Tag Along
Final Project Report

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Problem Scope and Domain Space

Interaction between individuals is a basic human requirement. At some point in time, each individual has been seeking to interact with those with whom they share mutual interests, skills, or cultural background. For some this comes easy, but others find it difficult to approach people and establish a mutual relationship. Even ignoring the different kinds of personalities, the act of finding people itself can be difficult. So, our problem space is users who are new to a community and are seeking others who share similar passions or activities.

The challenges to this domain can be many. Ensuring security would be a major concern when two strangers are meeting. What measures can make sure that the user does not meet someone with untoward intentions? Care needs to be given in making sure the opposite gender would be comfortable meeting strangers. Also, the system should not give a perception of being a dating site and neither should it turn into one. How well these challenges are handled through the application will determine the user's ability to achieve his / her goal of finding a person with shared interest.

The opportunities such a system can bring is the promotion of socializing and getting the community together through the individual's shared interests. It will be a step towards promoting diversity. It will aid in saving time and increase the probability of meeting people with similar interests. It would serve as an opening to people who find it difficult to socialize and might reduce social anxiety.

Meetup is the main competition in this domain. It has a similar focus and user base. The main goal of meetup is to bring together people who share a common passion and it has millions of users. However, there are few drawbacks with this application. It is mostly group oriented and doesn't take in account any spontaneous plans of an individual. Also, for setting the group events, it does not take into account each and every member's free timeline. The group admin's opinion often rules in such an environment and the new users don't have much say in large groups. Additionally, small groups tend to be ignored and stay small, while large groups can feel intimidating.

Our intended solution to our design space will take into account the sporadic desire of individuals as opposed to group based environments. This would make that no single person has dominance over the decision and also nobody has to abide by the group's meeting time.

Anybody would be free to set up their own event at their own free time and people interested can always join them.

Target Users

The potential users of the system will be anyone who is new to a place/community or even the localities, but who are looking for someone who shares similar passions. Additionally, it would also work for anyone looking to socialize for recreational activity. This would encompass both, the young and the old.

Our envisioned system can be utilized during the user's free time to facilitate recreational social encounters (i.e. not romantic or sexual) and help work them into the user's life. At any time the user can be aided in setting up a social activity which the system would help facilitate by notifying other members in its network.

Our primary research led us to the following findings :-

- Time - The users we interviewed expressed difficulty in trying to make plans with others when each party had limited time available
- Trust - People will always be faced with the uncertainty, anxiety, and concern that comes with the unknown, or in this case, a stranger with similar interests
- Interest - the users exhibited a strong desire to meet people with common interests / skills as a potential learning opportunity

Through our secondary research, we found out that social anxiety is the main cause which inhibits people from meeting others. Feeling of shyness, fear of judgment and intimidation when meeting a group of people were common symptoms of social anxiety. [1] There is no quick cure for social anxiety but it is a process of change, of breaking down each individual fear, and often starts with a meeting with people who share common interests, since it can feel the least intimidating. [2]

Purpose and Goals

The goal for our product is to create an application that provides an easy to use system that promotes social interaction through the facilitation of group based recreational activities. It is useful for people new to a community, as well as people who have lived in the area for an extended period of time. Its design will address the three vital areas we identified in our primary research. Additionally, it is our hope that through the utilization of our application the user will develop bonds more readily with the other users they interact with.

- People's lives are often hectic and difficult to plan out ahead of time. Rather than trying to create an application that micromanages the user's lives, our goal is to create an app that works within that active lifestyle. Our application would allow a user to quickly post an invitation for an activity. The app will inform those who would be interested in that activity and allow them to quickly reply with their desire to meet up.

- Trust will be facilitated through a peer review process and helpful tips, such as meeting new people in a public place and not giving out personal information. Additionally, the users will be required to read and agree to a code of conduct. If the code of conduct is violated or the user has numerous negative reviews, they may be banned. If there are instances of repeated infractions by a person creating multiple accounts after being banned, it may be necessary to tie a user's account to their phone number or some other form of identification.

- Helping the user to find and interact with people who have similar interests will be served in several ways. The user will create a profile where they can select interests from a list of possible activities, as well as adding new interests to the list if the one they are seeking is not there. The profile can either be public or private. Either way, the user is notified when and where there is an activity being held. They can use a text chat to talk with the person who set up the activity to get more information as well as formally confirming their desire to participate in that activity.

Based on the above problem space and the challenges of security / trust involved when meeting unknown people, we want to conceptualize a product that would not only bring the community together by connecting individuals with shared interests but also promote diversity and create an opening for people who feel difficult to socialize.

Design (Conceptualization)

Conceptual Model

The product that we seek to develop is an application designed to work on smartphones. Its main purpose will be to facilitate the creation and discovery of recreational events. It will provide the user an easy and quick way to set up a private profile that will be used to help inform them of events they may be interested in. This profile will not be public unless the user chooses for it to be public. At any time the user can check to see if there are any events scheduled to start in the near future that they would be interested in. Additionally, they can have the app set up to “buzz” when an event that matches their profile pops up. If they are interested in an event, they can choose to see more information on it, such as when it starts, and where it is located. The application also provides directions to get to the event and reminds the user when they need to leave, to reach the event on time. We didn’t want to make the system complicated by involving groups since that puts a lot of work onto one person, and the type of activities we envision for this product do not require large groups. Most will be 5 - 6 at the most, and many will only be 2 - 3. This app is mainly focused on promoting activities that require more individual attention and get together people who share similar curiosities.

Key Conceptual Model Elements

- Smartphone application
- Quick and easy to use
- Small groups, 5 to 6 people under normal conditions
- Custom user profile for a tailored experience
- Creating an event
- Joining an event
- Notification when an event is available

Requirements: Components / Functionality

- In-app proprietary authentication system
- The product should provide a means to create a user profile to add details about the user’s interest and general information. Once the profile is created, the user will then be informed about the events happening around them, similar to their interest
- The product should protect the user’s privacy, with privacy settings that allow the user to uncheck certain information and location outreach
- The ability to create a social activity / event of their own recreational interest like

chess or ping pong
- A GPS tracking mechanism to search people around the user's vicinity who share the parallel interests
- A broadcasting mechanism that broadcasts user created events to other members on the application
- The application should provide an ability to filter location proximity
- It should provide a map layout that displays when and where events are being held, as well as providing directions to reach that event
- A text / video chat functionality that can be used to communicate with others users on the application
- The application should not give a perception of being a dating site and neither should it turn into one
- Lastly, the product should be easy and quick to use with minimal steps to make the user reach its goal of finding an individual with a common passion

Since the product will be a mobile application, the platforms that it will run on include both Android and iOS. Since there is an abundance of social computing applications like facebook, twitter, google+, LinkedIn, etc. developing the major components of the application will not be a huge issue as open source tools are readily available. Thought will have to be put into the server storage mechanism. The application and database server needs to be robust to handle errors during network connectivity issues so that there is no loss of data. Also, the application will run on the cloud which will save user's local device storage, since all the information will be stored in the applications remote cloud server.

Key Scenarios

Scenario 1

David is a young adult from California. Since childhood, he has been playing chess with his grandfather almost every evening. Now, he has moved out of the house to a different state. He misses being able to play chess with his granddad. Online chess sites do not attract him much since he loves people’s company and interacting with them personally. He tried finding someone among his office colleagues who would be interested in playing chess with him during the evening or weekends. However, none of his co-workers showed much interest in the game. Also, the chess clubs near him are pretty expensive and David is unable to afford it for the time being. He hears about an application which can help him meet people with similar interests. He downloaded the app from the app store, registered to it, set his filters to search for people who like chess and are within 1-2 miles range from his apartment.

If the map on David’s phone shows that someone is looking for a chess mate, David can

quickly accept their invitation to play. Similarly, whenever David is free, he creates a new event to be held at a nearby coffee house and his events are accepted by someone almost every time. David is happy since he has met many new people in this process, and even made friends with some of those who especially love chess. He didn't need to spend money or go out of his way, and he gets what he wants at his own time and place.

Scenario 2

Tinni is an Asian adult in her twenties who just moved to the United states to pursue a master's degree. She is passionate about playing ping pong. She looked for ping pong local "meetup" groups and found two. But she was not able to join any because one of the groups meet on weekends when she is usually busy with her project work, and the other group meets at a far off location. She looked for places around her college where she can play and found one at the university game center. Fortunately during the time she has free between classes, no one seems to utilize the table. She tried her luck finding company to play ping pong with her but had no success. A friend suggested her to use an application which can help her find people with similar interest during her own free time. She decided to give it a try and used the app to create an event during her time between classes. After about 30 minutes her event got a few responses. She responded with her understanding, and sure enough they showed up when they said they would. All four people had a good time playing ping pong and Tinni is now using the app frequently to find more people at times convenient to her and pursue her interest without much trouble.

Product Design & Development

Low Fidelity Prototype Sketches

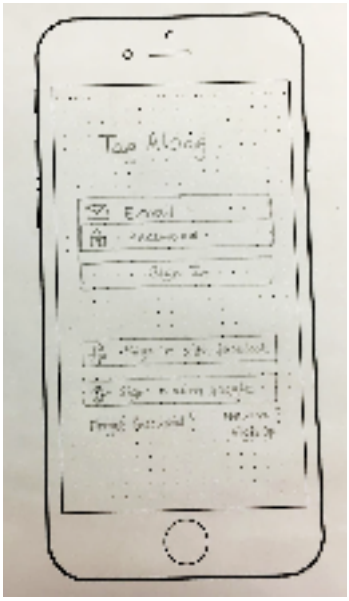

Fig: The login Screen

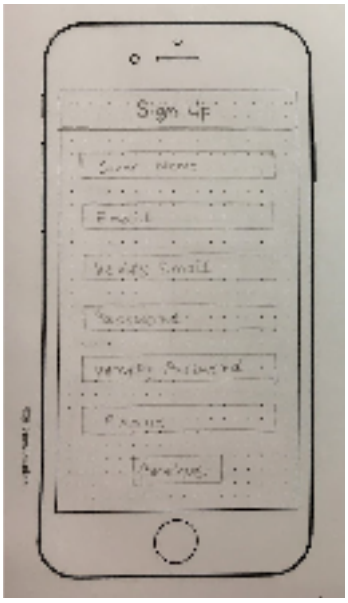

Fig: The information to be filled during sign up

Fig: The option to choose the broad categories

Fig: The option to choose the individual games

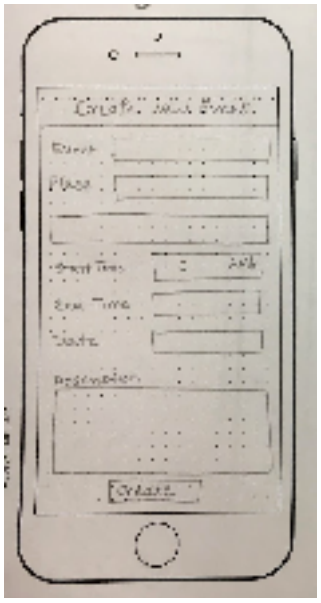

Fig: The step to create an event

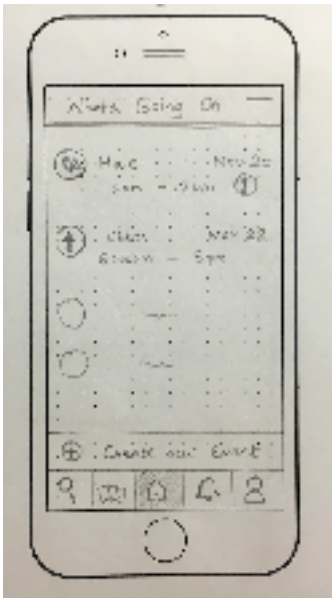

Fig: Overview of all the events (Home screen)

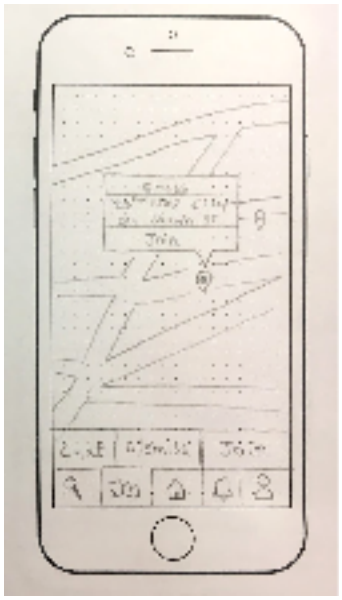

Fig: The event details being shown on the map

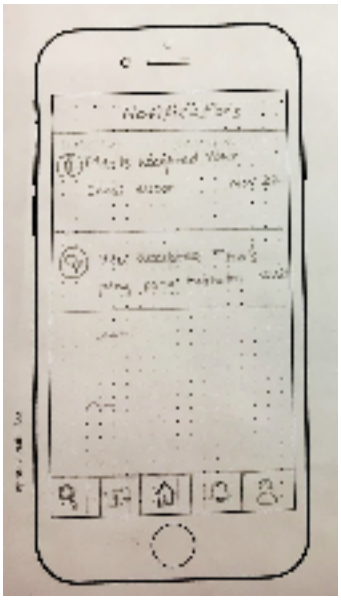

Fig: The notifications screen

Cognitive Walkthrough

CWR Number : CWR 1
Product Name: Tag Along
Task Name: Creating a new event
Date and Time of Study: Thursday 10:45 pm - 11:20 pm
Experimenter's name: Aziz Khilawala

Task Description
The user can create a new event according to their leisure. The event is broadcasted to other members using the application.

Task Action Sequence

1. User clicks the create new event option on the home screen.
    a. System - opens up the "Create event form screen."
2. User inputs the event details like event name, place, start time, end time, date and description of the event.
    a. System - the text fields are active when the user inputs the details.
3. User clicks create button to create the event.
    a. System - creates the event.

Interface / tool / system description
The system is a mobile application, here the user can create an event by filling in the event details. The application then broadcasts the event to other users on the application. The users can then join the initiator of the event to enjoy the activity together.

Step 1 - User clicks the create new event option on the home screen.

CW Question	Issue ?	Notes
Will the user know what to do at this step?	X	Only one step of clicking a button, very simple and obvious to perform.
If the user does the right thing, will they know that they did the right thing and that they are making progress towards their goal?	X	Yes, upon clicking the add new option the user is directed to the "Create event" page, thus meeting its goal.

Step 2 - User inputs the event details like event name, place, start time, end time, date and description of the event.

CW Question	**Issue ?**	**Notes**
Will the user know what to do at this step?	X	The steps are very basic, just like filling up a normal form to add personal event details. The user won't find any difficulty in this step.
If the user does the right thing, will they know that they did the right thing and that they are making progress towards their goal?	X	When the user inputs data in the text fields, the text field gets highlighted which indicates the field they are writing in.

Step 3 - User clicks create button to create the event.

CW Question	**Issue ?**	**Notes**
Will the user know what to do at this step?	X	Just pressing the button to submit the event information, no issue will be experienced by the user
If the user does the right thing, will they know that they did the right thing and that they are making progress towards their goal?	Yes	Once the user is done filling the form, upon clicking "Create Event", the prototype does not provide any indication where the user will be redirected to, and what feedback they will receive via success message callouts.

CWR Number : CWR 2
Product Name: Tag Along
Task Name: Join an event
Date and Time of Study: Friday 10:30 am - 11:00 am
Experimenter's name: Aziz Khilawala

Task Description
Anybody wanting to get involved in an event can join the event freely and view details about the event. The user receives notifications when they join an event.

Task Action Sequence

1. User selects an event from the all the different event's listed on the home screen based on their interest.
    a. System - switches to the "event details page." The event details page has a map like interface which points to the event location as well.

2. The user clicks the Join button from the bottom button grid.
    a. System - sends a notification to the user who accepted the event and the creator of the event.

Interface / tool / system description
The interface lists all the current event listings on the home screen, the user can select any event and then join the event by notifying the creator about it.

Step 1 - User selects an event on the home screen.

CW Question	**Issue ?**	**Notes**
Will the user know what to do at this step?	X	The step is very simple to perform, the user has to just select an event based on their interests.
If the user does the right thing, will they know that they did the right thing and that they are making progress towards their goal?	X	As the user selects any event, they are then redirected to that event details map-like interface page.

Step 2 - User accepts the event by selecting the Join option

CW Question	**Issue ?**	**Notes**
Will the user know what to do at this step?	X	This action will not be a problem for the user to perform, the bottom button groups clearly indicate the Join option.
If the user does the right thing, will they know that they did the right thing and that they are making progress towards their goal?	Yes	Although, the user will receive a notification upon selecting the Join option. However, it is uncertain which screen the user will be redirected to after that.

Potential fixes for the discovered problem
We identified a major problem regarding page redirection upon task completion. The user although performing the task successfully is not redirected back to the starting point.

The solution

1. For the first task scenario of creating an event the user should be redirected back to their profile section which lists down the recent events the user created.

2. For the second task scenario of joining the event, the application should redirect the user to the starting point from where they began the first action. Ideally the user should be directed to the home screen of the application when they have joined the event, so that the user can select any other event they may like to be a part of.

The above two solutions may not necessarily be ideal, but testing the prototypes with real users may help us answer the question of redirection better. From a usability standpoint, the user shouldn't be kept wondering what next action they should perform. The application should guide them towards the actions required.

Dynamic Prototype

Interactive prototype link: https://invis.io/JA9OI1P8Q

Fig: Sign in

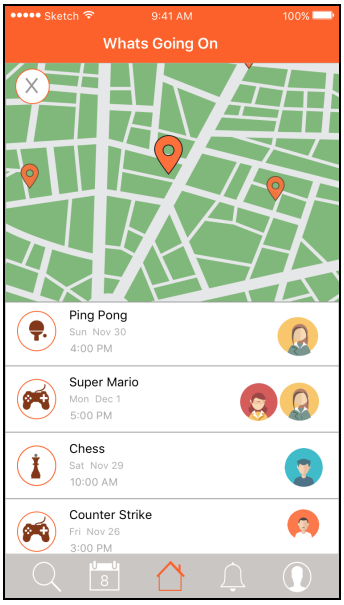

Fig: Home screen

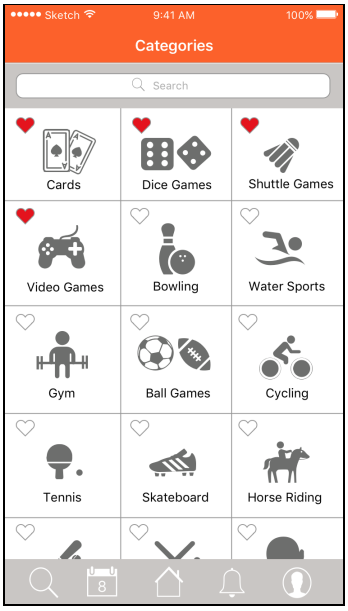

Fig: Categories Screen

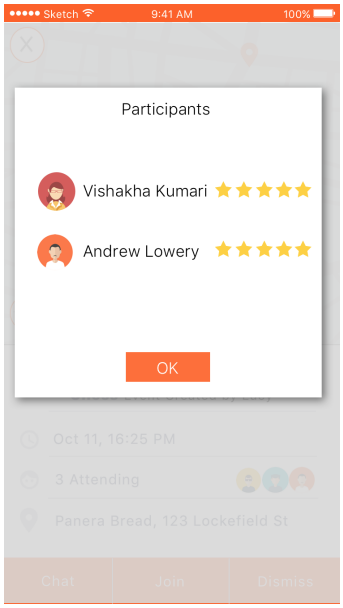

Fig: View Attendees List

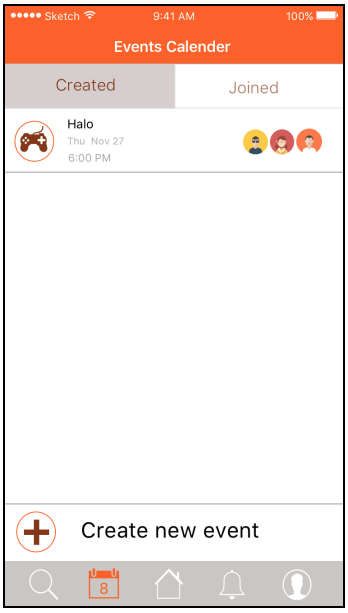

Fig:Events Calendar Screen

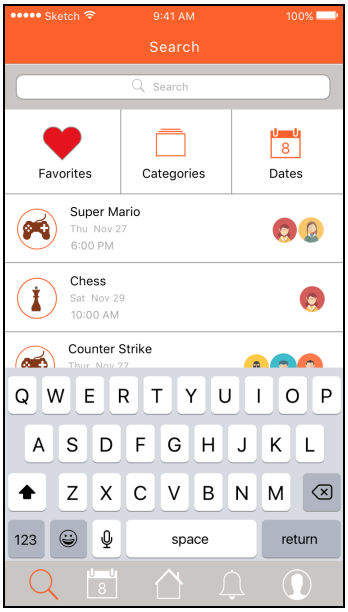

Fig: Search Section

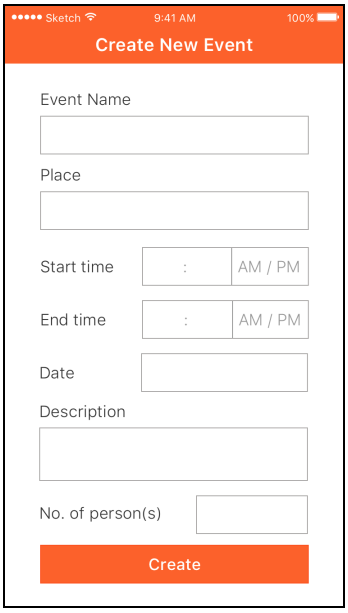

Fig: Create new event form

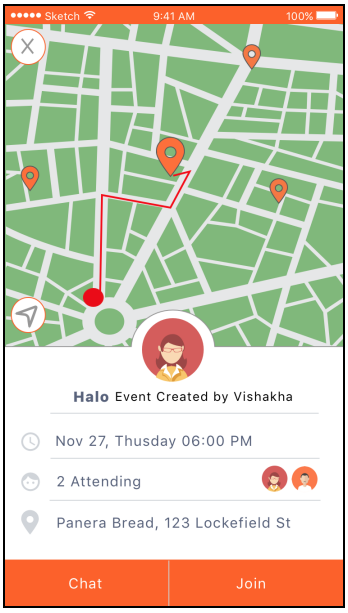

Fig: Event Details

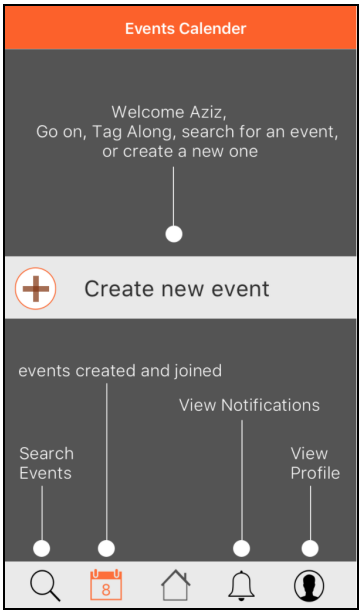

Fig: New user onboarding

Validation (Product Assessment)

Usability Study Findings

We sent a usability evaluation packet to HCI experts. The packet consisted of the details of the application, and the tasks that they should perform using the prototype. The evaluators were also asked to fill out a post task error report and a post task questionnaire to provide feedback about their experience using the prototype.

Post Task Error Report and Questionnaire Summary

The post task error report for Tag Along was mostly positive. The report asked the evaluators to test out the two main functions of Tag Along; creating an event and joining an event. They were also asked to keep track of the time it took to complete each of the tasks. The first task was to create an event. Half of the evaluators encountered an issue. One was encountered when trying to start the process to create an event. The other was encountered when the evaluator hit a button believing it would close the map, rather than back them out of the screen they were on. All the evaluators recorded approximately the same amount of time to complete the task, which was around half a minute. The second task, joining an event, had one error encountered which had to do with the way the demo was set. Certain things needed to be done in a particular order. This would not be an issue in the working product. The time it took to complete joining an event had more variation. Half of the evaluators took less than 30

seconds, while one took a minute, and another over a minute and a half.

The post task questionnaire revealed a bit more about Tag Along. The majority of the evaluators were male, or didn't wish to give their gender. Their ages ranged from early 20's to the mid 40's. The majority thought they would use the app if they were looking for a small group for recreational activity. None of the evaluators thought that the system was overly complex. However, when asked if the system seemed to have a consistent interface, one said it did not. Likewise, when asked if the system would be easy for a new user to learn, one was hesitant, only stating that it may be. Most of the evaluators thought the system was easy to use, with one saying it was moderate. They all agreed that the systems features were well implemented, just as they all agreed that they felt confident using the system.

Interview Summary

We conducted four phone interviews with the evaluators to who provided a range of different insights regarding their experience with the prototype. After compiling their feedback, the findings can be summarized in three categories:-

1. Look and feel
    - The search input field should be placed on all screens. Thus making the search consistent throughout the design and removing it from the bottom navigation bar. Another suggestion was to place the search icon at the top right corner.
    - The heading title of some screens was kept bold while other screens had a light weight to it. The font weights need to be made consistent.

2. Ease of use
    - The notifications bell icon lacked a counter bubble which would show the user the number of notifications they have received or haven't yet viewed. This also enables quick recognition.
    - Users would prefer to have pre-filled metadata in form entries. The user is directed to the "create new event" form upon selection of the category and the its sub level of specific game / activity. Once the users selects them, the form should be pre populated with the selected information.

3. Avoid confusion
    - The current prototype design shows the name of the home screen as "what's going on." An evaluator found this to be confusing. It sounds as if the system is asking the user, rather than answering it. Changing the name of the home screen to something more suitable may resolve this doubt.
    - The cross or close icon visible on top of the map view of the home screen and event details page are unnecessary and should be eliminated. The intent behind placing the close icon was to hide the map and provide the user with an

enlarged view on the event listing and details. However, hiding the map with a scroll up gesture from the details section may eliminate the confusion.

Summary of Product Assessment

Problems with the Product

From the information we have gathered the layout and interface of all the pages must be re-evaluated to remove ambiguity. We also need to address the screens that have changes in the interface to bring them in line with the majority. Additionally, we may want to consider modifying the way joining an event works after reviewing the process further. The range in times it took to complete that task indicates there may be something that is causing confusion. However, it is also possible that the issue may simply be in the way the demo is designed which is more restrictive than how the final product should be.

Future Plans

Three major items have been identified for improvement in the future. The first is the need for increased chat functions and options. The two remaining items deal with monetization through deals with companies and ads.

Chat is an integral feature for socialization. It can help users get to know one another easily, while keeping them in their comfort zone. Currently Tag Along only offers basic text chat functionality. However, in the future it would be good to add additional options such as voice and video chat. Special care will have to be taken with implementing these options to insure that the environment remains safe and friendly. Video especially could be used in unintended ways that could be harmful to the user base.

Monetization with ads would be a straightforward and easy to implement method for income. Ads could be displayed based off the user's favorites as well as the businesses they visit. Additionally, if the user doesn't like the ads or doesn't want their data shared with ad companies, they would have the option to subscribe to a premium account. This account would have no ads and wouldn't share any data.

Creating partnerships with other businesses and companies would potentially be a less intrusive way to create income. Deals could be made to promote or suggest particular businesses to meet at. This could be done either through special events held by those places, or it could be with cost saving specials at various businesses. Companies like Uber or Lyft could be potential partners with integration worked into the navigation portion of Tag Along that offers to book a ride when you look up the directions.

References

1. http://www.calmclinic.com/anxiety/how-to-cure-social-anxiety
2. https://www.reddit.com/r/AskReddit/comments/3d2udb/serious_redditors_who_overcame_social_anxiety_how/

Appendix

1. Post Task Questions Responses
2. Post Task Error Report
3. Team Kilo_Tag Along Presentation
4. Tag Along - One page portfolio
5. Dynamic Prototype