



# Community Mapping

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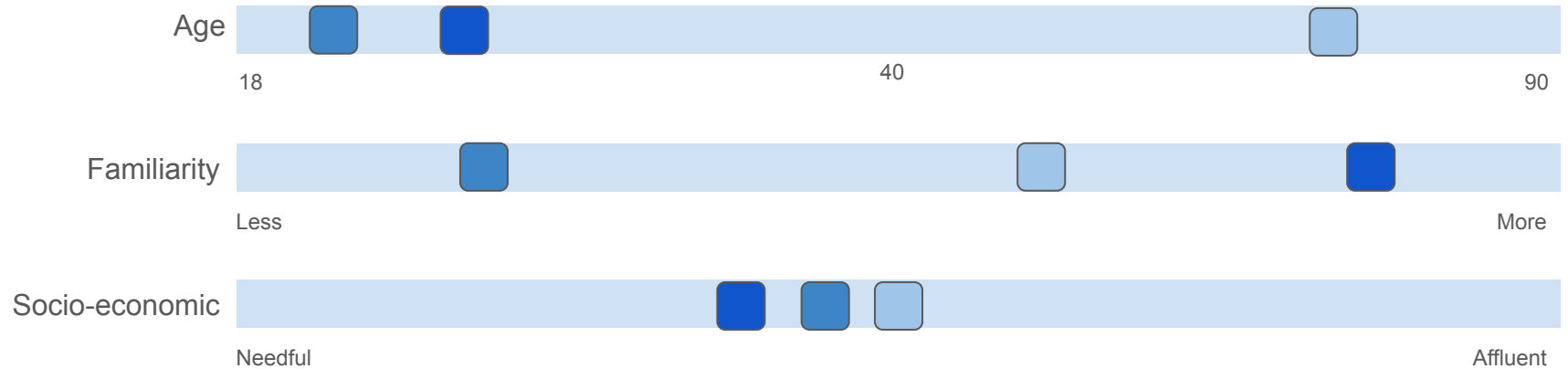


# Planning the work

Participants, Divide and Assemble

# Participant recruitment

## Demographics



Cognitive mapping participant



Service mapping participant 1



Service mapping participant 2

# Participant recruitment

## The Process and Reasoning

For Cognitive mapping, we chose a [26 year old Male Master's student](#), who has lived in bloomington for almost all his life. His graphics design background - we hoped would impact the way he would map.

For Service Mapping, we wanted to have very diverse demographics. For one map, we chose an [Undergraduate Male student, 20 year old](#), and with limited financial means. For the second map we chose an [elderly lady, 71 year old, who has lived in bloomington for 4 years](#) and drives a car. We expected these maps to be simple and diverse.

# Divide and Assemble

## Task distribution and planning

Andy Zhang	Cognitive Mapping, Participant 1
Gefei Liu	Service Mapping, Participant 2
Tejaswini Joshi	Service Mapping, Participant 3
Gefei and Tejaswini	Combine Service Maps

### Team Together

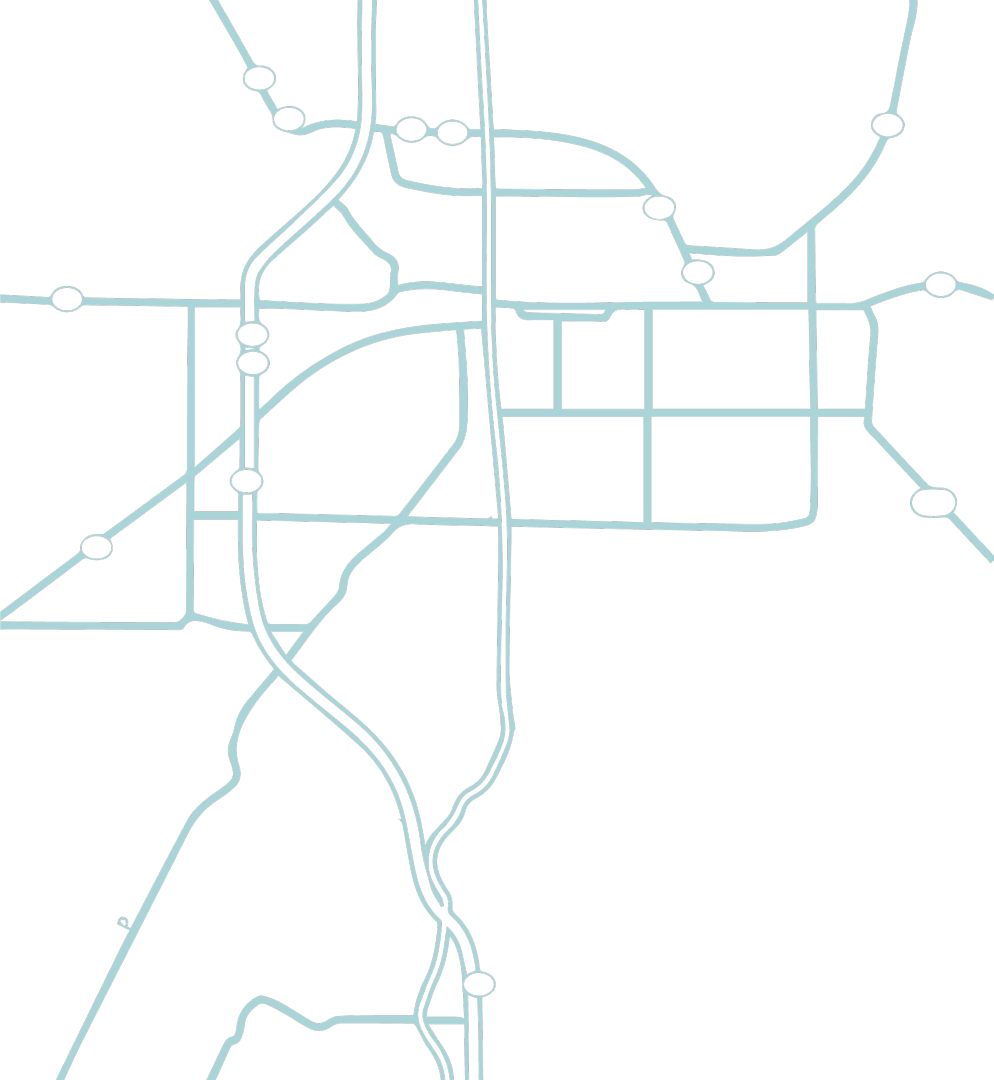
Analyze and compare Maps ( Andi to visualize)

Discuss insights and pain points and derive two concepts.

*We had a quick online meeting and decide to tackle the task by dividing it. This would help us save time.*

*The tasks we decided to do together were comparison of the maps, insights and pain points and concept generation.*

*We conducted two online meetings, one text meeting and one physical meeting to tackle this task.*



# Mapping

Working in the field



# Cognitive Mapping

**26 Year Old, Male, Master's student - Graphic Design**



*The participant for the cognitive map is a 26-year-old guy who has studied master in graphic design for one and a half year, and he has taught in graphic design for a year.*

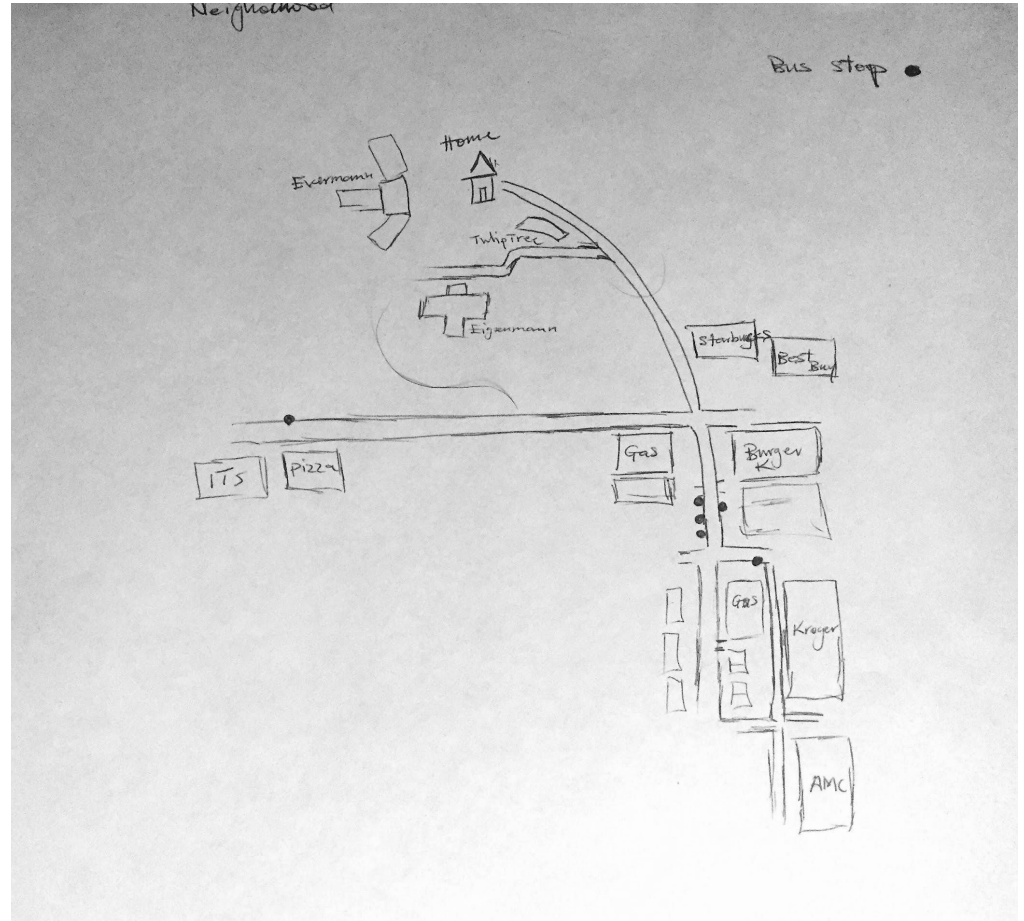
*He has lived in Bloomington above eleven years.*

*Most time, he drives his car get around the city, and most of his work is around IU fine art building.*

*He is a very warm-heart person, and he loves to help people anything he can do.*

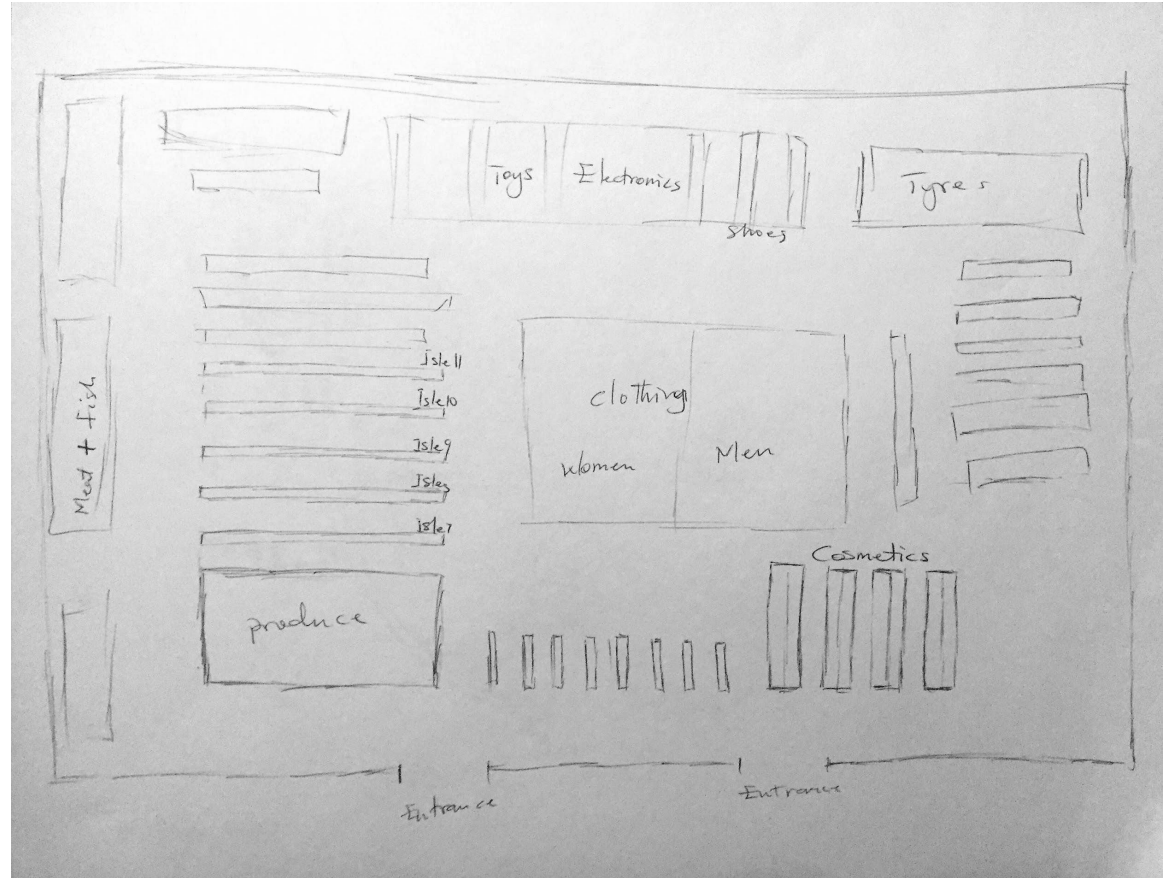
*He is patient enough to help me with the mapping and interviewing the fine art classroom which spends us almost two hours. He also wrote an email copy for me about the interview.*

# The Cognitive Map (Neighbourhood)





# The Cognitive Map (Place he like --Walmart)



# **The Analysis of the Session**

## **Summary and key takeaways**

- The participant knows the bus system in Bloomington very well. He can mark out all the bus stop nearby pretty clearly.
- He prefer Walmart, because Walmart have some special deal and supplies which he needs for art.
- Because of his busy working working schedule, he always gets fast food outside the campus.
- He loves to chose the gas station which nearby his location. According to the map, he used go to the gas station on E 3rd St, but when he go to Korger, he will choose Korger gas station.
- He can easily point out the service he likes and where is the service. He has expert mapping skills to show everything in his brain clearly.
- The map is not totally correct, but it doesn't affect the audience to read it.

# Analysis of the Session

## Key takeaways



### Pain Points

- Hard to find parking space.
- Expensive parking.
- Doesn't have city trash or leaf pick up
- The way Bloomington share information is pretty limited. No one wants to collaborate, everyone wants to do it themselves.



### Frequently Visited

- Walmart Gas
- IU Fine Art
- Buffalo Wild Wings
- Walmart

# **The Experience - Andi Zhang**

## **The Process summary, Mapping and the interview**

Because my participants lived in Bloomington for eleven years and he has been a professional graphic designer for a long seven years, I am not worry about his mapping skills and quality.

However, I had to be conscious to do more detailed explanations for what the map should be looks like and told him the map don't need to be too neat on visual part.

I emailed him for the appointment to make sure he has enough time to help me with the map. After the confirmation, we met right after our class and work together. I explained the map for him for several times, because the map me did is totally different with graphic design requirements. Even I told him don't the map don't need to be too good, he still show his great graphic design skills.

During the interview, I was surprised to found that he prefers the bus system because Bloomington has terrible parking.

We spend two and half hour to finish the interview and the maps. He is pretty happy about I can find him for interview because he really have some thoughts with "Better Bloomington."

It is kind of funny that, he think he messes up the map, but actually he didn't.



# Service Mapping 01

## 20 Year Old, Male, Undergraduate student

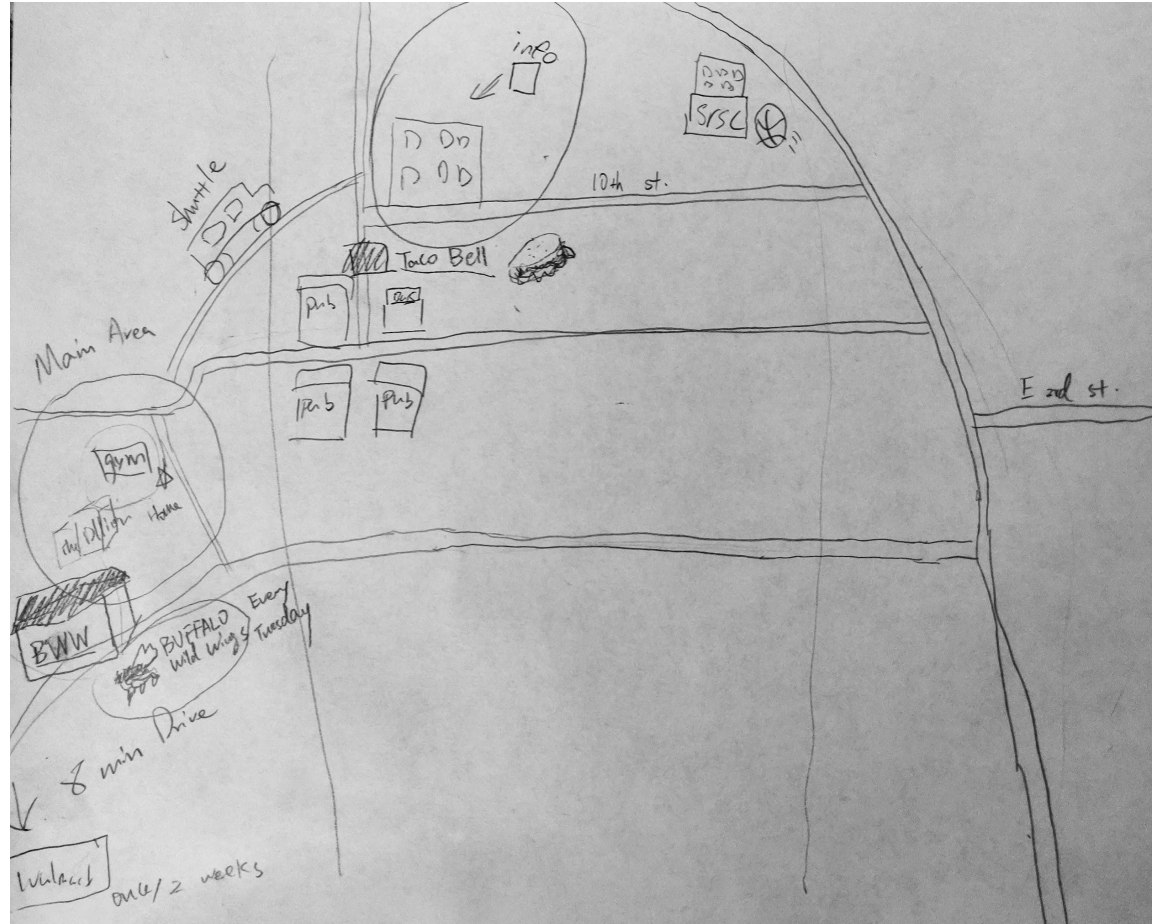
*The participant for the first service map is 20 year old caucasian man, and has lived in bloomington for 2 years.*

*He is a sophomore currently studying informatics at IUB. He lives in Columbus, IN, which is 40 minutes drive from Bloomington.*

*He has a car that he normally doesn't drive except for grocery shopping. He prefers to take the shuttle provided by The Dillion to go to school.*

*He is very nice to talk to. However, he seems to get tired of this co-design pretty quickly.*

# The Service Map



# Analysis of the Session

## Summary - Key Insights

- The participant mostly stays at home. He only goes to school when there is a class and he prefers to take the shuttle provided by The Dillion.
- The participant drives 8 minutes to do grocery shopping at Walmart, despite that there is a Kroger 3 minutes away from The Dillion. The reason behind this is that he has a membership at Walmart and he doesn't want to get a new one at Kroger. Also, he finds that things at Walmart are cheaper in price.
- The participant goes to Buffalo Wild Wings on every Tuesday because of the promotion. He also goes to Taco Bell from time to time.
- For entertainment, he doesn't play video games. He goes to pubs at downtown about once a week. He goes there because he's friends are all there. He also goes to SRSC to play basketball occasionally.

# Analysis of the Session

## Key takeaways



### Pain Points

- Have to drive far away to do grocery shopping.
- Would like to know more about other promotions from restaurants.
- Shopping malls are so far away so he prefers to shop online on Amazon.



### Frequently Visited

- Informatics West
- Gym at The Dillon
- SRSC
- Buffalo Wild Wings
- Walmart
- Downtown
- Taco Bell



# The Experience - Gefei Liu

## The Process summary, Mapping and the interview

In order to have a different participant than TJ in terms of gender, age, occupation, I planned to recruit a undergraduate student. I stayed at the study room at The Dilion and prepared some snacks and drinks for my participant. Then, I found somebody study alone by my table, and I kindly asked him to participate. I was lucky that he agreed to this.

I gave him my previously drawn map (rough structure) and asked him to draw out things that he normally goes to. At this point, he expressed his concern that he doesn't know how to draw. I told him was fine. During the mapping session, he didn't know what to draw. I gave him some hints like *do you go to gym, where do you go to eat/grocery* to provoke the conversation and get things going. I also asked interview questions during this process. While drawing, he didn't like it so I helped him to draw some of the visuals. He got bored at around 5 minutes mark and I didn't get much information from then. After the map, I asked him some additional questions like *do you have a car, do you take shuttle to school and etc.* I also audio recorded the whole process.



## Service Mapping 02

### 71 Year Old, Female, Retired



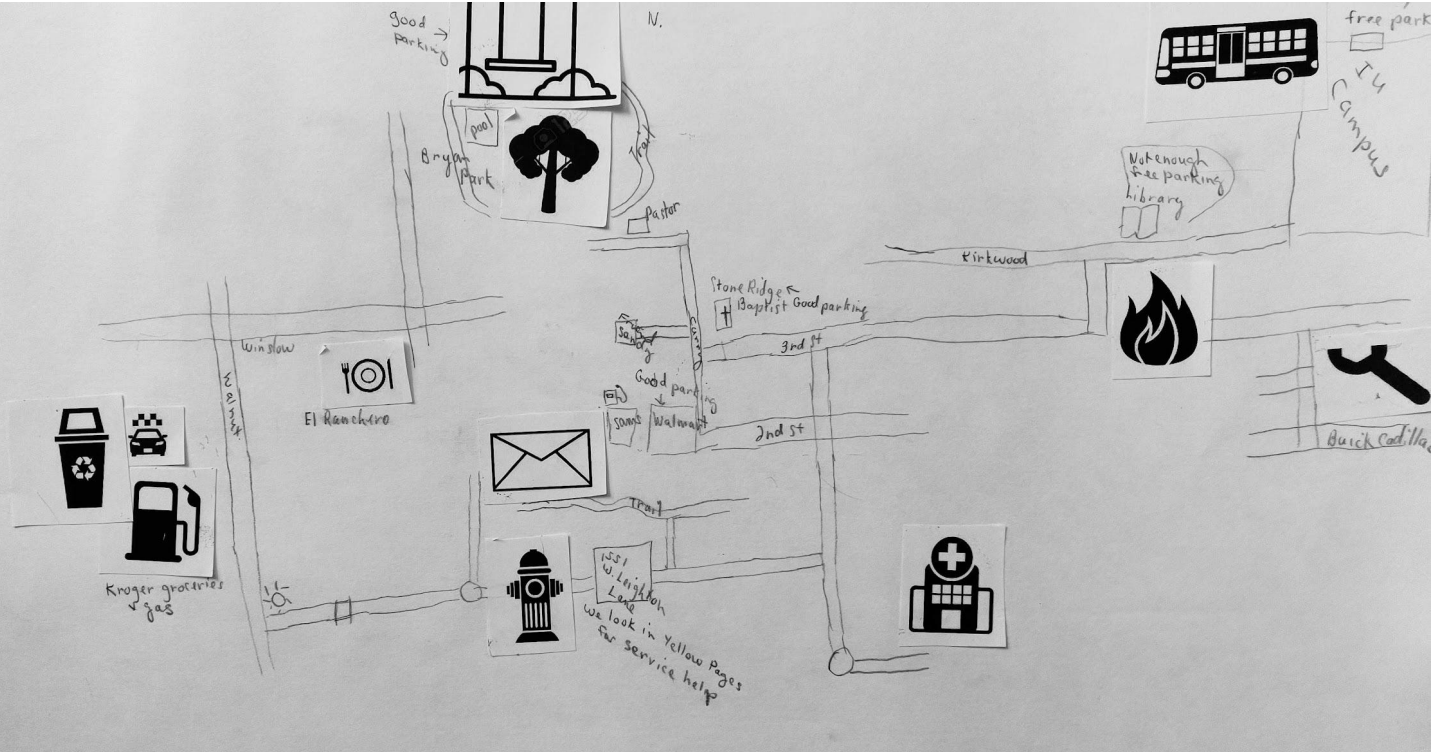
*The participant for the second service map is 71 year old lady retired, and has lived in bloomington for almost four years.*

*She drives a car to get around the city, has most of her work around the church.*

*She is a very helpful person, and loves to interact with international students, help them with english and organize activities for them.*

*She was kind enough to visit my home to help me with the mapping and we conducted the session at my home.*

### As drawn by the participant





# Analysis of the Session

## Key takeaways



### Pain Points

- No parking inside the campus for “outsiders”
- Road condition in bloomington is bad. There are a lot of potholes
- Some gas stations have more expensive gas.
- Library has very poor free parking.
- Have to park at assembly hall, to take a bus that navigates inside the campus



### Frequently Visited

- Krogers
- Gas Station near kroger
- Gas station near walmart.
- Church
- Bryan Park
- Trails around the house
- Pastors place ( Close to the church)
- Friends Place ( Close to the church)

# **The Experience - Tejaswini Joshi**

## **The Process summary, Mapping and the interview**

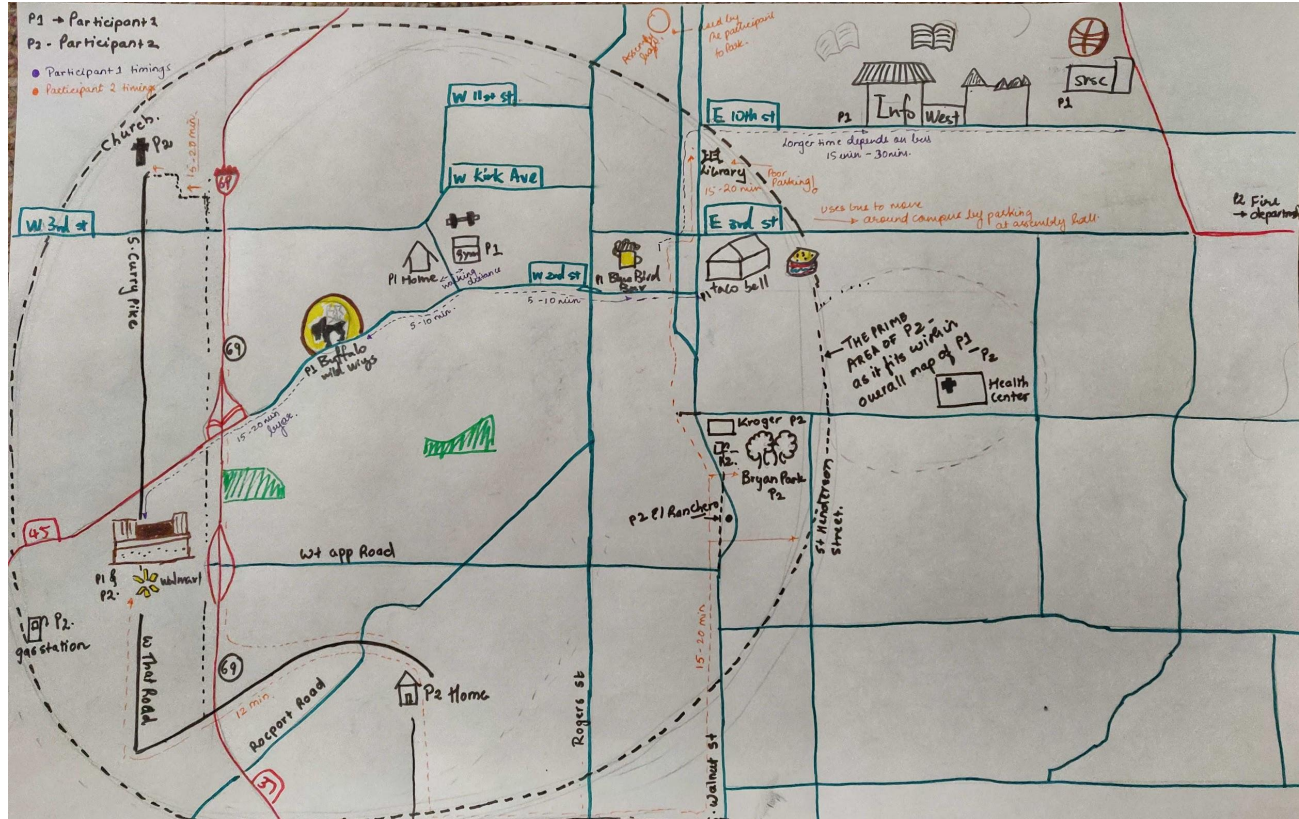
The participant is a senior citizen, therefore I had to be conscious of not exhausting her with too many questions. At the same time, I also had to ensure that I had sufficient aids to help her. She offered to drive to my home, and attend the session there. I had arranged the table prior to her arrival with pencils, pens and assorted tools, so that she could pick up anything she liked. However, she preferred to stick to the pencils. Initially, she struggled with remembering the services she uses, therefore she made a list of those. However, the icons I had printed out to aid her seem to help and she used those to jog her memory.

Except Icons, the entire map was drawn from what she could remember. The interesting aspect was that she tried to imagine herself spatially by saying out loud if something falls on left or right. Instead of conducting a separate interview, I found it beneficial to interject questions while she was drawing. I could not schedule more than an hour with her, therefore I had to combine both.

# Crossing the roads

## Combining the two service maps

This Map combines both Participant 1 and Participant 2's journey. We tried to place all the relevant details on the map, however, due to shortage of space, we have performed the analysis on subsequent slide.





# Analysis of the combined Map

## Participant 1

Uses the bus service to get around school, walks to nearby places, though he used car for groceries.

### Modes of Transport ( Usage)



High



Medium



Low

### Frequent Places



High



Medium



Low

## Participant 2

Uses Car - Everything within 15 min drive.

Most frequent places are Church, Friends and Kroger.

### Modes of Transport (usage)



High



Medium



Low

### Frequent Places



High



Medium



Low





## **Analysis of the combined Map**

Since the participants belonged to very different demographics, despite of living in the same areas, they rarely crossed paths in a meaningful way.

Participant 1's area was a bit wider, because he frequented school and it formed an important part of his map. For Participant 2, even though school was a part of her activities, it did not come to her mind quickly, and she just made a note of it while working on the map.

Since Participant 2 drove car, her biggest concern was parking spaces. Participant 1 used the public transport mostly, which typically took him longer to move around.

Most of Participant 2's route was within 15 min car drive and she thought of distances differently than what someone without a car would think.

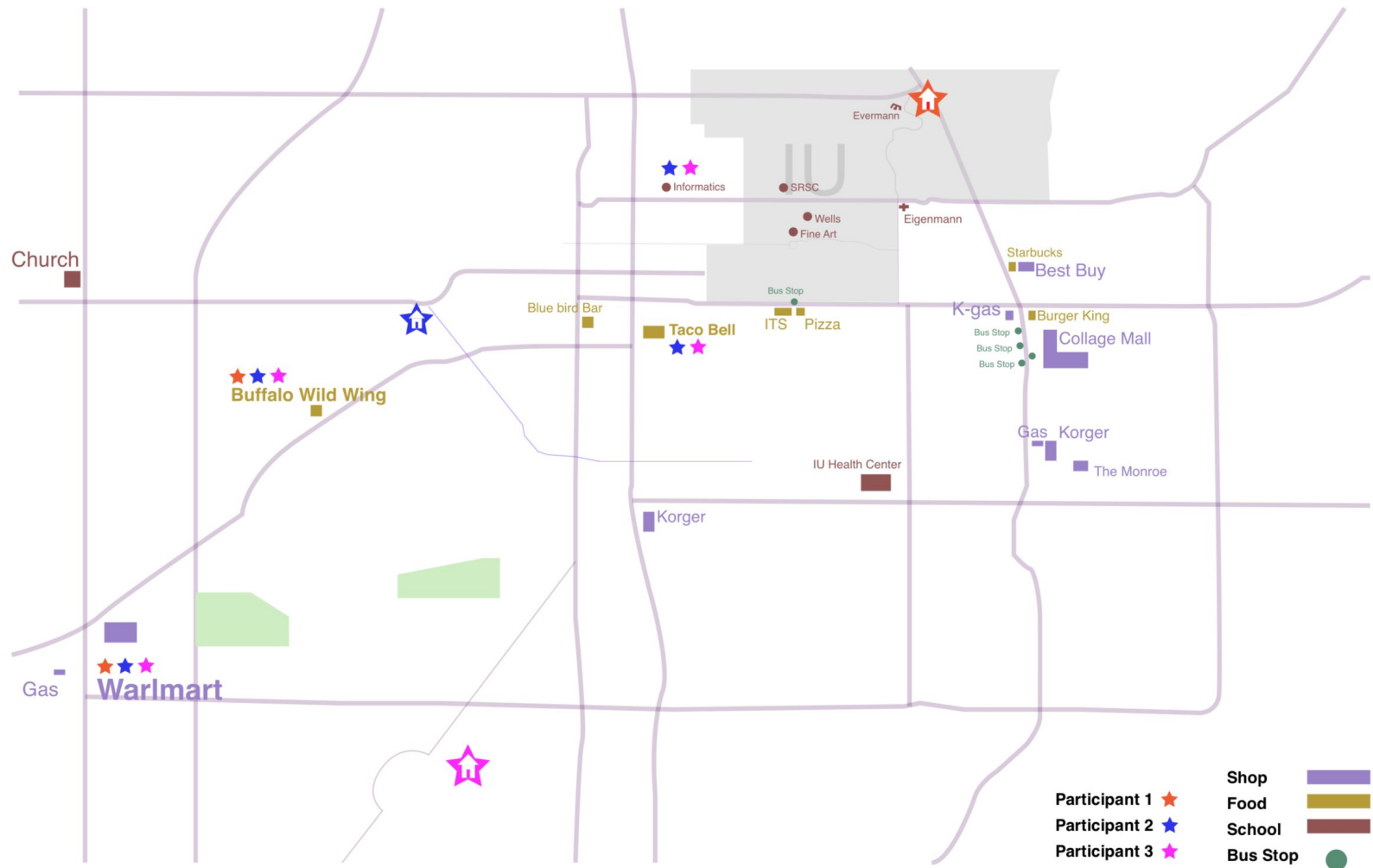


# Comparison of Maps

# Comparison of all maps

Though 3 participants live far apart, they share things in common. For instance, they all go to the same Walmart and Buffalo Wild Wings despite the distance. One of our participants has to drive across the town to get to those places. These actions illustrate that distance is somewhat minor compared to personal habits and rituals. No matter where they live, they still have to go to a church or school in our cases. It is imperative for us designers to connect the city. Moreover, participants that rely on spatial memory can create confusions while drawing the map. This shows that most people could have distorted memory of the distances and directions.

**[Following slide is the visual comparison of all the maps]**



# Finding Pain Points

## Participants

Parking at IU is a big issue

Gas prices are different from one place to another - Only someone who is used to different stations would know this. For a newcomer it would be hard to find competitive prices

Roads are always under construction

Bus service is less than ideal

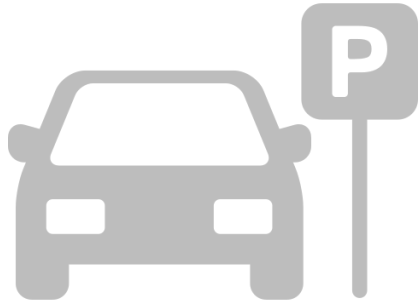
## Designers

While mapping is an effective way to retrieve information about services they use, it is hard to elicit information, if we let them draw without any aids.

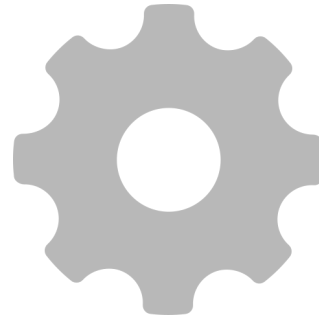
Re-rendering of the map is extremely difficult if the researchers are not familiar with the locality.

# Deciding the intervention

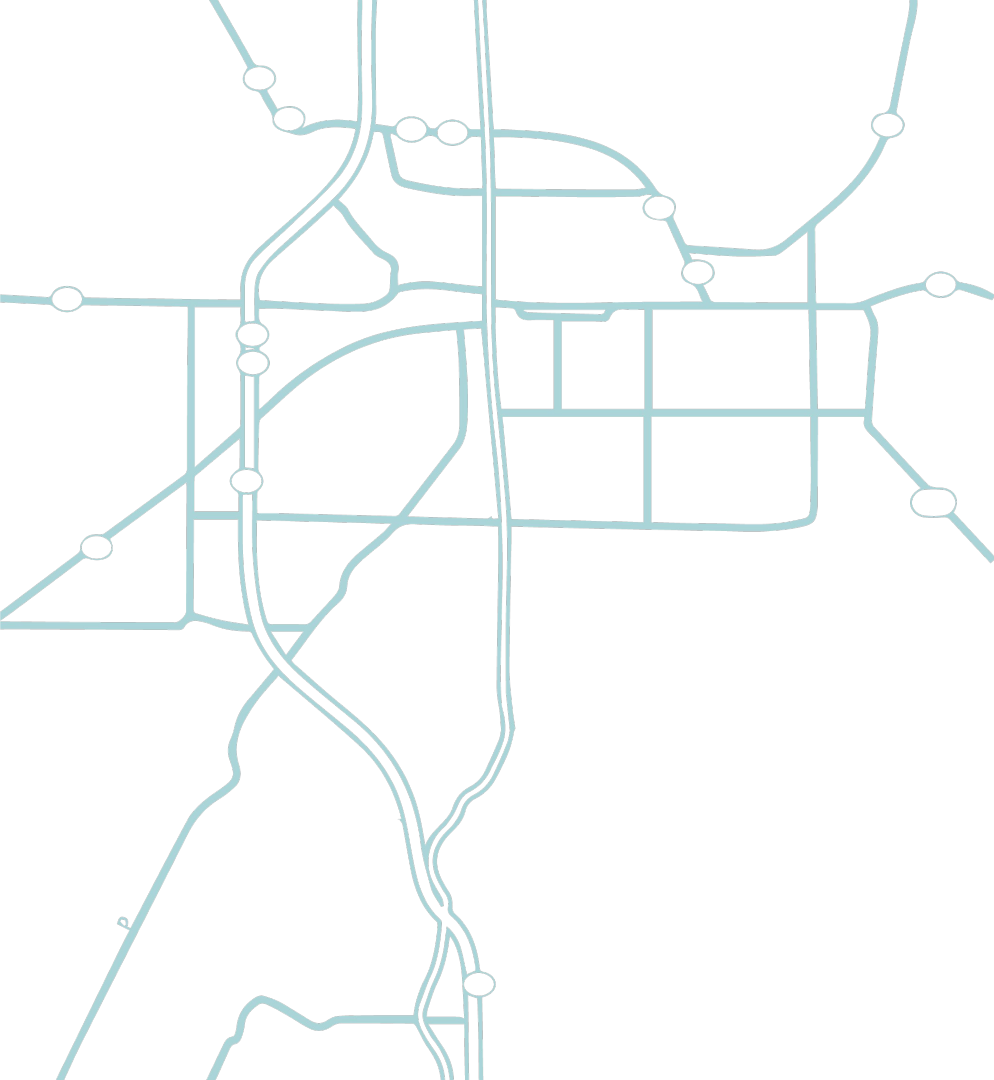
From all these pain points, we chose car parking and the issues designers face while using the method as intervention points



**Car parking at IU**



**Improving the method**



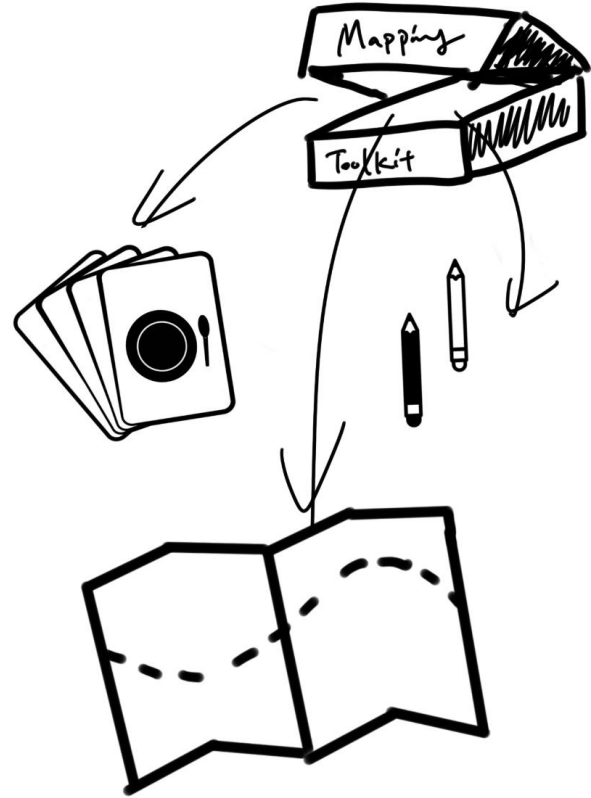
# Concepts

# Concept 1

While using the mapping technique, we felt like there are a lot of people that are not confident about their drawings. This discourages them to some extent.

## What if:

There was a toolkit designed specifically for co-design mapping technique?



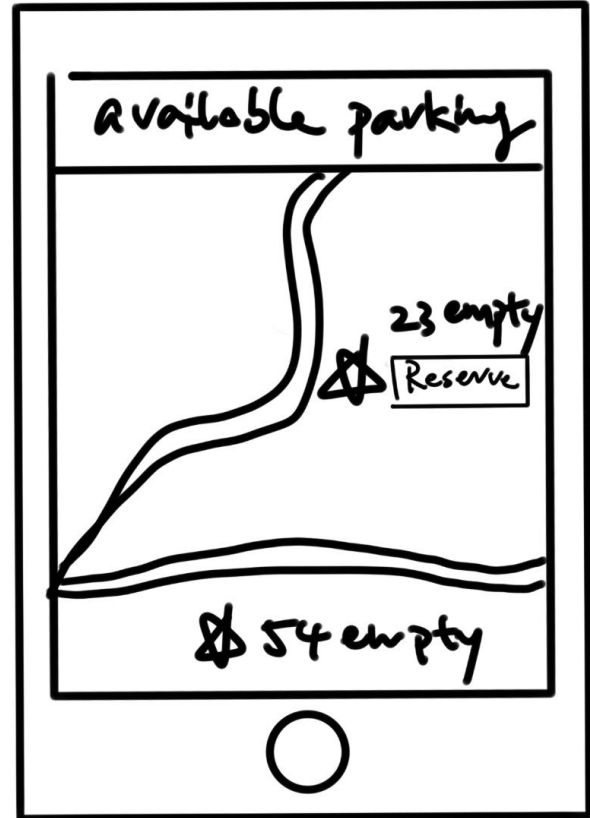


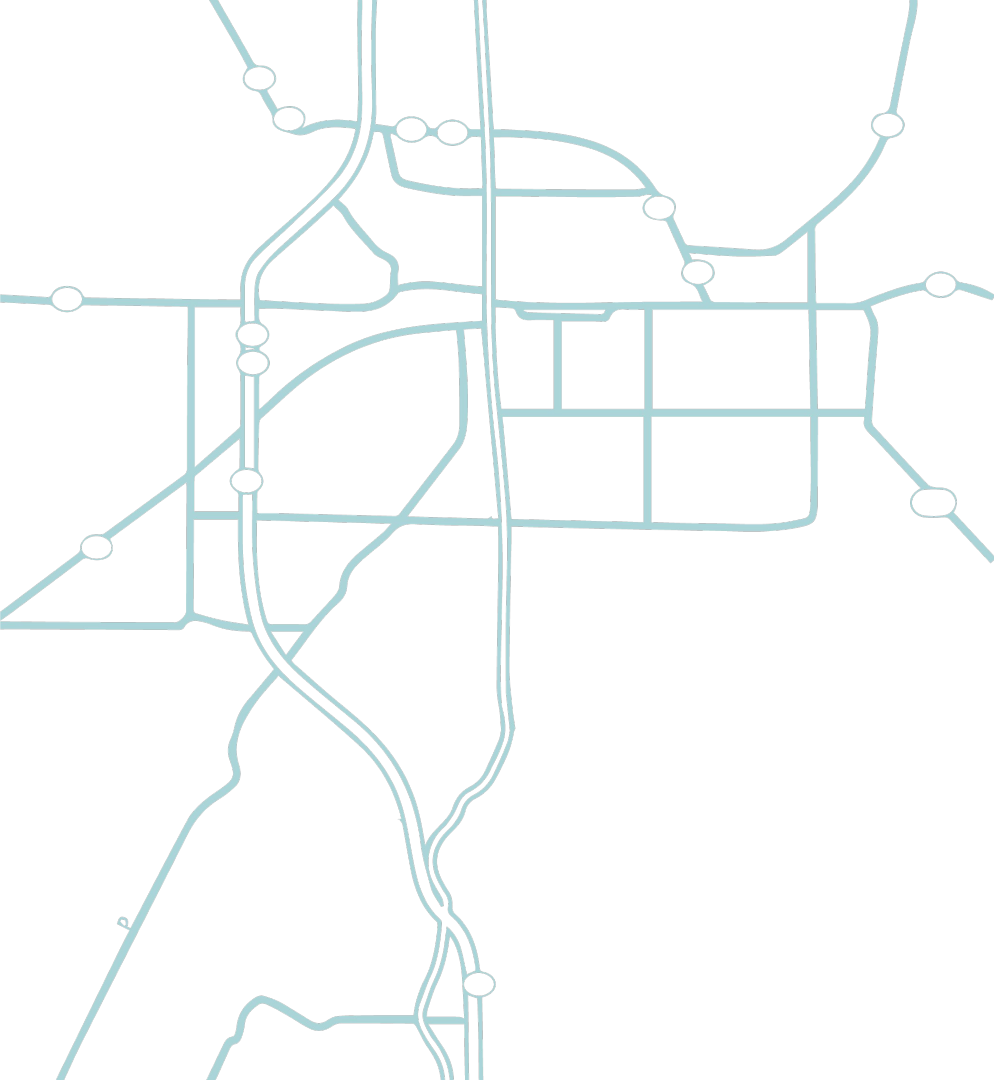
## Concept 2

Some of the participants find it hard to park in Bloomington. It even stops them from driving. The main problem is they don't know when or which parking spot will be available.

### What if:

There was a app that shows available parking spots (street/garage) and let users to reserve them?





# Reflections



## Method Reflection

Mapping is an interesting way to understand the day to day life of the participant. By forcing the person to do a virtual walk through their day, it feels as though we can extract small nuances about the participants day. However, in practice the method is extremely hard to implement successfully.

One of the key points we noticed was that to be able to fully understand and use this method, the researchers themselves need to be familiar with locality. This provides a faster interpretation of the map. A better exercise would have been to spend a day learning about the locality of bloomington before diving into the mapping exercise.

Another aspect was, to study the circles in which the participants move around. The final map was all over bloomington, with very few overlaps. Therefore overlapping painpoints were hard to come up with.

Finally, participants who were into drawing, produced an extremely detailed map. But for those whom drawing was challenge, needed encouragement, and it was easier to perform with aids and visuals. Secondly, a very detailed problem framing is necessary to make mapping successful. The mapping exercise for services would have been more beneficial, we we would have first analyzed which service is an issue, then focused on that service mapping to dig deeper into the problem.



## **Individual Reflections - Andi Zhang**

For the method for mapping, I still want to consider more about how to make mapping more fit with different kinds of interviewees.

Mapping is a clear way to show what interviewee's thoughts but it will be limited by the interviewee's drawing skill and it will take interviewee a lot of time.

I believe that during mapping interview, both interviewer and interviewee need more detail guiding.

For the interviewer, they need to make a detailed catalog to help their interviewee to have a quick understanding of the project. It will also guide the interviewee thinking and give the result which interviewer needs. More detailed guideline interviewer made, the interviewee will be more comfortable.



## Individual Reflections - Gefei Liu

As for the mapping technique, I am still a bit confused about its usage in general. I guess we can get a sense of the geolocation right after the co-design session, but I believe it is better to create the map afterwards for following reasons: firstly, some participants don't like to draw so this kind of co-design will discourage them. Also, some participants draw maps based on their own memory, which leads to mistakes and confusions of the map generated, causing troubles for designers after. Even if they use other maps as a reference (ex. Google maps), the whole experience is just troublesome. I am sure that service mapping technique would be very useful in certain situations, but definitely not at this stage of our current design.

Based on the insights above, I think I could create some stickers or tools for my participant to add a layer of fun. Moreover, to fully make use of this method, I think I could use some communication techniques to help my participant to be more engaging.



## Individual Reflections - Tejaswini Joshi

I found the mapping exercise an interesting way to connect with the life of the participant. While the technique is very interesting in theory, it requires a lot of skill at the designer's end to be able to put the technique to right use. This exercise felt more like taking the jump and failing to understand how to perform mapping exercises with participants. While doing the session, I had the feeling that the method, with icons usage is working great. However, when I had to re-render the map to actual map, I found it extremely difficult to understand the map originally created. This made me wonder if it would have been more useful to provide a basic outline of the map to the participant. I find it a difficult balance to maintain - accuracy of the map itself, and receiving more personal qualitative understanding of the participant's activities.

Having said this, in future I would like to give mapping a second shot, with improved method and style to extract more useful information. I would also like to be more familiar with the locality myself before jumping into the mapping exercise, so that I can prompt and guide the participants. But as mentioned earlier, I think that to be able to strike that balance between accuracy and qualitative information would require practice and skills on the researcher's part.