermore, it works as a scaffolding tool for initiating a face to face conversation with strangers.

RELATED WORK
Encouraging people to be engaged or initiate a collocated interaction has been a challenge that has become more noticeable after the growth of the use of smartphones and computers in general. People tend to be more and more connected to their devices and disconnected from the real world [3], texting more rather than having face to face interaction [6]. However, research show that a high percentage of the most common apps that people open in their phones is for digital communication purposes[3], which could be interpreted that people is still interested in communicating or connecting with others, but in a different way [7].

Digital communication has been highly criticized, implying that it has bring a negative effect in how people behave when they are offline, interfering with their social skills [7]. At the same time, it has been said that social media has changed they way we behave and hence the way we meet other people. It is more common nowadays that people meet new friends through social media or through digital applications first and from there, people make plans to have face to face meetings [2], which is what *Idliketoknow* application tries to influence, to be the pre-stage before having a face to face conversation with a stranger.

Within communication apps, online anonymity has been associated with "bullying, harassment and nasty comments" [5], and that is why most of the famous social media applications have avoid allowing anonymity between their users. However, several applications such as "Secret, Confide, Whisper" and so on, have become famous by allowing the users to interact in an anonymous manner, arguing that people is more comfortable to express themselves freely when there is no way to associate the information with them, and hence truly be themselves in the digital world [5]. This is how *Idliketoknow* application works, people can interact with the application only in an anonymous way, to avoid criticism and enhance expressing themselves freely without having a picture or name related with your posts.

Idliketoknow also resembles to how "Yik Yak" and "Jodel" applications work, in which the anonymous communication is limited by area. The main difference is that the area covered by *Idliketoknow* is even smaller (e.g. an indoor place) and the

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form of communication is only through posting questions and answers.

METHODOLOGY

In this section is described the design process followed to reach and develop *Idliketoknow* concept, mentioning the different design methods applied as well relevant feedback gotten from participants who tested and evaluated prototypes, which influenced the final design.

The Challenge

This project was initiated with the aim to design a mobile application for collocated interaction. The design team decided to narrow down the scope and focus on the context of when users are in a sitting position in a waiting area and will be there for more than thirty minutes. It was also decided that the users are used to use their phones when they are in such a context.

A brainstorm session was held to understand the problem, to get ideas of "in which places" this context can be perceived, like: when travelling in a car with family, when students are in a lecture, when waiting for the train or plane to arrive in either a terminal or an airport and so on. It was also analyzed what people usually do in their phones, besides social media and playing games.

After this session, several ideas were generated and analysed using the "2x2" method, where the ideas were placed in a reference system evaluating the feasibility to implement within the time available vs how enjoyable would be for the users to interact with such a mobile application. A second iteration of this method was performed, evaluating feasibility again vs how interesting would be for the design team to implement.

Three main ideas were chosen and presented to an audience of interaction designers. The ideas were a card game, a quiz game and a chat application. The first two ideas were to be used when users were accompanied by family or friends and the last one was when the users were alone and had a high interest in meeting people. After getting positive feedback on the three ideas, the design team voted for the one they liked the most, the chat application.

That idea was taken as inspiration to move forward, followed by a more thoroughly problem analysis, in conjunction with online research on existing mobile applications that aim to help users to meet other people. The design team wondered why people did not start a conversation with a stranger, even though they are interested into. After analysing and sharing stories among the team, some of the reasons they targeted were because of: shyness, fear of rejection, problems with breaking the ice, introverted personalities and fear of having awkward silence due to different interest in life.

Later in the process, the design team confirmed these problems by interviewing students and asking questions such as: What stops you from initiating a conversation with a stranger in a waiting area? Some of the answers gotten were: *"In India is different, but here it's difficult, you think they might think you are weird"*, this person was referring to here in Sweden; *"I like to be in my own bubble and not be disturbed"*; *"it takes*
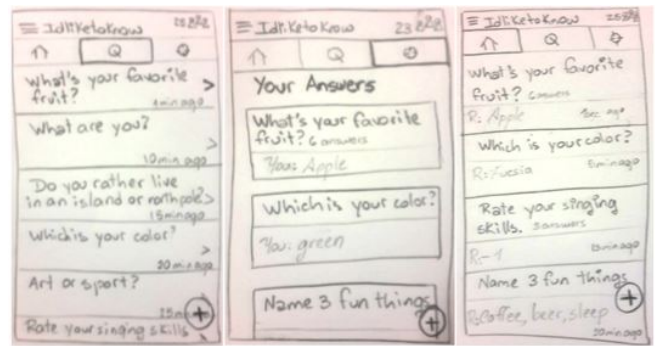

Figure 1. Initial sketches of *Idliketoknow*

long for Swedes to open up"; *"we don't do that, is not common on our culture"*, mentioned by a German girl; *"I get annoyed when a stranger starts talking to me, so I avoid talking with strangers because I don't want to annoy anyone"*.

As it was noticed that people is definitely inhibited to talk with others who are around them, especially depending on the culture, the design challenge of this project was framed to be: "How can people be aided to start meeting or interacting with strangers who are next to them through a mobile application?". The design team also defined some considerations that the solution should have, like: it should encourage people to talk with strangers avoiding prejudices, criticism and discrimination in general.

Realization

The design team got inspired by an existing social network called ask.fm and in conjunction with their previous idea of a chat service, *Idliketoknow* concept was developed, making the necessary refinements to ensure that this solution covered their defined challenge and also, the additional defined considerations. The design team started with making sketches (see Fig. 1), to understand how the navigation and flow of the mobile application will work. They made a low fidelity prototype with POP software to evaluate the concept, which got some recommendations related with the design of the application.

At this stage, the design team had decided to focus on android platform, which meant that the application would follow android user interface guidelines [1]. Considering design materials, colors, icons, font and measurements; digital images on how the application should look like were generated and implemented in an interactive prototype using Invision software.

This interactive prototype was used as a guide for the development of a high fidelity prototype. This last prototype was programmed using Android Studio development environment and a virtual and free database (parse) for managing the data to be post. It was coded in java and xml, and the design team made sure that the layouts and the application's behaviour (navigation) resembled at some extent to what they were aiming for with previous prototypes.

Evaluation

User tests were hold with up to ten international students who were invited to evaluate the high fidelity prototype. The

participants were randomly chosen in a university campus reaching to those who seemed to be alone. The evaluation was divided into two parts: one with the purpose of test how intuitive the application is, by asking the participants if they knew the purpose of use of the application; and the second part was to evaluate usability, by asking the participants to perform certain tasks and think out loud whatever came to their minds when doing those tasks. A questionnaire followed after each session was over, explaining the goal of the app at the end of the evaluation.

Most of the feedback was positive, some students understood the need of the application in some cultures and why it is a good idea in some contexts, others were not very enthusiastic with using this app, either because they do not like to interact too much with their phones or because they did not see themselves using the application in a regular basis, nor in their home town where they have friends already. They could see some use perhaps when they travel to other countries. Some of their comments were: *"I wouldn't use it and I don't like social media"*, *"Interesting as it works as a head starter to communicate with others, and see their faces, depending on the answers and questions posted."*.

Some testers showed concerns, doubts or mentioned additional features that the application could have, which should be explored further in future work. It was also noticed the importance of asking which mobile platform they use, as some users got confused with the prototype layout as they were used to use IOS phones. Furthermore, users did not see the difference between two views (feeds and your profile), which implied that refinements were needed among the design of the user interface.

DESIGN
In this section the developed concept of the mobile application is described, mentioning how it works in terms of navigation, flow and what features present.

Idliketoknow
It is a mobile tool that helps users to interact with strangers who are in a collocated area, through a digital platform. This application works as a chat service, with the difference that people will be connected and talking with those who are in the same physical space, and that it works in an anonymous way. This feature is mainly to avoid prejudices on names or profile pictures, criticism, discrimination or feeling rejected.

As mentioned previously, it is inspired on the the social network ask.fm, where people interact through posting and answering questions. *Idliketoknow* works in a similar way, allowing users to only post and answer questions in an anonymous way.

Idliketoknow aims to works as an icebreaker and reduce the fear of rejection when approaching strangers, letting people to express themselves freely without limiting on what people might think of them. In addition, people will have the chance to perceived other people's physical behavior and reactions (e.g. blushing, laughing and others), although users will have
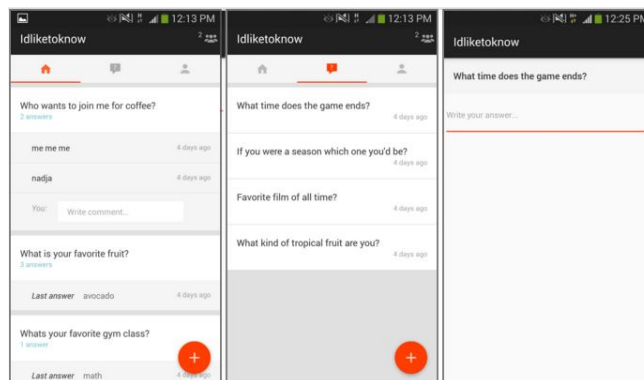

Figure 2. High fidelity prototype of *Idliketoknow* app

to be engaged or curious enough to try to guess or assume that such a person is interacting or not, with this app.

How does it work?
When the defined users open the application while they are in the waiting public place, the initial view presents a list of questions that people have posted, and has not been answered yet, as well as the time when they were posted and the number of people connected to the application at that specific moment. See Fig. 2

Users can choose to answer a certain question that they are interested in by clicking on them, they can get more questions displayed by scrolling down and refreshing or discard the ones they do not like by swiping them to the left. If they would like to post a new questions they can do so by clicking on the floating plus button (placed in the bottom right), which is present in all the views of the application.

The application has three tab bars, which the default one displays questions to be answered, and it is the first view that users see when opening the application. The first tab (left side) show all the feeds, which is all the questions that has recently been answered. Users can write comments on a answer from another person. The last tab shows user's feeds, which is the user's answers and posted questions.

As it is assumed that users will interact with the application for a short period of time, the system erases all data that has more than one day old in the database. In addition, the application is limited by area, which can mean by a certain location (e.g. an airport); or a certain network connection (e.g. in a moving train). If the users go out of the limited area for a long period of time (longer than thirty minutes), they will not get new feeds nor new questions even if they try to continue interacting with *Idliketoknow* application.

Furthermore, *Idliketoknow* keeps track of the connected users to avoid inappropriate behaviour, taking into consideration that as it works in an anonymous way, people could try to spam, make discriminatory comments and so on.

DISCUSSION
This project started to address the challenge of facilitating collocated interaction with a mobile application, and within

the design team there was the doubt on how should "an interaction" be interpreted, if it should only focus on face to face interacction or if the communication could be kept digitally. *Idliketoknow* aims to aid people to interact with strangers who are in the same area, but through a digital form, keeping users in their own mobile bubble. The design team believes that this application could work as a first step to burst the bubble [4], and that it is up to the users to decide if they want to go out from there or if they rather stay and keep themselves safe and disconnected from real world.

It is worth mentioning that *Idliketoknow* supports those who are interested in meeting strangers by facilitating the process rather than encouraging anyone to socialize. However, due to the fact that the evaluation of the final prototype was done individually with each participant, and the designer was present next to them it can be argued that this setup ruins the real context of use. Therefore, it cannot be concluded that this mobile application engages users to socialize with others.

As mentioned previously, the targeted users should be interested on meeting other people, so finding someone who is interacting with their phone in a waiting area does not imply that they are interested in meeting strangers, and if they do, they might not have issues on initiating a conversation with them. It is thought that the target users were defined with perhaps too many requirements, making it hard to find people who meet the requirements to be able to test the final prototype. Therefore, there is uncertainty on how much should the feedback gotten from the evaluation should be considered for further development.

Some features that participants mentioned that they would like to see in *Idliketoknow* application is a chat option, to be able to talk with a certain person in private and therefore they should be able to know with whom they are talking with, it does not necessarily implies a picture, it could be an id or nickname given by the system. Another feature that was mentioned was to be able to comment on a specific answer rather than on the general question, similar on how it behaves on facebook. These features should be explored further in order to know if they make sense to have them on *Idliketoknow* application and keep fulfilling the purpose of this tool, because it is thought that having a chat option with names could allow discrimination or judgemental behaviours between users, but it might not be the case.

The future of *Idliketoknow* relies on performing a field test and evaluate its performance and use, to know and understand what works and what does not and why. This could lead to lighten the usability of the app, if it is engaging to interact with, and if it fulfills its purpose.

CONCLUSION

In this paper, a design process was followed to encourage collocated interaction through a mobile application. After narrowing down the scope and applying familiar methods to get ideas, *Idliketoknow* concept was developed, a mobile tool that helps users to interact with strangers who are in a collocated area, through a digital platform. Furthermore, through several evaluation sessions of the concept and the application itself, it

was concluded that further testing should be performed before assuming that *Idliketoknow* really works as an icebreaker and that it does help people to express themselves freely without feeling judged by others.

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