CS410/510:
HUMAN COMPUTER INTERACTION
FINAL PRESENTATION

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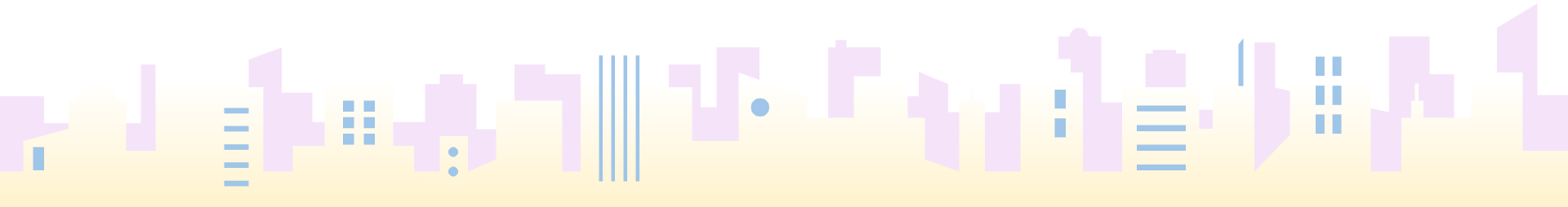


TOPIC PROPOSAL

The topics that each of us proposed in the beginning of the project are :

James - Optimizing transportation times and improving public transportation. I did my research by interviewing people with experience traveling to school or work using multiple methods of transportation

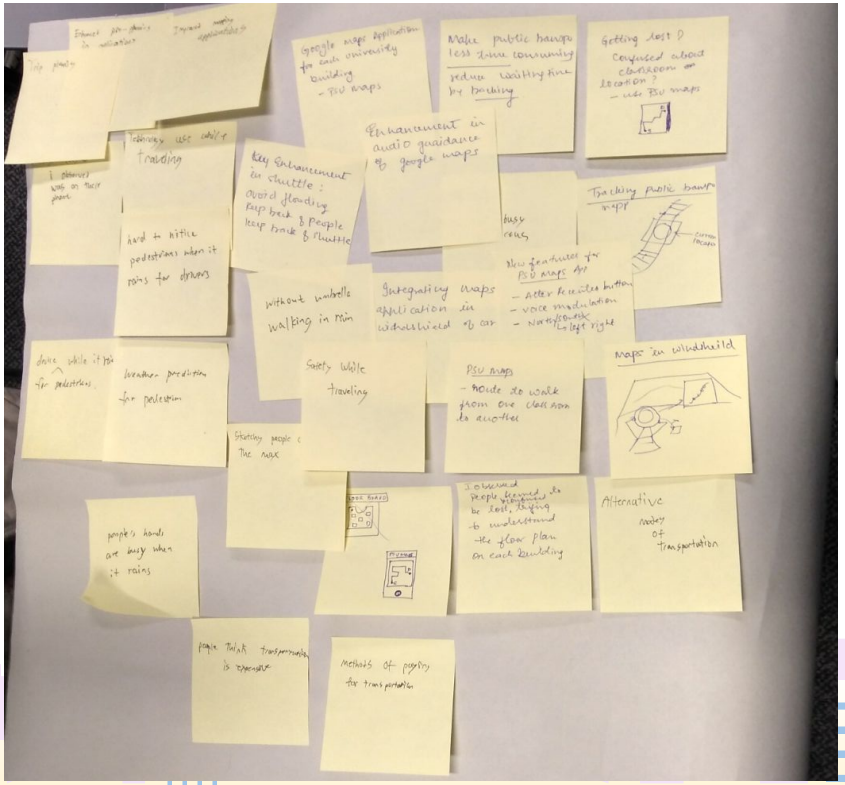
Neha - To make mapping applications efficient and more effective. I came up with ideas like enhance audio output in apps, including maps on the windshield.

Aishwarya - Indoor mobile navigation application(University buildings). I conducted my observations inside the university building where the map of the building is being displayed.

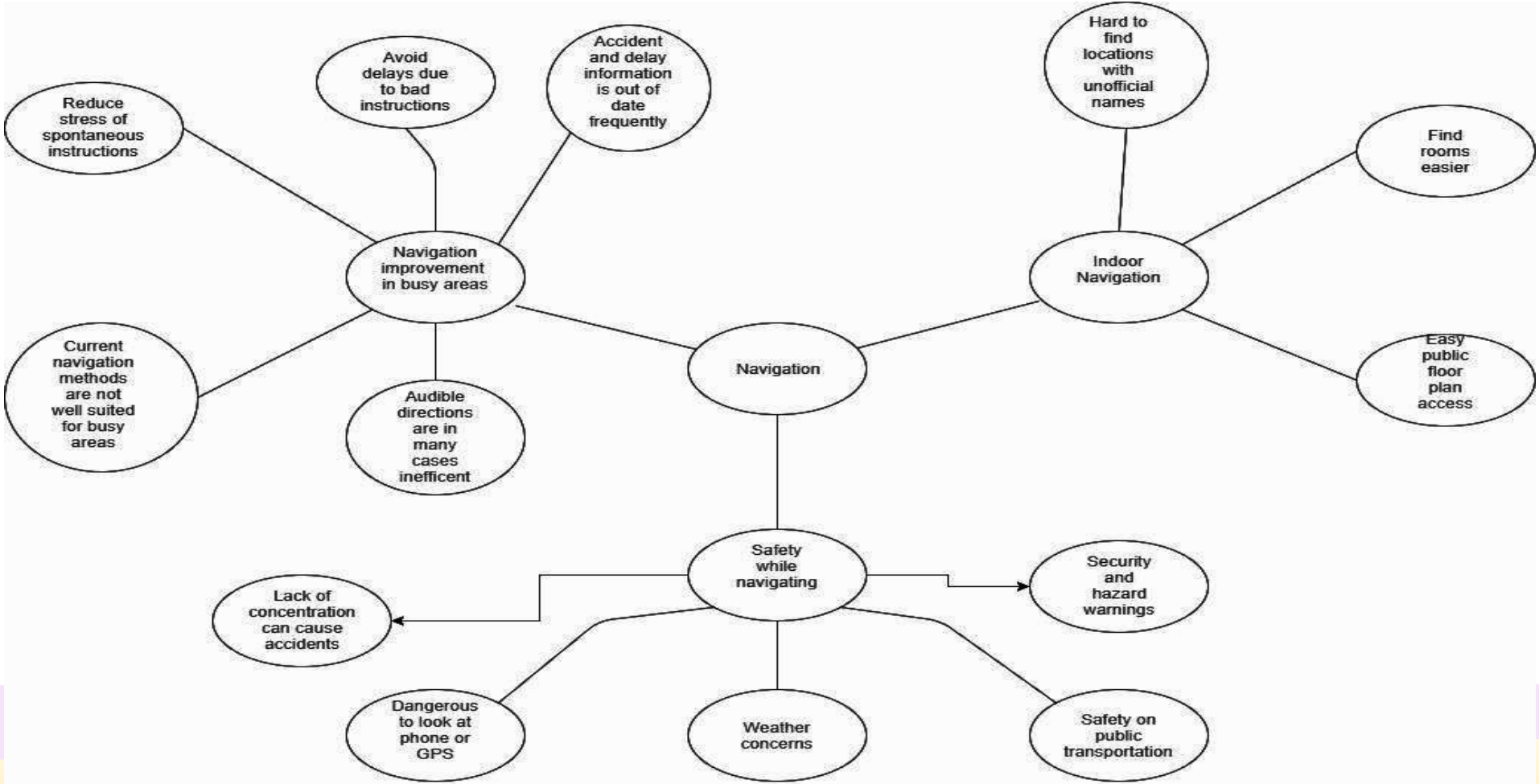
Zhan - My original topic was umbrella. My focus turned to weather concerns, security and hazard warnings

Affinity diagrams:

With affinity diagram we added all our ideas together. Since our groups research topics were diverse, our data was quite different and the affinity diagram helps us group related topics together



A THEMATIC DIAGRAM helped us combine our broad ideas under one major theme and find common ground for our project



FORMATIVE RESEARCH REPORT

The main takeaway from our brainstorming sessions were:

How might we Navigate indoors?
How might we improve navigation in bad weather?
How might we Navigate more safely?
How might we Improve navigation information communication methods?

And the related solution we found are as follows:

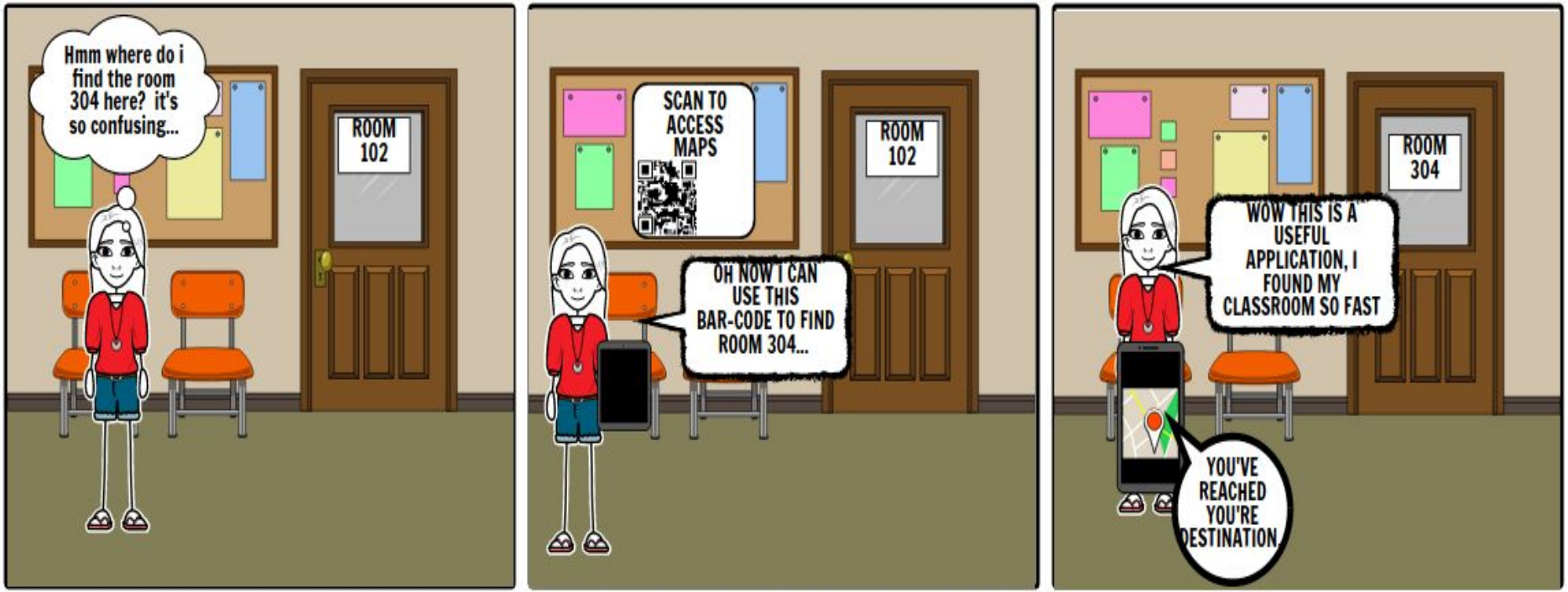
Ability to Search for specific type of room.
Keep track of weather on a real-time basis and inform the user.
Provide barcode scanning for building security purposes.
Provide windshield integrated with maps for efficiency of use for the driver.

DATA ANALYSIS AND PROBLEM IDENTIFICATION

Problem Statement: Navigation apps are inefficient outside and indoor maps tend to remain static for long periods of time and this can cause potential safety and time concerns. The applications also do not include navigation for within publicly accessible buildings.

SOLUTION STORYBOARD

Access to building maps through a barcode; this adds a level of privacy and security for the occupants.

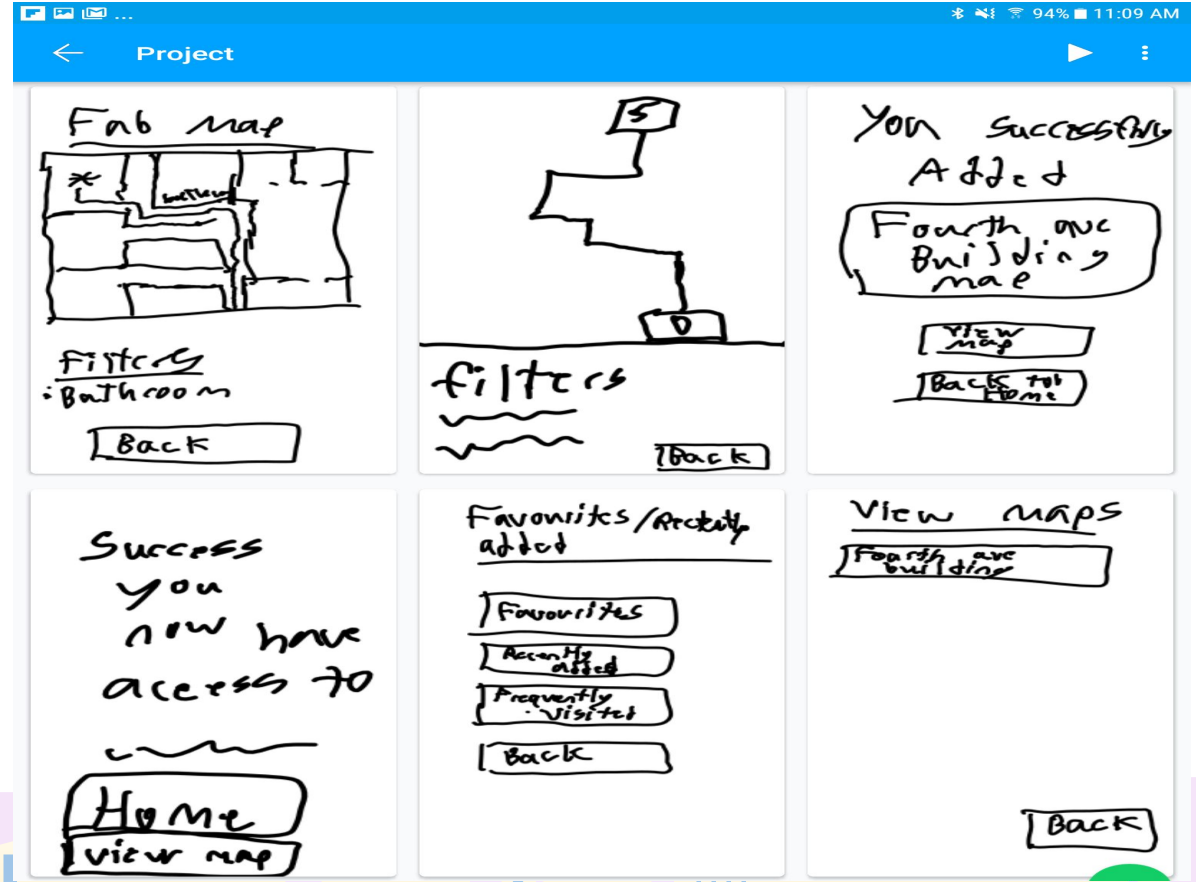


DESIGN CHOICES

- **barcode scanning for indoor maps** and **real time updates**

- tackle many of the major issues
- Realistic
- improved communication
- Restrict access using barcode
- accurate and improved audible or visual directions

PROTOTYPE AND EVALUATION



- Our groups prototype we attempted to cover as many of the basic use cases
- Advanced features like the actual maps and navigation we only integrated for one full use case for testing.
- We choose to only build the prototype with base functionality and the one major use case for testing.

SUMMARY

- Our experiences prototyping varied in many different ways.
- One of our major **successes** was our testing and use of the pop application in it;

  Our prototype being interactive allowed our testers to more easily associate it with the purpose of the application.
- Some of the things that did not work well included our **test planning and design planning;**

  1.In our **design planning phase** we could not decide what functionality was needed for our testing;

  This caused us to have a large number of failed or useless prototypes prior to creating a functional and useful one.

  2.The other flaw was in our **test planning**; while our tests went fine and provided extremely useful information we did have trouble finding subjects and collecting our data.
- On a high level both phases of our evaluation phase identified many of the same obvious problems with the design.
- But each of the internal and external evaluations also identified unique issues on top of the obvious issues that both phases showed.