

Usability Study – Eventalicious

**Andrei Anculete, Angelina Choi, Eric Zeng,
Kalindu De Costa, Michael Liu, Yufei Cui**

ABSTRACT

With the evaluation of collaborative interactive technology, there are difficulties in assessing the ease of navigation, interaction, and enjoyment as well as productivity and performance. This paper is centered on the usage and results of focus groups in getting constructive feedback and accurate diagnostics for our application. Focus groups are especially appropriate for collecting qualitative information from users that are definitely within the expected demographics. They also enable researchers to identify unexpected problems that cannot be detected through other analytical evaluations. We present the results and evidence of effectuality of focus groups, as direct questions and discussions on perception of the application and its functionalities produce accurate results as when compared to unstructured interviews or impersonal questionnaires.

INTRODUCTION

To gauge a thorough overview of the usability of our application, we first need to break down the capabilities and merits of the application in question. Users would connect with organized events and be given opportunities to participate, enhancing connections and social lives, but the appeal of this application would extend to both singular users and business owners looking to gain positive publicity. To further analyze the needs of these target audiences, we decided to use focus groups to get accurate responses and feedback for the next step and future works.

LITERATURE REVIEW

“On the Rapid Rise of Social Networking Sites: New Findings and Policy Implications” is a paper by Sonia Livingstone and David R. Brake. This article gave us a better understanding of our target audience, the young adults. It explains how young adults use and take advantage of social networks as opposed to using in-person conversations.

“The Social Implications of Emerging Technologies”, an article by Vassilis Kostakos, Eamonn O’Neill and Elizabeth Sillence, further explains how youth today uses social networking and modern technology in a way to connect to strangers with a similar interest. These shared interests become the building blocks of a new relationship between two or more people who may have otherwise not met.

“The Dark Side of Smartphone Usage: Psychological Traits, Compulsive Behavior and Technostress”, an article by Yu-Kang Lee, Chun-Tuan Chang, You Lin Zhao-Hong Cheng, shows us a darker side of excessive use of technology. This helps us better understand the barrier between online interactions and physical interactions. Our application encourages users to be more social in an offline environment, but still encourage the use of social networking to meet others that may otherwise not be able to meet or connect to.

“A Survey of Results on Mobile Phone Datasets Analysis” is a research paper by Vincent D Blondel, Adeline Decuyper, and Gautier Krings. This paper is based on mobile research and how smartphones are a big part of our lives. The paper continues to explain how social networks are a very influential part of people’s lives because of how everyone is always connected through their phone. Our application keeps users connected to each other while browsing events and even attending events.

“Leveraging Location-Based Services for Couponing and Infomediation” is an article by Xiao Zou and Ke-Wei Huang. The article explains how location based services (LBS) are extremely important in our lives. With mobile internet being more and more available to the public, LBS can gather information about nearby places, events, or even points of interest. Having a phone track someone’s location can give them more information about their surroundings, which allow companies to take advantage of this by advertising their products and promotions.

PROBLEM STATEMENT

One of the problems that was addressed is that it took an excessive amount of time for someone to find an interesting event that was nearby. The current market has a lack of resources for people to connect to events in their vicinity. This problem has led us to create a centralized application that satisfies the needs of people who are looking for nearby events or promotions.

Another problem raised is a psychological problem commonly known as breaking the ice with strangers. Meeting new people at events could be a difficult task for some, which is may lead people

into avoiding an event with people they are not familiar with. Our application tackles this problem by allowing users to chat with others in the app before, during, and even after the event. This allows a connection to be made from user to user so that they can meet new people with similar interests. Users also have the option to add followers, which allow them to see what events that one of their friends are attending and chat about it. Creating a connection with others is a great benefit and allowing users to make more friends with common interests is a great way to connect.

Another problem that was brought to our attention is if a user is unsure whether to attend an event or not. We strive to minimize these occurrences by allowing other users who are attending the event to upload live videos and images of the event. This allows anyone who is interested in the event to get more information and further determine if the event is something they want to attend. Adding this feature also promotes the event itself on our application and encourages potential attendees to attend and make more friends, adding onto their growing social circle.

GATHERING OF USER REQUIREMENTS

We decided to create a questionnaire to gather user requirements because of its practicality, scalability and immediate results. The questionnaire was designed as both structured and unstructured. Some questions were the determining factor of some of the type of questions the participant received, which was more relevant to the type of users answering the questionnaire. The questionnaire consisted of mainly multiple choice questions, ratings, and checkboxes because giving an open ended question on a questionnaire can

result in irrelevant and less consistency in answers. The open ended question are more creative/design questions as each user will have their own idea of an ideal design and layout for a website. Our questionnaire was distributed through a variety of social media websites. This allowed us to collect data on a more global scale and build an application that does not have geographical limitation and gathers input from users around the world.

Our focus for this application are people who have sufficient funds, travel, or are outgoing, and business owners. Users who are outgoing are more likely to use this application when they are out and looking for events to attend or promotions they can take advantage of. On the other end, business owners can use this application to promote their business with sales and events the business may hold in the immediate future.

PROTOTYPE

Following the user requirements, we developed a high-fidelity prototype with the use of HTML/CSS and JavaScript. Our preference with a web development over other prototyping tools such as Balsamiq, was due to its flexibility and control. The questionnaire, which consisted of both qualitative and quantitative elements, illustrated that most users preferred an application that suits a mobile platform as well as a native platform. Thus, our main goal for the prototype was an application that was responsive in nature and suited users of both a mobile platform as well a native platform and web development allowed us to manipulate our application more freely (*see Appendix 4*).

A minimalistic, clean look and feel was used as the overall theme of our application. Most participants

of the questionnaire stated that they would prefer a layout with less clutter and more straightforward information. So, the layout was designed to be very clean and minimalistic to reduce any unnecessary distractions from the user experience.

Lastly, the largest portion of the application is dedicated to the map to emphasize the location and the real time factor (*see Appendix 4*). Users can quickly find events and promotions near their location as well as any other location with use of the search function. Every event and promotion on the list is also represented on the map as a marker, to reduce effort required by the user. Users can interact with these markers to find additional information or to determine and better understand the nature and the environment of the event.

USABILITY STUDY

We chose to conduct a focus group as our usability study for two main reasons. Although the questionnaire option would be less time consuming, we believe a focus group would yield us more diverse responses. In addition to letting members have hands-on experience with our application, focus groups allow more discussion, which is beneficial to us as creators since we are able to gauge the members' facial expressions and body language on top of their verbal responses. Also, we are given the opportunity to receive immediate feedback on likes and dislikes of specific features, which is not easily acquirable with a structured evaluation method such as a questionnaire, that limits user imagination and control over the application.

Furthermore, with focus groups, we are able to allow the participants to explore our application naturally, and build a dialogue on the strengths and

weaknesses based on real experience. A questionnaire would lack such an experience, as there would only be images of the application provided. It would be more difficult for the users to consider what they liked and did not like based on such a limited exposure to the application. Lastly, since our application was not a redesign of an existing website or application, most users may not have real experience with this application. Questionnaires with images would not be sufficient as a usability study in this case since users do not have the prior knowledge of what an application such as ours excels at, or lacks. Using a focus group, we gave users an opportunity to use the application, so their reactions would be genuine and not based on an inexperienced preconception of how our application would operate.

Our focus group was designed to expose the participants to the features that we required the most feedback for. Firstly, we determined the three main features of our app, namely, the ability to find nearby events, the ability to find nearby promotions, and the ability to allow businesses to promote. The focus of the discussions were on these as they formed the core functions of our application, rather than other minor features such as the user profile or the live feed. Considering that our application is targeted primarily for young people, we assumed that our immediate peer group would make good use of this application. As such, we took a randomized sample of our peers, rather than selecting from a smaller, specialized demographic. The selected peers were provided with consent forms such as the one that can be seen in *Appendix 1*. Unfortunately, we were unable to locate any business owners to take part in our focus group, given that we chose from our colleagues. To remedy this, we instructed the

group to imagine a scenario in which they were business owners, and respond to the questions accordingly.

Our focus group involved five members, a moderator, and an assistant. The moderator's purpose was to engage the group in discussions through the use of guided questions, which were prepared ahead of time (*see Appendix 2*), as well as present the application and its features. The assistant recorded the discussion questions and the feedback obtained from the group, but did not actively participate in the discussion (*see Appendix 3 for notes*). Regarding the focus group's environment, when selecting our participants, we asked them to provide their three most convenient time and locations to meet, and chose the one that would best suit all of them. We also provided a laptop displaying our application to each of the participants, so that they would be able to actively interact with the application. The laptop provided both the website and mobile versions of our application, so participants were able to experience both layouts.

As mentioned previously, the three evaluated features were the ability to find nearby events, the ability to find nearby promotions, and the ability to allow businesses to promote their activities. After allowing the participants to explore the application, the moderators would question them about the application's ease of use, whether features were intuitive, and whether they liked or disliked certain features. If the moderator noted that participants were not using a certain feature, he would direct them to it, as well as question why they did not use it themselves (i.e. did they not notice it, was the feature redundant, etc). For example, many participants were not aware of the "search places"

function due to the lack of a label on the input field designed for performing this operation. If the participants used the feature without prompt, the moderator would ask if the application accomplished the task well, and whether they would use this application as part of their routine, similar to how apps such as Uber and Google Maps have become the standard regarding the task they accomplish. Lastly, we had the participants to imagine they were business owners so that they could judge the application from the perspective of a business owner.

RESULTS

We realized that all the participants quickly understood the app's main purpose of finding the time and location of events without explanation. Three out of five participants found the app very useful and expressed interest in using it often. Additionally, all participants felt that the application would be useful while shopping in a mall, as the app would provide details on which stores had promotions.

Overall, the participants found the UI appealing and easy to use as it was clean and minimalistic. However, the function of some elements were not clear, such as the icons within the navigation menu. Some participants suggested the addition of a tooltip to describe the function of these icons. One major issue that all participants commented on was that the search bar was difficult to see when using the mobile version. One participant also noted that the elements were hard to see on mobile. Two participants noted that, when clicking an event on the title, the event's title is cut off by a line. Two participants suggested that, instead of redirecting the page when clicking on the map, a popup would be quicker and more convenient.

Pop-ups also enable redirection to the map by closing the popup, rather than having to reload the previous page.

Considering whether the addition of filters/tags would be beneficial, majority of the participants expressed that they wished to sort events through a filter. Distance between your location and the event's location (proximity) was noted to be one of the top filters that participants wanted. One participant even noted that the distance between the user and the event should be displayed along with the event's name and location in the list.

Regarding the layout of the application, participants noted that the mobile version was well organized. They found the application to be responsive, and hence would be able to use it easily on-the-go. When participants were asked to think from a business owner perspective, some participants asked for the ability to personalize event pages through use of banners, backgrounds, and so on. Considering people generally notice visuals first, this could help garner attention for a certain event. One user also noted that there should be some sort of "Featured Event" feature for business owners who wish to have their event be displayed at the top of a list.

Business owners also wish to be able to differentiate themselves from the other promoters through the use of tags, categories, or some other visual indicator. Some participants also noted that different kinds of events should have customized fields to set regarding their description; for example, educational events would have to provide different information when compared to a concert. This increases the consistency of information, which makes it quicker for users to get necessary

information when just glancing at the app. Business owners tended to prefer the native layout, as it is more professional and more organized for data input. Business owners would also tend to use this application while at their computers over a mobile platform. For the average user, however, the mobile version offers more convenience considering that people would use it when they are on the go. Another interesting result is that none of our participants had experience with a similar application. The implications of this will be discussed in the Limitations section.

LIMITATIONS

One major weakness of the study is that we were only able to select from our peer group. This meant we were unable to fully represent our demographic. Notably, we did not have access to business owners, event promoters, or adults who enjoyed travelling or attending events. Hence, our responses came primarily from the perspective of young adults. Business owners or adults may have different needs or concerns with regards to our user interface that we were not able to obtain feedback on. Even though we asked participants to pretend they were business owners, they lacked the experience to give fully reputable responses.

Another limitation is that the focus groups were to consist of only five people. Though this is the number the assignment provided, we felt that it was a very small sample and might not be fully representative of our client demographic. A more accurate representation would be to have focus groups consisting of more individuals, or more focus groups overall.

Users also did not have any experience with applications with similar functionality. As such,

they were unclear regarding their expectations for such an application. Furthermore, given they had no basis of comparison for how an application like this should function, they were unsure of how to improve it and what extra features the application was missing. As such, many of their answers featured improving already existing features to improve ease of use, rather than exploring the application's possibilities.

FUTURE WORK

Future work that can be done is to add the features that were recommended by the focus group. Some features that can be added based on the results are: the ability to filter events by distance or other categories, the ability to customize events and promotions through colour schemes and banners, and the addition of tooltips to the icons within the navigation menu to improve readability.

In addition, we will also correct any existing issues regarding the visibility of some of our features, especially the search function in the application's mobile form. Some additional corrections that can be done are: changing the position of the lines so that they do not cut through text, adding a pop-up feature to the map markers instead of redirection, and adding more feedback for when users interact with the website.

Future research can be done for the experience of a business and event promoters point of view, given that our current sample did not have any representation from these groups. We will also perform additional research into the new features that will be added, since they were suggested by a small group and might not be representative of our entire client demographic. This can be done with the further use of focus groups.

REFERENCES

1. Brake, D. R., & Livingstone, S. (2010). On the rapid rise of social networking sites: New findings and policy implications. *Children & Society*, 24(1), 75-83.
2. Kostakos, V., O'Neill, E., Little, L., & Sillence, E. (2005). The social implications of emerging technologies. *Interacting with Computers*, 17(5), 475-483.
3. Chang, C., Cheng, Z., Lee, Y., Lin, Y, (2014). The dark side of smartphone usage: Psychological traits, compulsive behavior and technostress, *Computers in Human Behavior*, 31, 373-383.
4. Blondel, V. D., Decuyper, A., & Krings, G. (2015). A survey of results on mobile phone datasets analysis. *EPJ Data Science*, 4(1). <https://doi.org/10.1140/epjds/s13688-015-0046-0>
5. Huang, K., & Zou, X. (2015). Leveraging location-based services for couponing and infomediatio. *Decision Support Systems*, 78(Complete), 93-103.
6. Anculete, A., Choi, A., Cui, Y., De Costa, K., Liu, M., Zeng, E. (2018). *User requirements* [Google form]. Retrieved from URL <https://goo.gl/forms/TLLIbcEXp9Lg4L112>

Appendix

1. Sample Informed Consent Form

Usability Study – Informed Consent Form

Title: P4: Usability Study for Team SKG

Investigators: Andrei Anculete, Angelina Choi, Eric Zeng, Kalindu De Costa, Michael Liu, Yufei Cui

I _____ hereby consent to participate in a usability study conducted by the Investigators (listed above) as part of a Winter 2018 project for **CSCC10, Human-Computer Interaction**, a course offered by the Department of Computer & Mathematical Sciences at the University of Toronto Scarborough.

I **agree** to participate in this study and the purpose of this study is *to further develop and improve the user interface for the App*.

I **understand** that:

- The procedures to be used is a focus group to gain data from different user perspectives.
- I will receive no compensation for my participation.
- I am free to withdraw at any time during the study without the need to give any explanation or penalty.
- All materials and results will be kept confidential, and, in particular, that my name and any identifying or identified information will not be associated with the data.
- I can contact the course instructor, Naureen Nizam (nnizam@cs.utoronto.edu) with any questions or concerns.

PARTICIPANT

Name (please print) _____

Signature _____

Date: _____

INVESTIGATOR(s)

Name (please print) _____

Signature _____

Date: _____

2. Prepared Questions

Usability Study – Prepared Questions

1. Do you know what this app is used for?
2. How often do you think you will use this app?
3. Do you find the UI difficult to navigate? If so, explain why and suggest some improvements.
4. Would you prefer if the events displayed were sorted by your approximate distance or any other filters/tags?
5. Regarding the layout, what specific look and feel do you like?
6. Is it clear what each element of the website does?
7. Is there anything you would change or add to the layout? As a general user, and as a business owner.
8. As a business owner, is there additional info that you would like to have shown in this app?
9. Given that the current website theme is black and white, would you prefer to have custom colour-scheme, design, banners, etc, for an event/promotion?
10. Can you think of any other apps that offer a similar set of features?
11. How does our app compare to those?
12. What features from those apps would you like to see in our product?
13. What platform do you prefer, desktop or mobile?

3. Notes

Usability Study – Notes

Participant #1:

- Recognized what the app was used for and expressed interest in using it often.
- Liked the idea of using such an app when shopping in a mall, as the app would tell them which store had promotions.
- The UI was not difficult to navigate, though some icons were not clear, such as the funnel icon.
- Suggested that icons display their use when hovering mouse over it, like the login button.
- Liked the minimalist style of the website, thought it was a little plain however.
- Thought personalization was interesting idea, but possibly gratuitous.
- Noted when clicking event page, lines often cut through text.
- Did not have other apps to compare to.
- Noted the search function is not obvious on mobile.
- As a business owner, thought that some events should be prioritized (like a “Featured Event”) and placed at the top of the list.

Participant #2:

- Expressed interest in using it often. Liked the idea of using such an app when shopping in a mall, as the app would tell them which store had promotions.
- Found UI to be simple to navigate, did not use the icons so much, focused more on the events and map.
- As business owner, requested that there be specific fields for specific types of events to increase consistency. Search feature on mobile is not easily visible.
- Thought layout was neatly set out.
- Enthusiastic about idea of sorting events by a filter.
- Suggested that business owners have access to another version with more personalization. Average users would not need outside of perhaps changing colour.
- As business owner, requested that there be specific fields for specific types of events to increase consistency.
- Preferred mobile due to believing this app felt geared towards in-the-moment decisions.
- Did not have other apps to compare to.

Participant #3:

- When clicking on a flag on the map, participant believed that a pop up would be better, rather than a redirect to another page.
- Suggested that the distance between your location and the event’s location be displayed for each event.
- Liked idea of sorting events by distance.
- Liked the idea of using such an app when shopping in a mall, as the app would tell them which store had promotions.

- Found app to be fairly intuitive, however, felt need to add instructions and feedback to the navigation. (Continued on next page)
- Search feature on mobile is not easily visible.
- Noted title of events cut off by line.
- Did not have other apps to compare to.
- Suggested expanding description on highlighting favoured events (from profile).

Participant #4:

- Thought that app's use was obvious.
- When clicking on a flag on the map, participant believed that a pop up would be better, rather than a redirect to another page.
- Liked the idea of using such an app when shopping in a mall, as the app would tell them which store had promotions.
- As business owner, requested that there be specific fields for specific types of events to increase consistency.
- Found layout to be intuitive.
- Felt that some buttons were not intuitive.
- Suggested making the login button more obvious.
- Noted the search function is not obvious on mobile.
- As a business owner, thought that some events should be prioritized (like a "Featured Event") and placed at the top of the list.
- Liked idea of sorting events by distance.

Participant #5:

- Thought that app would be very useful given the participant's enjoyment of travel and social events.
- Liked the idea of using such an app when shopping in a mall, as the app would tell them which store had promotions.
- As business owner, requested feature to categorize events through tags.
- As business owner, requested that there be specific fields for specific types of events to increase consistency.
- Search feature on mobile is not easily visible.
- UI elements should be bolder on mobile; hard to read in current form.
- Felt that UI was too simple, wants more feedback.
- Layout is minimalist, which is good, but feels incomplete, suggests animations and more popups would give it a more polished feel.
- Did not have other apps to compare to.

(End)

4. Responsive web layout

