

PROJECT REPORT: PROJECT

TEAM : CAMPUS TRAIL

DATES : 12/15/2017



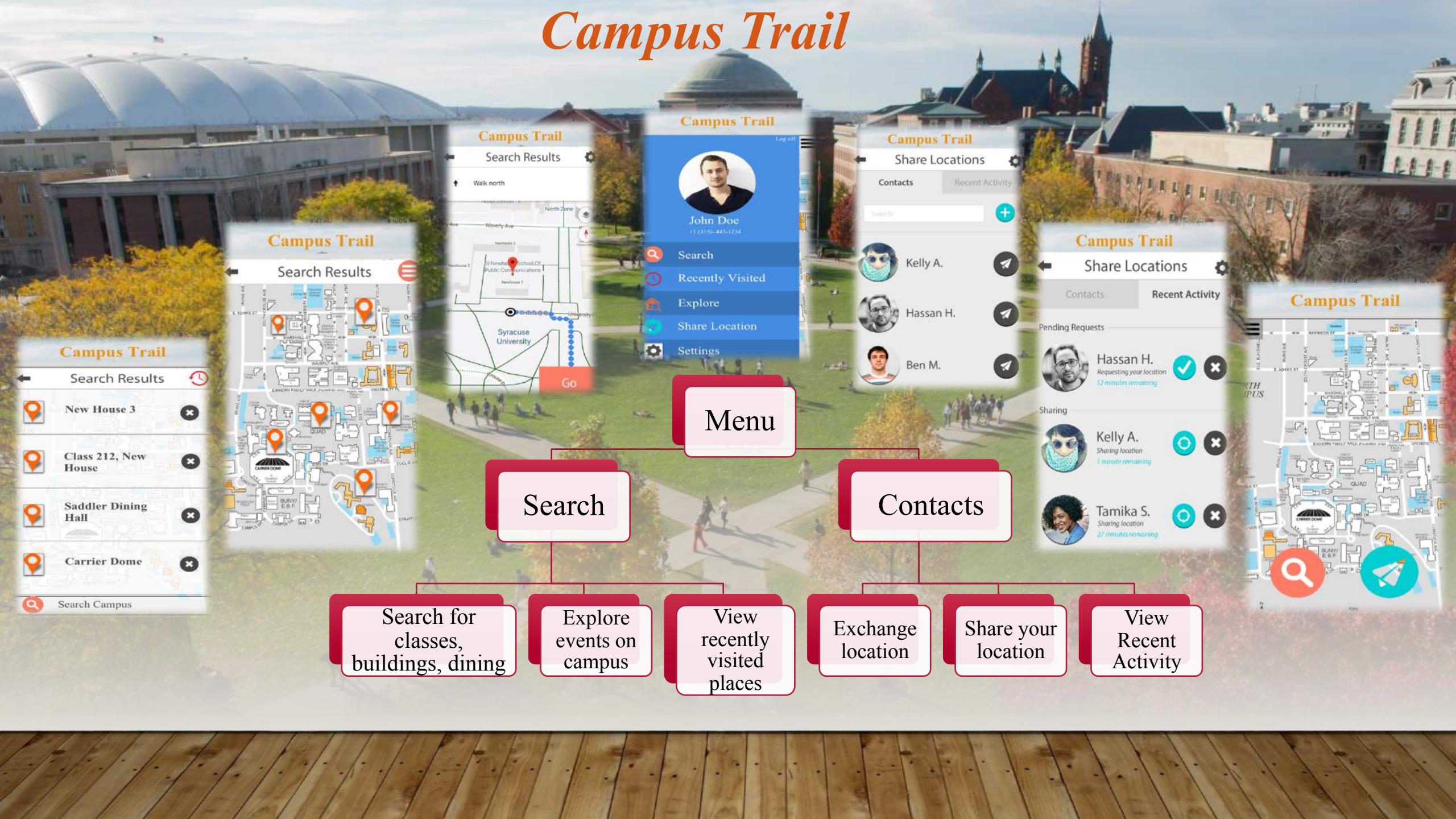
CAMPUS TRAIL

SURUCHI SINGH

MEHAL CHAUDHARI

SHARATH BABU SRINIVAS

Campus Trail



Menu

Search

Search for
classes,
buildings, dining

Explore
events on
campus

View
recently
visited
places

Contacts

Share your
location

Exchange
location

View
Recent
Activity

INTRODUCTION

If you have to navigate from Bird to Carnegie. If you could have a button or something that would alert your roommate or a friend if you have an emergency

I was late for all my classes in the first week of the semester.

Navigating the interiors of large buildings is difficult. I work in a large hospital and it took me a while to learn how to get to my lab and my classrooms.

User Reviews

OVERALL DESCRIPTION

A mobile application to help anyone navigate a school campus.

Find an optimal route from one building to another

Find your way to classes, dining areas, cafes, events and stores on campus

One can find their way inside buildings

Find a friend or share your location with them.

View your recent history

Explore exciting events on campus

PERSONAS

- The primary persona is of a college freshman.
- Freshmen are usually not familiar with navigating inside buildings to find their classrooms.
- They are in charge of their own schedule for the first time so find it difficult to keep track of events, extra curricular activities.
- They keep missing out on events since they're not aware of them.



PERSONAS

- The secondary persona represents students that have college experience.
- However, their campus knowledge is equivalent to the primary persona, the college freshman.
- They live off campus and hence find it difficult to participate in any campus events. Navigation plays a factor in this.



PERSONAS

- The third persona represents family members visiting the students in school.
- They are unaware of college buildings and dining options.
- It is confusing for them to navigate back to the student's residential area.



SCENARIOS

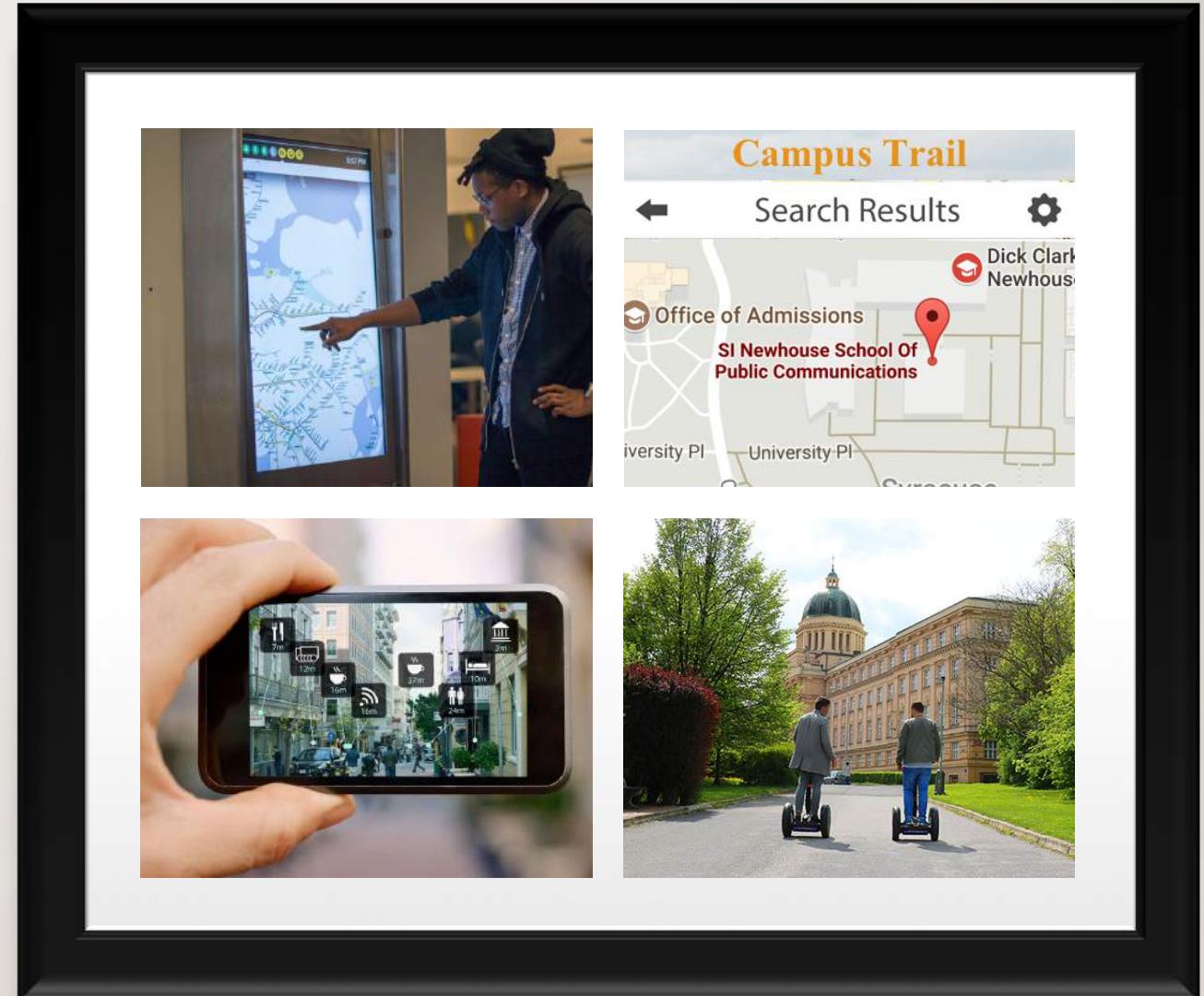


SCENARIOS



BRAINSTORMING

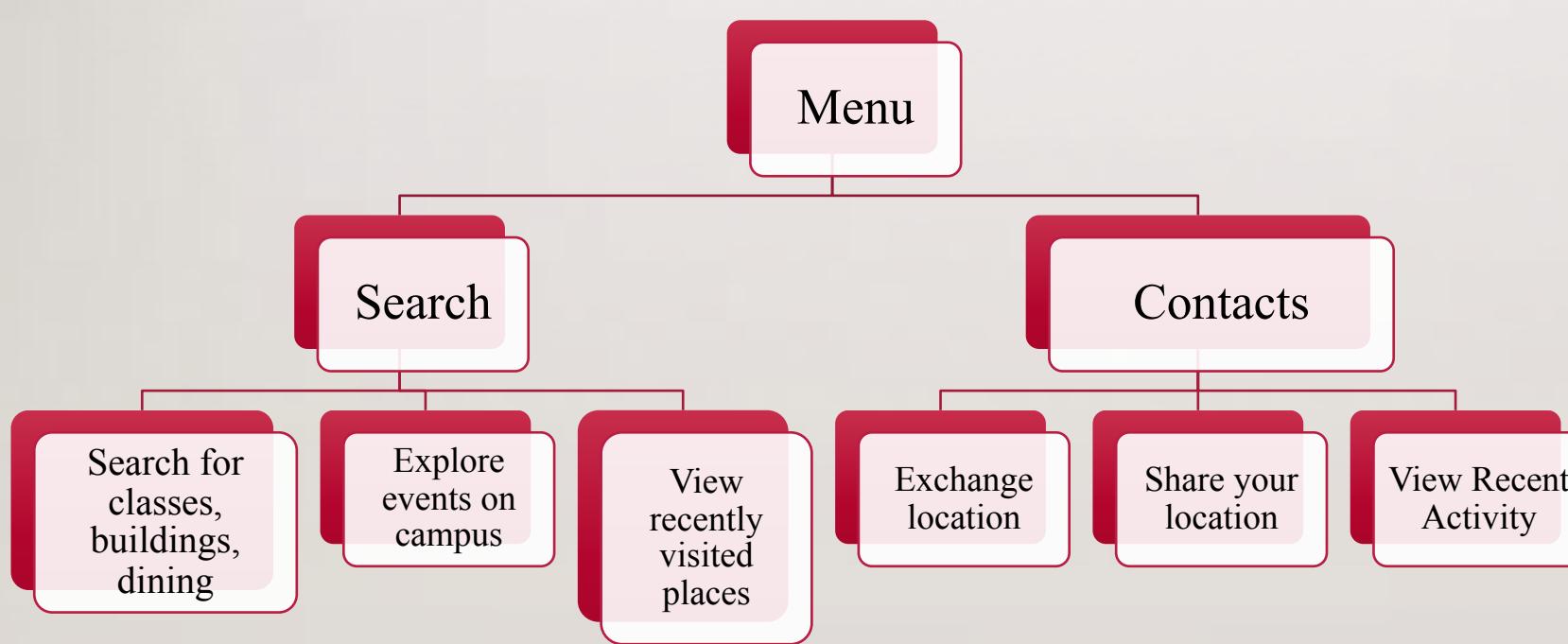
- Augmented Reality
- Kiosk
- Map on the Segway
- Mobile Application



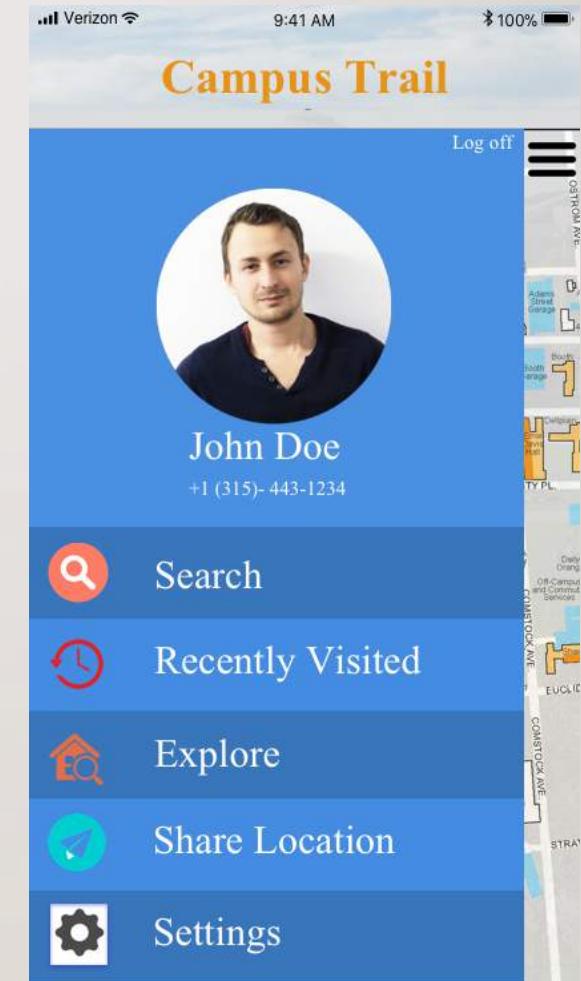
MOBILE APPLICATION

- We decided on building a mobile application over the alternatives
- A mobile application be portable and easily accessible unlike kiosks and Segways.
- Most students preferred a mobile app when compared to a kiosk
- Unlike an augmented reality application, a mobile application would provide more features and would not drain the phone's battery
- A mobile application would be helpful in pulling up events from calendars, messages, emails and then navigating to those events.
- We could also pair the phone with a smart watch and use it for hands free navigation

FEATURES/ FUNCTIONAL REQUIREMENTS



Flow Chart



USER REQUIREMENTS

- On Campus Events –
- User must be able to view all the events held across the campus on the school map
- User must be able to view those events sequentially as well. date, time, GPS location, details of what's happening, target audience)
- User should be able to see all the events that are happening on campus that day as well as all the major upcoming events(Games, Ted Talks, Seminars)
- User should be able to see all the events that are happening in a specific building (i.e. student wants to explore while waiting for a class or meeting)

USER REQUIREMENTS

- Locating Buildings/Classrooms/Dining Areas
- User must be able to see which classrooms are occupied on a particular day (i.e. the student needs to study or attend a group meeting, but the room will be occupied soon)
- Physical signs about classroom and the area they are located in should be displayed (i.e. 110-120 is to the left, while 121-140 is to the right)
- User should be able to see a floormap of each floor in visible areas such as near the staircases or elevators and at the entrance of each building.
- User should be able to view recently visited places to navigate to them again

USER REQUIREMENTS

- Sharing Location-
- User should be able to exchange their location with a friend present on campus.
- Once a user shares their location, they should be able to receive their friends location too
- User should be able to receive requests to share their location with others on campus
- User should be able to view and manage whom they have shared their location with
- User should be able to view the time remaining for pending requests and shared locations

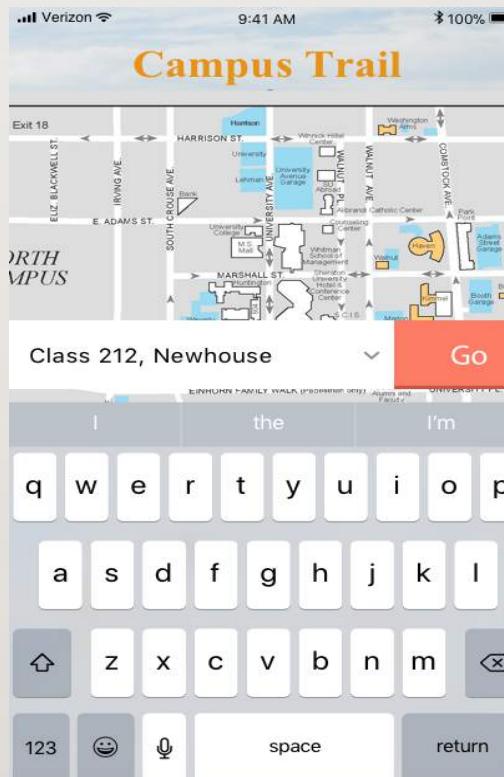
NON FUNCTIONAL REQUIREMENTS

- Usability
 - ❖ Error rates
 - ❖ User acceptance
 - ❖ Ease of use provided to the targeted users
- Understandability
- Desirability
- Performance requirements
 - ❖ The application will respond to search results within 5 seconds
- Security requirements
 - ❖ Maintain privacy with respect to location and phone number of the user
 - ❖ Encryption of data before storing in database

TASK ANALYSIS/ MENU STRUCTURE

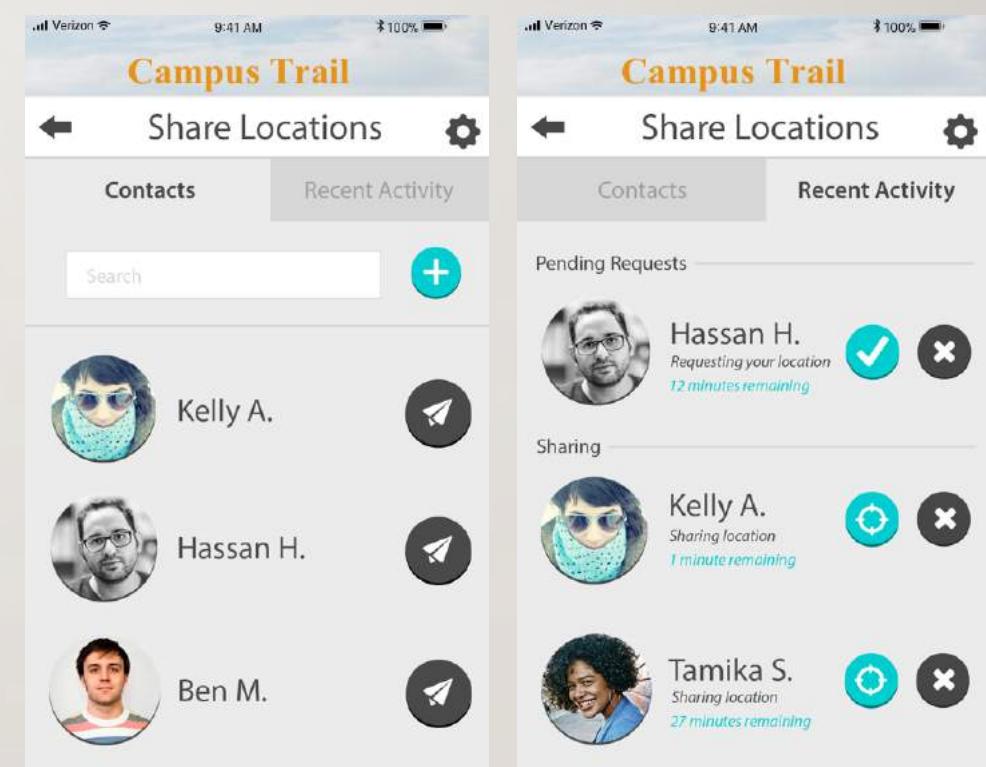
➤ Locating a classroom

- User types the room number in the search bar(i.e. 212, New House)
- Routes will be displayed on the screen once destination is entered
- User initiates navigation
- User continues to walk towards the room and views the route
- Confirmation page displaying that the user made it to the correct room



TASK ANALYSIS/ MENU STRUCTURE

- Find a friend
 - User views their contact list (list of contacts, adds new contact information)
 - User selects a contact and requests their friend's location if they're on campus
 - Friend receives notification to allow, deny or dismiss the sharing of their location
- If the friend allows their location to be exchanged/shared:
 - User views routes to navigate to their friend
- If the friend denies their request to share their location:
 - Task ends

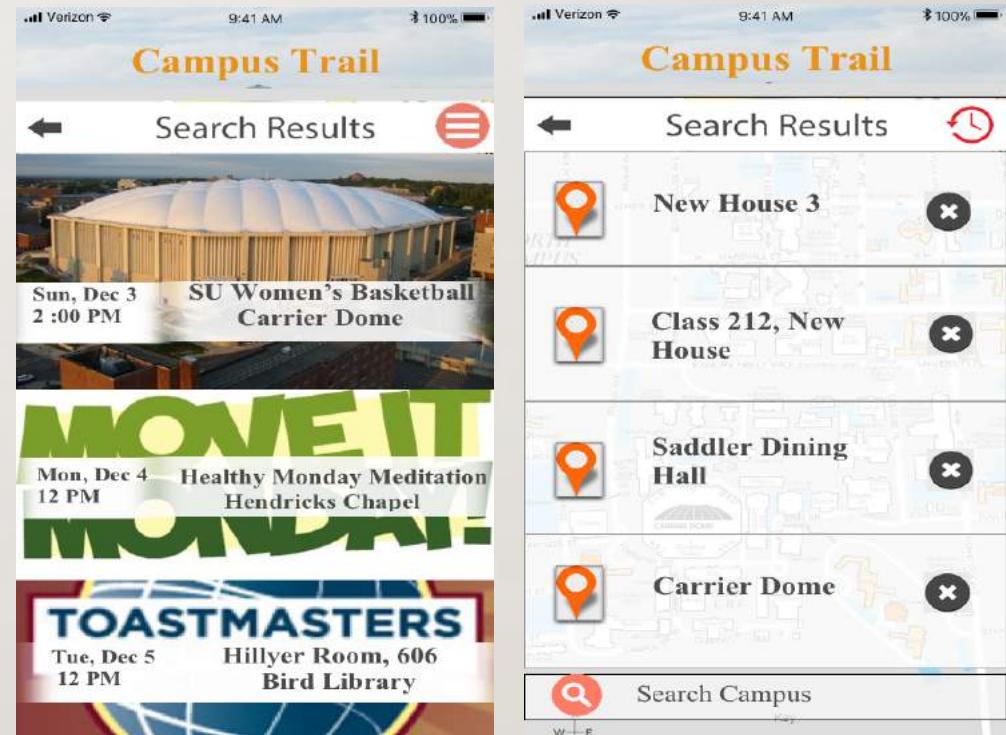


TASK ANALYSIS/ MENU STRUCTURE

➤ Explore Events

- Locations where events are held are displayed on the map.
- User can view these events in a sequential manner as well.

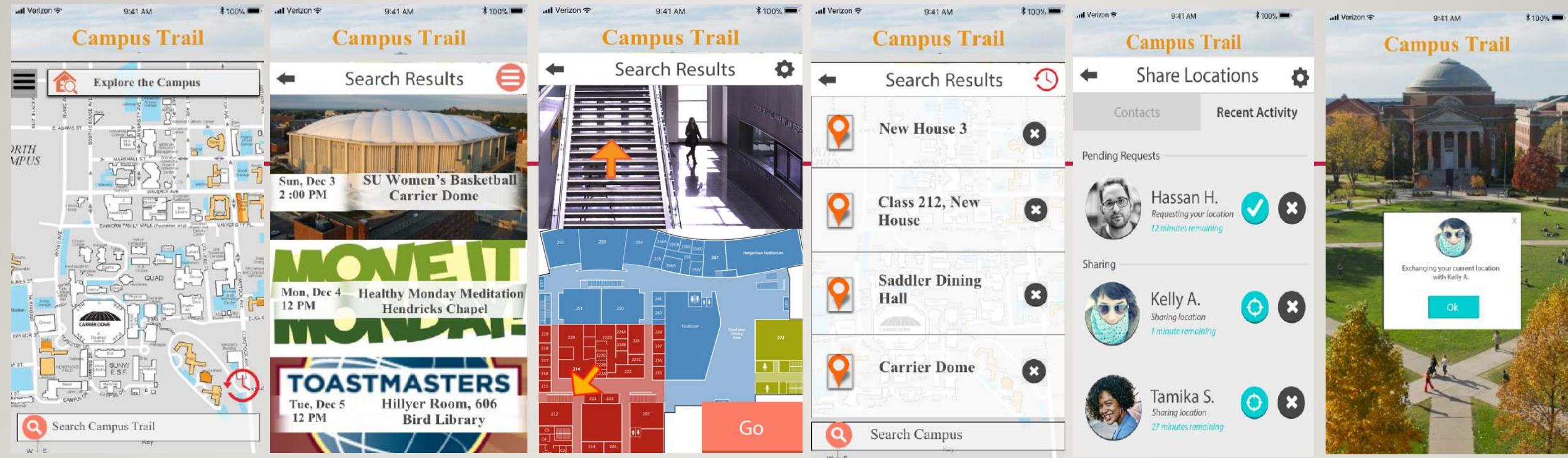
➤ View recently visited places so as to navigate to them again.





LOW FIDELITY PROTOTYPE

Created in Balsamiq



HIGH FIDELITY PROTOTYPE

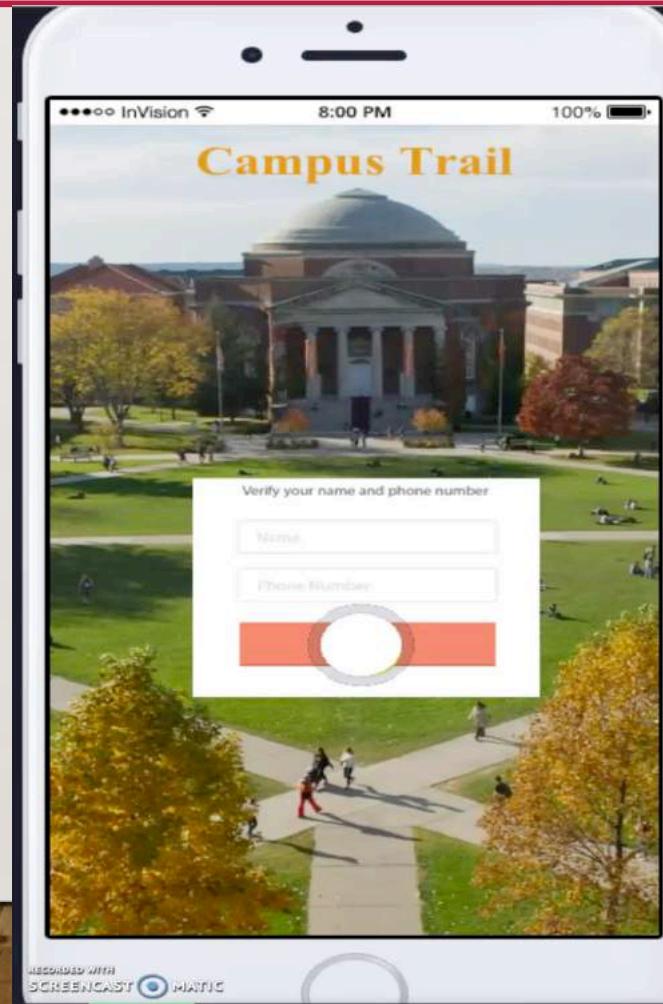
Created in Sketch

PROTOTYPE DEVELOPMENT

- Initially, the app only had ‘searching the campus’ and ‘sharing of locations’ features
- However, we added an explore the campus feature. Similar to google maps, you can explore events held on campus.
- We have added a page to view these events either on the map and a page to view these events in a list format along with their details (date, time and venue)
- We also added a recently visited page so that the user can easily navigate to the places they have been to in the past
- Since the functionalities increased, we decided to add a menu to our app
- Addition of a menu, gave the flexibility to the user to view their own profile information

VIDEO OF THE PROTOTYPE

[INTERACTIVE PROTOTYPE – CLICK HERE](#)

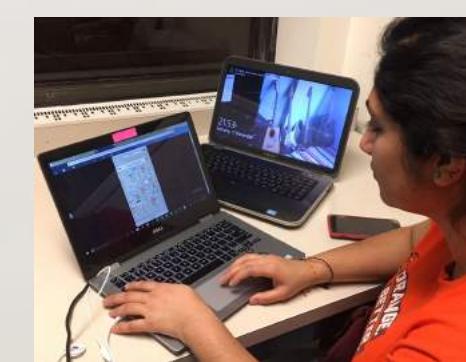


Turn up the
volume for
audio

EVALUATION PLAN

- Participants: Students residing on or off campus.
- Duration: 10 minutes
- Location: Any convenient location
- Goals:
 - ❖ Whether the users can explore and navigate a campus.
 - ❖ Whether they can share or exchange their location and find a friend on campus.
 - ❖ If a critical feature that they expected to be on the app is missing.
 - ❖ How is it different from existing navigation apps.
 - ❖ Any confusing areas or Interface errors
 - ❖ Any features that the app could do without

USERS WHO PARTICIPATED IN TESTING:



USABILITY QUESTIONNAIRES

Sr. No.	Questions	Strongly Agree					Strongly Disagree				
		1	2	3	4	5	6	7	8	9	10
1	I will use the app on campus frequently as I found it helpful	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2	The app is easy to learn and use	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3	The tutorial provided in the application was clear	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4	The interface of the app was appealing	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5	The app had all the functionalities that I expected it to have	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6	The app can help me find my friend's location on campus	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

USABILITY QUESTIONNAIRES

Sr. No.	Questions	Strongly Agree					Strongly Disagree				
		1	2	3	4	5	6	7	8	9	10
7	The app was easy to navigate	<input type="radio"/>									
8	I could perform the functions (searching & sharing locations) provided by the app	<input type="radio"/>									
9	The app will help me participate in events held on-campus	<input type="radio"/>									
10	The icons and buttons on the app were easy to understand	<input type="radio"/>									
11	The app will help me find classrooms and buildings	<input type="radio"/>									
12	I would recommend the app to a friend	<input type="radio"/>									

USABILITY TEST SCRIPT

- Product Name: Campus Trail
 - Date : 12/05/17
 - Time of Study: 16:00
 - Experimenter's Name: Suruchi Singh
 - User Details: The user is a student of Syracuse University, the school we have created this app for. The user travels to the classes by foot and requires directions to buildings and directions inside the building while travelling to the classes.
 - The user is a 22-year-old graduate student residing off campus.
 - Venue of user test: iSchool, Syracuse University
- *Warm up Questions:*
 - Tell me about yourself
 - How often do you go to campus?
 - And for what?
 - How far away do you live from campus?
 - How often do you use your mobile phone?
 - How do you find out about events held on campus?
 - Problems concerning navigation on campus

USABILITY TEST SCRIPT

- We have created a prototype for finding your way around campus.
- We would like you to click on the app and interact with it
- How would you interact with the app?
- Can you navigate through the app?
- You can ask us questions during the walkthrough and we will answer them
- What are your views about the app and do you have any recommendations?
- Is there anything that we didn't add and you expected it to be on the app?
- Thank you so much for your time and for your feedback on the app! Have a great day!

USER TEST TASKS

- What tasks do you think you can perform with the app?
- Can you show me how you would navigate through the app for the following tasks?
 - ❖ Explore events held in Syracuse
 - ❖ Share your location with a friend, Kelly.
 - ❖ What would you do if someone shared their location with you?
 - ❖ Can you navigate to the contacts page?
 - ❖ Can you view your recently visited places
 - ❖ Could you search for Newhouse 3
 - ❖ Could you search for Room 212, Newhouse

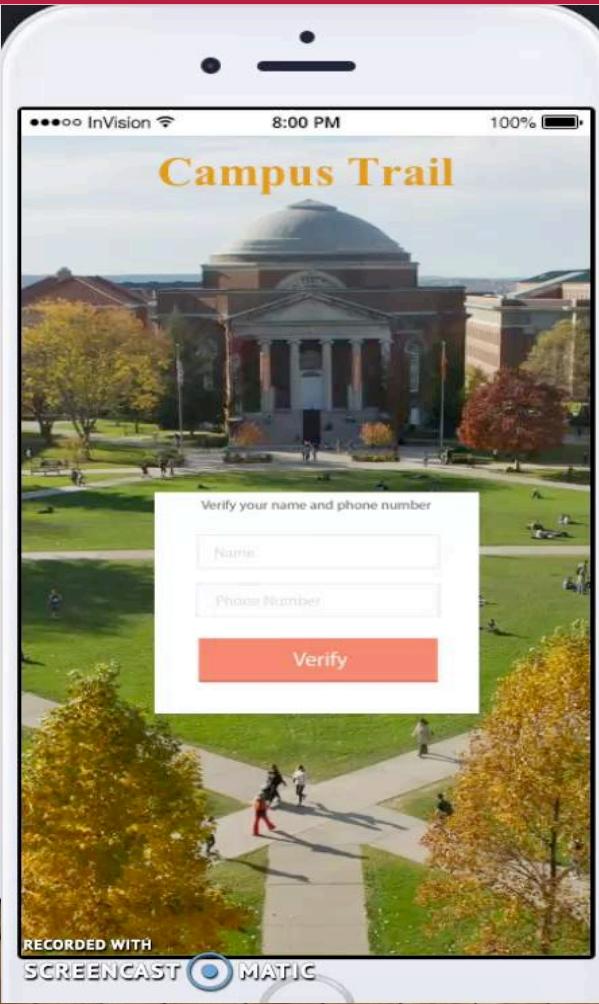
USABILITY TEST RESULTS

- User could explore events by navigating to the explore page
- The app solves a problem faced by the user
- Would like the hours of operation of the buildings/classrooms on the app too
- Would like a 360 degree view of the campus
- User had trouble going back to the main page
- User thought it would be easier for them and those unfamiliar with the campus would find the app extremely helpful

ANALYSIS RESULTS

QUALITATIVE ANALYSIS	QUANTITATIVE ANALYSIS
Participant wanted to enter the name and phone number	Time taken to perform tasks was within a minute - could understand the contacts page
Used the icons on the menu as well as on the map and could understand the concept	95% success rate was seen as the user could perform the tasks given – exploring events, sharing location
Tried to hide the keyboard while searching	User took some time to navigate to the main page
Wanted the hours of operation on the classes and buildings	User's error rate was less as they thought the features were visible on the app
User was satisfied by the app and would like to use the app	User's usability questionnaire was above average.

USER TESTING 1



USABILITY TEST SCRIPT

- Product Name: Campus Trail
- Date : 12/09/2017
- Time of Study:9:00pm
- Experimenter's Name: Mehal Chaudhari
- Subject Details: The user is a student of Syracuse University, the school we are creating this app for.
- The user is a 22 years old student
- Venue of user test: Bird Library

USABILITY TEST SCRIPT

- Introductory questions :
- 1.Tell me about yourself.
- 2.What features would you like to have if there is an application for navigation inside campus? Would you like website application or mobile application?
- Would you interact with this application and tell what tasks it is performing?
- Can you share location to your friend
- What other features would you want this application to do ? Did you find our application user friendly?
- Thank you for your response!

USER TEST TASKS

- I'll let you look at and click around the app
- What tasks do you think you can perform with the app?
- Can you show me how you would navigate through the app for the following tasks?
 - ❖ Find a given location, Newhouse 3.
 - ❖ Find a friend, Kelly.
 - ❖ Share your location with your friend
 - ❖ Explore events held in Syracuse
 - ❖ View recently visited locations
- What is your overall impression of the app?
- Is there anything else you would recommend?

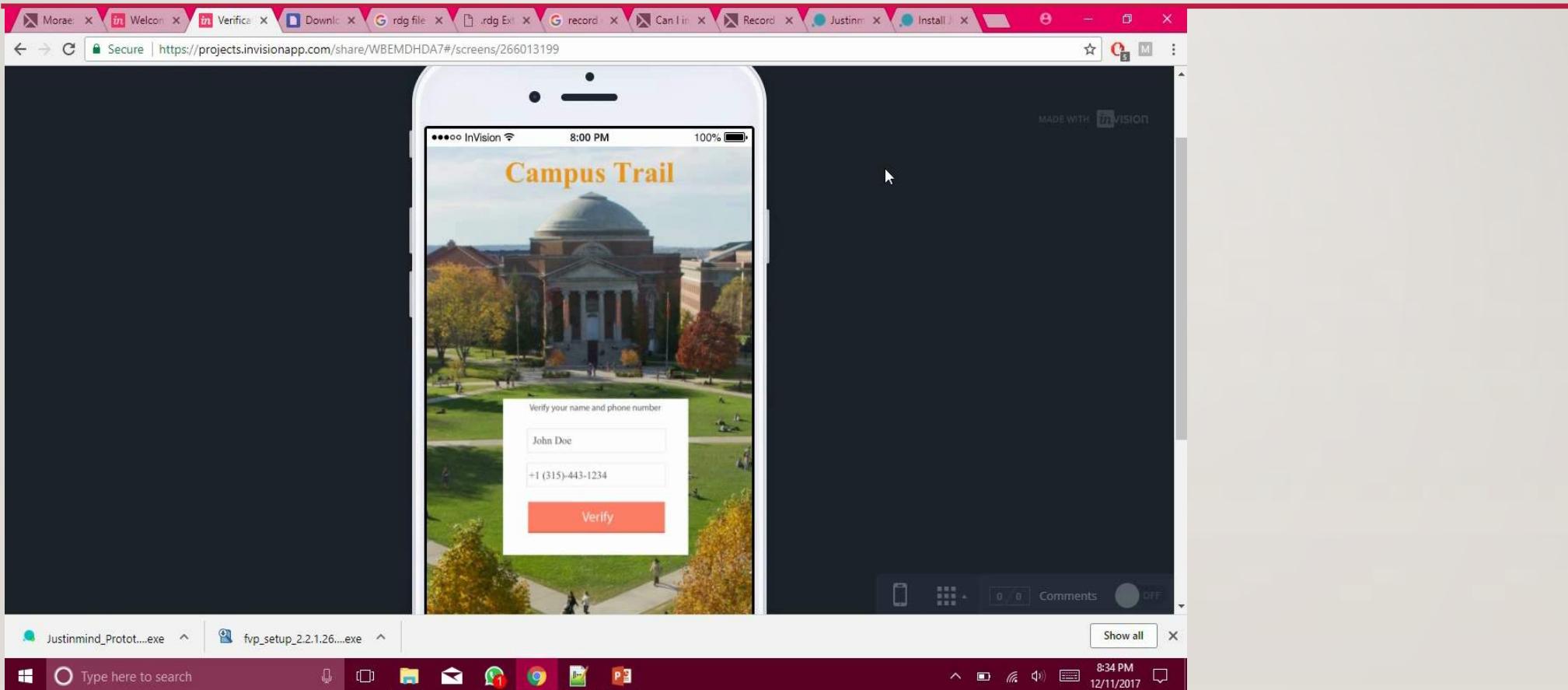
USABILITY TEST RESULTS

- Users found the prototype modern and useful
- They found the simplicity of the application appealing
- The app solves a problem faced by them
- Would like a zoom in, zoom out functions
- Would like to have filter while searching for articular events or building around campus.
- Clicking the location icon should select the event on the map.

ANALYSIS RESULTS

QUALITATIVE ANALYSIS	QUANTITATIVE ANALYSIS
Participant wanted home button on every page	Time taken to perform tasks was within a minute- could understand the contacts page
Used the icons on the menu as well as on the map and could understand the concept	90% success rate was seen as the user could perform the tasks given – exploring locations, sharing location
Found location icon confusing	User took some time to navigate back after getting location
Liked the user interface.	User's error rate was less as they thought the features were visible on the app
User was satisfied by the app and would like to use the app	User's usability questionnaire was average.

VIDEO – USER TESTING 2



USABILITY TEST SCRIPT

- Product Name: Campus Trail
- Date : 12/11/2017
- Time of Study: 12:02pm
- Experimenter's Name: Sharath Babu Shrinivas
- User Details: The user is a student of Syracuse University, the school we are creating this app for.
- The user is a 22 years old student.
- Venue of user test: Bird Library

USABILITY TEST SCRIPT

- This application helps you to navigate around campus.
- What are your concerns while navigating around campus?
- Can you explore our application and get to know about what this application does?
- What changes would you recommend ?
- Thank you for taking time out of your day for reviewing our application!

USER TEST TASKS

- I'll let you look at and click around the app
- What tasks do you think you can perform with the app?
- What is your overall impression of the app?
- Is there anything else you would recommend?

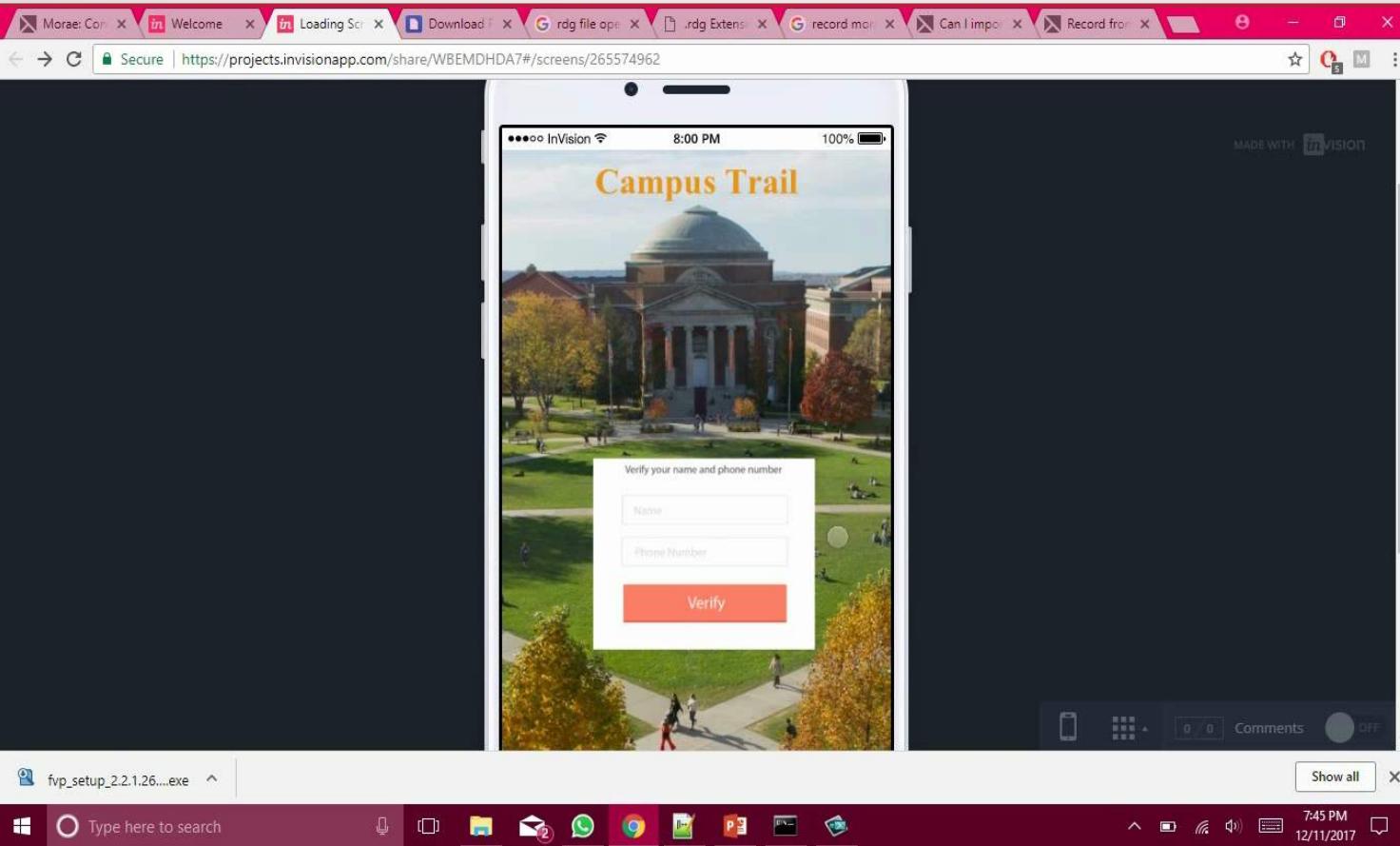
USABILITY TEST RESULTS

- Users found the prototype very interesting and clean
- They found the simplicity of the application appealing
- The app solves a problem faced by them
- Would like to add stops to the journey while searching for more than one location
- Found that current location icon did not do anything
- They found app very useful especially for freshers.

ANALYSIS RESULTS

QUALITATIVE ANALYSIS	QUANTITATIVE ANALYSIS
Participant was looking for back button on some pages.	Time taken to perform tasks was less than 2 minutes.
Used the icons on the menu as well as on the map and could understand the concept	90% success rate was seen as the user could explore and perform the main tasks.
Found that location icon didn't do anything	User took some time to go back to previous pages.
User wanted a hide or show keyboard while searching	User's error rate was less as they thought the features were visible on the app
User was satisfied by the app and would like to use the app	User's usability questionnaire was average.

VIDEO – USER TESTING 3



DATA ANALYSIS

		A	B	C	D	E	F	G	H
1	Participant	Qualitative Analysis	Quantitative analysis						
2			Success rate	Error rates					
3	Amruta Bhat	Participant wanted to enter the name and phone number Tried to hide the keyboard while searching	95%	5%					
4		Wanted the hours of operation on the classes and buildings							
5		User was satisfied by the app and would like to use the app							
6		Used the icons on the menu as well as on the map and could understand the concept							
7									
8	Nikita Kulkarni	Found location icon confusing	95%	5%					
9		Participant was looking for back button on some pages							
10		Used the icons on the menu as well as on the map and could understand the concept							
11	Nita Desle	User wanted a hide or show keyboard while searching	92%	8%					
12		Participant wanted home button on every page							
13		Participant was looking for back button on some pages.							
14	Ashwini Pharke	Wanted the hours of operation on the classes and buildings	98%	2%					

ANALYSIS OF ALL RESULTS

- Users found the prototype modern and useful
- Users did not dislike anything and thought it was interesting
- They found the simplicity of the application appealing
- The app solves a problem faced by them
- Found the location icon confusing
- Wanted to zoom into the map
- Wanted to hide or show the keyboard while searching

RECOMMENDATIONS

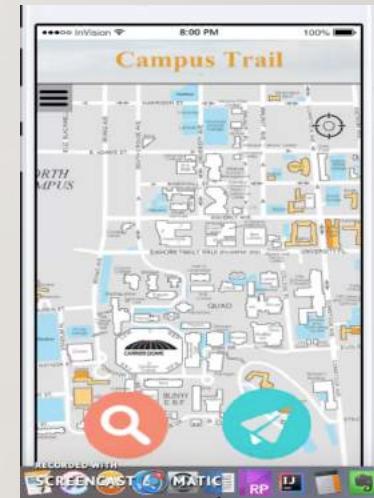
- Clicking the location icon should select the event on the map.
- Display the hours of operation of the buildings/classrooms on the app
- Add a 360 degree view of the campus
- Clicking on the events on the map should show a detailed description of the event
- Be able to filter searching for specific areas on campus (classes, dining, cafes, parking)
- Be able to zoom in or zoom out of the app
- Add stops to your journey during the navigation

DOCUMENT CONVENTIONS

- app : Mobile Application

APPENDICES

- Recording of another Usability Test:
 - ❖ Click on the video at your right
- Links to User Testing via Invision
 - ❖ [User Testing 1](#)
 - ❖ [User Testing 2](#)
- Excel Sheet of data and data analysis of participants asked for user testing attached in the Submission (Folder – Campus Trail/Appendices/User Testing/)



REFERENCES

- Preece, J., Rogers, Y., Sharp, H., & (2015). Interaction design : beyond human-computer interaction (4th Edition). West Sussex, England: J. Wiley & Sons.
- The Design of Everyday Things by Donald A. Norman
- <https://www.usability.gov/>