



# Spinsters

Final Project Portfolio

---

Rajiv Sancheti, Hannah Ytares, Keerti Agrawal, Shane Gilbert



## Table Of Contents

<b>Table Of Contents</b>	1
<b>Interviews</b>	2
Initial Interviews	2
Later Interviews	17
Post Testing Interviews	26
<b>Field Notes</b>	47
Before Prototype Implementation	47
After Placing Orange Parking Zone	47
After Adding Spin Bikes to the Orange Parking Zone	47
Additional Notes	48
<b>Field Research Photos</b>	50
Field Research Images	50
Field Research (Image) Descriptions	61
<b>Affinity Diagram</b>	66
<b>Design Models</b>	68
Day in the Life Models	69
Identity Models	72
Personas	75
<b>Storyboards</b>	79
Initial Storyboards	79
Prototype Storyboards	84
<b>Prototype Sketches</b>	88
<b>Prototype Videos / Photos</b>	95

## Interviews

### I. Initial Interviews

These interviews were conducted to gather data and determine the scope of our project. We were asking people of their opinions about Spin in general to allow us to find a problem with the Spin bikes in general that we could potentially create a design solution for later.

**This interview was conducted with a student on UCSD library walk using a SPIN bike.**

1. What reasons do you use spin?
  - Don't have a personal bike
  - Good price
  - Easy to get from point A to point B
2. How do you feel about spin over all?
  - Love it
  - Convenient
  - Hardware of bike is good
3. Any problems with the bike?
  - App can be buggy (sometimes doesn't register that user locked bike already, so overcharges him)
  - People don't take care of bike
4. Have you had any problems locating a bike to use?
  - Sometimes they are in weird places
  - Random locations can also be convenient because it's between his point A and point B
  - App lets you know of general area where bikes are parked, then just have to find it from there
  - Recalls that bikes are sometimes found in bad condition/ trashed/ broken because people don't take care of them or park them improperly
5. Are there assigned spots for the spin bikes to park?
  - No, bikes can be parked anywhere

- User has option to give feedback on app if bike was parked well or not

6. How does the spin process work?

- Find bike → use app to unlock → ride to destination → park bike (user noted that bikes can be parked anywhere the user wants) → use app to finish ride and lock bike → bill

**This interview was conducted with a bike owner unlocking his bike from a bike rack.**

(brief due to bike owner low on time to get to class)

1. Any issues with Spin?

- Parking is annoying
- People throw them everywhere
- Spin left in bike racks
- People who use Spin don't know how to ride bikes

**This interview was conducted with a bike owner locking his bike into a bike rack.**

(brief due to bike owner low on time to get to class)

1. Do you use Spin at all?

- No, prefer personal bike
- No longer care or want to walk

2. What are your thoughts on the Spin bikes?

- Don't like how people park
- People take advantage of Spin
- Spin is a great idea
- Don't take care of Spin bikes

**This interview was conducted with a Spin biker who parked in a bike rack.**


(brief due to bike owner low on time to get to class)

1. Where do you park your Spin bike?

- Parks in bike rack

2. Did you know that you do not need to park the Spin bike in the bike racks?

- Didn't consider that spin bikes don't have to lock to bike racks

- 
- Naturally thinks that bikes go in bike racks
  - Doesn't want to leave spin bike in random location
  - she parks her Spin in bike racks because she doesn't know where else to put them

---

**This interview was conducted with a pedestrian walking on library walk.**

1. What are your thoughts on the Spin bikes?
  - Spin bikes get in the way
  - Can't take short cuts because they are blocking
  - Overall pretty cool
2. What are your thoughts on the way the Spin bikes are parked?
  - Sees Spin bikes parked near bike racks
  - Spins aren't equally distributed throughout campus (overflow of Spins in just one location) -- this makes them not as easily accessible because they are concentrated in only one area

**This interview was conducted with a bike owner walking his bike along library walk.**

1. What are your thoughts on the Spin bikes?
  - Spin is great
  - So far program is really good
  - Spin bikes should be kept restricted and respect other bikes and their spaces
2. Have you experienced any issues with the bikes?
  - Doesn't like spin users parking in bike spots
  - Spin should have designated spaces
  - People park in bad spots
3. Any other thoughts?
  - Ucsd overall needs more bike parking
  - Spin bikes should be adjacent to bike spots (near, but away from bike parking)

**This interview was conducted with a bike owner who sometimes uses Spin bikes when he doesn't want to bring his bike to school.**

1. What are your overall thoughts on the Spin bikes?
  - Convenient
  - Can park anywhere
2. Have you ever experienced any issues with the bikes?
  - Issues with people parking near bike rack
  - This student normally parks next to bike parking but not in the way of other bikes

3. How do you think riders should park their bikes?

- 2 ft away from bikes is a good distance away
- Parking away would be more convenient

**This interview was conducted with a bike owner who had just unlocked his bike from the bike rack.**

1. What are your thoughts on the Spin bikes?

- Sees bikes parked everywhere
- Thinks most parked spins are inconvenient (out of the way, middle of nowhere)

2. Have you experienced any problems with the bikes?

- Designated parking areas would be nice
- Sees people park on corners (traffic lights)
- Unsafe

**This interview was conducted with a police officer affiliated with UCSD who was roaming library walk.**

1. How has law enforcement dealt with the Spin bikes?

- Not in charge of Spin bikes
- He had a curious question: "how much money does Spin lose because of bikes parked randomly? Do they get stolen? Damaged?"
- Recommend to talk to sgt. Nel Garcia bc he worked with Spin

2. Have you noticed any problems with Spin bikes?

- Bikes aren't parked neatly
- So far hasn't had any complaints from people about Spin


**This interview was conducted with a police officer affiliated with UCSD who was roaming library walk.**

1. What are your thoughts on the Spin bikes?

- Ugly color, but noticeable
- Sees bikes parked in weird places, doesn't understand

2. Are they a hazard or any problems?

- Saw bike on ramp of 5 freeway (dangerous) & wondered how it got there

- 
- Not in charge of spin, but can't regulate due to Spin permitted on UCSD (they are protected)
  - Spin has someone who regulates bikes, responsibility does not belong to cops



---

**This interview was conducted with a bike owner from Sixth College who sometimes uses Spin bikes when he feels his bike is too far.**

1. Have you experienced any issues with the Spin bikes?
  - Sees bikes parked at dorms, but not at the classrooms
  - Not many problems with Spin
2. What are your thoughts on the bike parking?
  - Kind of in the way, doesn't really bother him
3. How often do you use a Spin bike?
  - Uses spin sometimes
  - Has own bike but sometimes spin is more convenient because dockless, less time to lock

**This interview was conducted with a Spin bike user who parked a Spin bike outside of HSS 1330.**

- Why do you use Spin?
  - Doesn't have own bike
  - Lets her come to class on time
  - Fast
- Opinion on Spin?
  - Finds spin bikes parked near classrooms convenient
  - No problems
- Where do you park?
  - Parks right outside classroom
- What factors determine where you park?
  - Thinks right outside class is convenient
  - No time to find other parking
  - This system works well so far
  - Conscious of other students walking, so parks outside class, but off to the side where it's not in the way of people walking

---

**This interview was conducted with an elderly pedestrian visiting UCSD who was sitting on a SPIN bike.**

- Do you use Spin?
  - No, too tall for Spin bike.
  - But Spin bike is probably best rental bike because the other ones are smaller
  - Spin seems a lot more comfortable to ride
  
- What makes Spin a great program?
  - Dockless feature is good, makes parking convenient and less time spent
  
- What is your opinion on Spin bikes on the UCSD campus?
  - Good for students to get around campus
  - Conveniently everywhere
  - Helps travel faster, UCSD is a big campus
  
- Are there any cons you notice about the Spin bikes on the UCSD campus?
  - Littering the school
  - Trashing the bikes
  - Traffic jams on campus
  - Large crowds may be unsafe
  - NOT ON CAMPUS, but sees alongside road, potentially dangerous to everyone on road
  
- Do you find Spin effective on this campus?
  - Effective, but could be better
  
- What do you think could improve with the Spin bikes on campus?
  - Can't control students behavior
  - Maybe allocate more spin bikes so they can be more available
  - Too many spins near here (pepper canyon)

**This interview was conducted with a Spin bike user who had just found a Spin bike to rent on library walk.**

- Do you believe the quality of the bike is good enough to use to get from point A to point B?
  - Yes
  - Hardware is good for the most part
  - Only use it when needed (not for fun)
- Is it worth the money?
  - Mostly
  - Charges every half hour so even a minute after counts into the next half hour but not too expensive
  - App is buggy and over charges sometimes
- Have there been any issues with the payments? Does it accurately calculate the distance you travel and translate that into the correct amount for payment?
  - Sometimes app thinks the ride is 3 hours long, have to contact them to fix it
- Do you know what the noises on the bike indicate (specifically the buzzing)? Is it loud enough to hear?
  - No idea
- Do you check to see if the bike is damaged before you use it?
  - No
  - Just need it for brief rides to get to class
  - Haven't had any significant damages yet
- Overall, any cons about Spin bikes?
  - Not close to his dorm, but usually can find one on the way
  - App sucks
  - Heavy
  - Sometimes find it fallen over and can be dirty, hesitant to pick up
- What factors do you consider when parking the bike?
  - Usually parks outside lecture hall building/classroom
  - Finds it convenient for other people to possibly use when they leave the class because they can easily find it
- So you don't park at or near bike racks?
  - Never thought it was necessary because they self lock
  - People would have to walk to bike rack to get it and seems out of the way

---

**This interview was conducted with a pedestrian that was sitting near Geisel, also near the bike racks.**

- What are your thoughts on the spin bikes?
  - Good rideshare program
  - Good for the environment
  - Easily accessible
  
- Any bad encounters with spin bikes?
  - Not personally
  - Very rarely almost walk into some but because playing on phone
  
- How do you feel about Spin being brought to campus?
  - Good for students
  - Promote easier commutes
  - See them everywhere, it's funny
  
- What changed when they were brought to campus?
  - More bikers
  - Also more mess because they're everywhere
  
- Any changes?
  - More sturdy (fall a lot)
  - Self lock is good but can be bad (makes school ugly)



**This interview was conducted with a UCSD Facilities Management staff member who was arranging classrooms for set up at Muir College.**

- Are you in charge of Spin at all? Do you regulate them in any way?
  - No
  - Doesn't know where spin comes from
  - Wonders who regulated them
- So do you have an opinion about how they are on campus?
  - There are so many
  - Hard to keep track of if someone does keep track of it because they can literally be anywhere
- Do you think its it's good that Spin was brought to campus?
  - Yeah
  - Sure it helps students get to class or something faster
  - Big campus
  - Also affordable for students (\$1/hr)
- Have you had any bad encounters with Spin on campus?
  - Get in way sometimes but doesn't bother him too much
  - Block ramps
  - Facilities management has to push carts of their equipment around so sometimes they cant see what's in their way
- Is there anything you would change about campus?
  - Probably make them easier to find
  - Put them in more popular areas
  - He thinks they are hard to find for people using them because they take them home

**This interview was conducted with a Spin bike user who just parked a Spin bike in Warren Mall.**

- How often do you use Spin?
  - Everyday to get to class
  - Classes are very far apart
  - Across campus
- Do you think Spin is worth its price?
  - Yeah
  - But app is buggy but its whatever
  - Doesn't like walking
  - Can't afford his own bike
  - Spin price is pretty good
- Have things on campus improved since Spin arrived?
  - Yeah
  - A lot less stressful because classes are always so far
  - Sometimes I'm lazy so I Spin
- Have you had any problems with Spin?
  - The bike itself is loud
  - Squeaky
  - Annoying
  - Takes a couple minutes to find them because they aren't centered in one area like parking lots
- Have you ever had major problems locating one?
  - From sixth college so usually always a spin nearby the apartments
  - Likes it because they're outside peoples forms but they don't belong to anyone so he can take it
  - Not a lot of bikes on campus (ex: lecture halls)
  - Might be 1 or 2 but people take them right away
- What determines where you park?
  - Close to classrooms
  - Sometimes don't have time to put it somewhere else
- Is there anything about Spin you would like to see changed?
  - Not much
  - Not so squeaky material
  - Wish there were many located in the same area so there's enough for everyone rather than just 1 here and 1 there



- Sometimes wanna spin with my friends because we don't wanna walk but there's only like 1 nearby



**This interview was conducted with a pedestrian, a teaching assistant of the MAE 124 course (environmental challenges & solutions)**

- Do you ride a bike?
  - No, use car because lives far. Goes to SIO so its it's far
- Do you use Spin?
  - No
- What stops you from using it?
  - Hardware is terrible
  - Rather have my own bike
  - Reliable
    - Personal bike will still be there after class
    - Spin bikes disappear often
- Any thoughts about Spin?
  - Funny that they're at bottom of hills because no one wants to ride them up
  - Wishes people would use them more because its it's more friendly to the environment (ESYS major)



**This interview was conducted with a pedestrian, a classmate from MAE 124.**

- Do you ride a bike?
  - No
  - Can't afford
- Do you use the bike share program (spin)?
  - no
- Are there any specific reasons you don't bike?
  - Not a very good biker
  - Can't afford own bike
  - Renting a bike can be a hassle when in a rush (heard that app sucks)
  - Scared of running into things (bc not a good biker)
  - School has lots of hills, not worth
    - Down hill is scary
- Benefits from Spin in mind?
  - Encourages environmental friendly commute (most important)
  - Pretty cheap
  - Good for people who need to get to places when they don't have their own bike
  - Can park anywhere, but this could be bad too?
  - Gives school a friendlier atmosphere because eco friendly
  - Somewhat easy to find
    - Somewhat? Usually show up when you need it by chance. Depends on the person who used it before
- Cons of Spin in mind?
  - Can park anywhere, spin bikes can't be found in one area
    - You have to be lucky
  - Heard bad things about the app from friends who use spin
    - saves credit/debit info so they can easily charge you. App is really bad
  - If app map doesn't update, you have to just look for one because they randomly show up
- Have you experienced any problems with Spin being dockless?
  - Scary
  - Seen them at the bottom of hills (people don't wanna ride back up)
  - Looks like it can topple over
  - Seen a lot at bottom of VA hill & SIO hill
    - Can topple over into the street, Slim chance but possible
    - Thinks this is funny because people only ride down

- Dockless - They can be easily out of reach (again, may have to look for one)
  - This process of looking may just take the same amount of time as walking
- How can Spin improve?
  - More regulation
  - Rethink the dockless

## II. Later Interviews

These interviews were conducted before we began to prototype. We were gathering data on users about their thoughts on a parking solution and to also gain insight into our possible design solutions.

**These interviews were conducted with a bike owner asking what he thought of the idea of spin parking area.**

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange construction paper to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - Pretty good idea
  - Good intentions
  - Smart to use color to indicate parking
  - Likes designated parking
- Any negatives?
  - Paper doesn't last very long
  - Would need a lot of paper to make a whole parking lot for bikes
    - Waste of paper
    - Harmful to the environment for no reason because this experiment is temporary
  - Would spin bikers listen?
- Is there a better way we can go about regulating the Spin parking?
  - Use poles or bike racks
  - OR use something more permanent than paper
  - Add signs

- 
- What ideas can we take from this approach to apply to other ideas?
    - Keeping the new parking next to the bike racks
    - Designated parking is good
      - Hate spin bikes in the bike parking

---

## We interviewed this parking enforcer asking what they thought of the Spin parking idea

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange chalk to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - Cool
  - Good that spin bikes are being told where to go
    - Because hit one once walking home
  - Easy to confuse the orange box for something else
  - Orange box might be confusing without any other signs telling what it is
  - People would most likely ignore the chalk though because it doesn't look professional
  
- Is there a better way we can go about regulating the Spin parking?
  - Use signs
  - Just an orange box may not tell too much information about what it is
  - Is chalk legible?
  - Chalk writings on the ground fade away very quickly
    - Sometimes it's hard to read
    - It also rained yesterday
  - Use cones or fences
    - Something stronger than chalk
  - Find good locations like dorms or classrooms
  
- What ideas can we take from this approach to apply to other ideas?
  - The box
    - Simple enough to box bikes in a spot
    - Must use the box with a sign

## We interviewed this pedestrian asking what she thought of the Spin parking idea

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange construction paper to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - Good approach
  - Likes the creativity with matching the orange colors
  - Sounds fun
  - BUT, concerns:
    - The paper might look unprofessional
    - Is there enough paper?
    - Would be a lot of paper
    - It's been raining a lot lately
    - Maybe not a good idea
    - Actually looks a little childish
    - This is hard to maintain in the long run
      - Paper replacement
- Is there a better way we can go about regulating the Spin parking?
  - Maybe not use paper
    - Paper can rip so easily
  - Use a sign
  - Add alerts to the app
- What ideas can we take from this approach to apply to other ideas?
  - Keep the orange
    - Creative
  - Keep parking away from the bike racks but next to it
    - This is clear indicator
  - Don't use paper

Maybe paper can be used for signs but not the actual spot

## We interviewed this Spin user on his thoughts of having a Spin parking area

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange CHALK to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - The idea itself is cool
  - Don't know if it would work
  
- What are reasons this idea could go wrong?
  - Chalk is on the ground, so it will be hard to see
    - Especially while biking
    - Might even be hard to see while walking because chalk is really light
  - Might also just look like some drawing on the floor
    - Not a fan of chalk
    - Won't look very good
    - Messy unless you can draw really well
      - A lot of extra effort than just putting racks like bike racks
  
- Would you park there if you saw it?
  - Yeah if he noticed it
  - If it was clear that it was spin parking
  - Very skeptical about chalk
  
- Is there a better way we can go about regulating the Spin parking?
  - Use chalk with something else too
    - Like a sign to signify upcoming chalk on the ground
  
- What ideas can we take from this approach to apply to other ideas?
  - Designated parking is good
    - Just think of some other way to put it there

## We interviewed this Spin user on his thoughts of having a spot for Spin parking

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange DUCT TAPE to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - fine
  - Sounds interesting
  
- What are reasons this idea could go wrong?
  - People won't see it because it's just tape on the ground
  - People won't understand it because it's just an orange box
  - No signs to go with it?
    - Because people wouldn't understand
  
- Would you park there if you saw it?
  - Now that he knows about it, yeah
  - Without a sign, wouldn't know what it is at first sight
  
- How would your decision be influenced if there was already a Spin bike parked in the box?
  - Would probably park there
  - Seems more right
  
- Is there a better way we can go about regulating the Spin parking?
  - Add a sign
  - Tape may not be enough
  
- What ideas can we take from this approach to apply to other ideas?
  - Box is easy way to round up all the bikes

## We interviewed this Spin user on her thoughts of having a spot for Spin parking

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange DUCT TAPE to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - Funny
  - Pretty smart
- What are reasons this idea could go wrong?
  - Not visible from far away
  - People may not understand the purpose of it
  - Orange is also the color of construction so maybe people would think the box is construction
    - They're cutting a lot of trees lately
    - Doing a lot of construction on campus
- Would you park there if you saw it?
  - Sure
  - If everyone else did it
  - If it was close to where she needed to go
- How would your decision be influenced if there was already a Spin bike parked in the box?
  - Would totally park there
  - Would feel less bad for parking in other places
    - Sometimes parks in front of classrooms
    - Doesn't know if it's okay
- Is there a better way we can go about regulating the Spin parking?
  - Seems pretty straight forward
  - Some people may not know what the box is so maybe add a banner
    - Or write SPIN along the tape
- What ideas can we take from this approach to apply to other ideas?
  - The orange





## We interviewed this Spin user on his thoughts of having a spot for Spin parking

- We are planning to regulate Spin bike parking by placing an orange box near the bike racks. This would be done with orange DUCT TAPE to trigger a match. For example, spin bike riders would think that their orange Spin bikes would belong to the orange patches near the bike racks. What are your thoughts on this data?
  - Very clever
  - Could be very useful
  - Likes that the bikes would be in fixed locations
    - The other day he couldn't find a spin bike nearby and the app wouldn't load
    - He had to walk home
- What are reasons this idea could go wrong?
  - Hard to accommodate for everyone with fixed locations
  - Similar to parking lots for cars, the parking spots are really far but this can't be fixed
- Would you park there if you saw it?
  - Yeah
  - Always try to park neatly but doesn't help that no one else does
  - Good way to round up spin bikes
- How would your decision be influenced if there was already a Spin bike parked in the box?
  - absolutely would park there
  - Actually if the parking spot was in his reach he would
    - If not he'll park somewhere nearby but try to be out of the way
- Is there a better way we can go about regulating the Spin parking?
  - No
  - Really love the idea
- What ideas can we take from this approach to apply to other ideas?
  - The spots are a great idea
  - The box
    - It's very clear

### III. Post Testing Interviews

These interviews were conducted after implementing our prototype onto the UCSD campus. The purpose of these interviews was to gather input on our stakeholders' opinions regarding the designated Spin parking spaces and determine how effective they considered our prototype / design solution to be.

**This interview was conducted with a Spin user who rode past the orange zone in Geisel and parked in the bike rack between Geisel and CSB instead.**

- Is there a reason you parked here?
  - Initially found the bike here
  - Went to a meeting and brought it back where she found it
  - Classroom is nearby
  - Wanted to go partially up the hill instead of walk
  
- Is there a reason you didn't park in the designated spot near Geisel entrance?
  - Didn't see it / notice it
  - Wasn't aware it was for spin bikes
    - Thought the tape belonged to the construction people because they're doing work on the trees near there
  - Don't know where else to park besides here
  - Didn't see anything about it in the app
  
- If you were aware of parking spots, would you use it?
  - Yeah
  - If it was closer to where she had to go
  - If she knew where they were
  - If everyone else did it
    - She would know that it's appropriate place to park if more people did it
  
- Improvements with the parking spots?



- Make them more noticeable
- Spread them out more
- Put them in better locations
  - It's too far from some places
  - Or put more
- Maybe add a sign so people can see it or know for sure that it is for spin parking



**This interview was conducted with a Spin user who parked their Spin bike in the orange zone at Warren Lecture Hall 2001.**

- Why did you choose to park here?
  - \*gestures to other Spin bikes & orange tape\*
  - Saw all the other spin bikes here
  - Makes sense to put them with the spin bikes
  
- Is this box helpful?
  - Yeah
  - Easy to find more spin bikes
  - Close to class
  - Can easily drop off bike and head right to class in seconds
  - Easier to know where to park
    - App says to park anywhere near bike rack
    - Pretty vague
  
- What drew you to this spot? Spin bikes or orange tape?
  - Spin bikes more noticeable from a distance
  - The two work together
  - Makes sense
  
- Would it be a good idea if this was implemented at UCSD?
  - Good idea
  - Also good way to clean up the school
  - Might be able to park faster
  - Definitely would be easier to find spin bikes to check out
  
- Any improvements?
  - Add more
  - This spot might get full
  - Make it bigger
  - Put them all around the campus

**This interview was conducted with a Spin user who picked up a Spin bike from the orange zone at Warren Lecture Hall 2001.**

- Why did you choose to pick up a spin bike from this area?
  - Saw a lot of bikes here when walking out of class
  - Right outside the class
  - Easy
  
- Is this box helpful?
  - Yeah
  - Very noticeable
  - Useful
  - Easy to find
  
- How is this parking space useful to you?
  - Doesn't move
    - Spin bikes are dockless and shared
    - They can move everywhere
  - Near classrooms
  - Very easy to reach
  
- Would you use it to park your Spin bike?
  - Yeah
  - If there were more of these spots
  - If they were close to classrooms
  - Uses spin bike just to go to class
  - Likes the layout
    - Likes how parking spot is right outside the classroom, near the entrance
    - Very easy to access
  
- Improvements?
  - Add more
  - Really likes this idea



**This interview was conducted with a Spin user picking up a Spin bike from the orange zone at Geisel**

- Did you find this parking spot helpful?
  - Yeah
  - Saw it right away
  
- What about the spot is helpful?
  - It's right in front of the exit (of Geisel)
  - Also close to price center
  - Big, lots of bikes
  
- Was it the tape that drew you here? Or the bikes?
  - Bikes
  - Tape isn't very noticeable from all the way over there (Geisel)
  - Saw a lot of bikes parked here
  
- Improvements?
  - None
  - Really like the idea
  - Like the location
    - Goes to geisel a lot

---

**This interview was conducted with a pedestrian who walked past the orange zone near Geisel.**

- What do you think of the parking spot placed there?
  - Didn't notice at all
  - Probably didn't notice because he has no use for it
  - Didn't notice the bikes, but noticed the tape on the ground because was looking down
    - Wondered why where was tape on the ground
  
- Do you bike at all?
  - No
  - Walk everywhere
  - Never really notice bike racks either
  
- Is there anything that could make the parking spot more noticeable?
  - Add a sign or a banner
  - Maybe add a sign that provides information on Spin so it looks more official
  - Banner with information to encourage Spin use
  
- Do you think this is a good idea to regulate Spin bike parking?
  - Regulation is good and necessary
    - Spin bikes are everywhere
  - It is a good way to regulate them because it's a lot of work to move the bikes for one person
    - This idea would encourage everyone to park neatly
  - Also helps that the parking is next to the bike racks, makes sense
  - Guess it's good i didn't notice it, that means the bike wasn't in my way while i'm walking



---


**This interview was conducted with a Spin user picking up a bike from the orange zone in Geisel.**

- What do you think of the parking spot here?
  - Good
  - Helpful
  
- How is it helpful to you?
  - In the center of campus
  - Spotted them in a second
  - Didn't have to look at the app to search for one
    - The app sucks, laggy
  
- What about the parking spot drew you to this spot?
  - Saw the tape yesterday but didn't know what it was for
  - Saw bikes in it today
  - Made sense that they go together
  - Good that it's in front of Geisel, but still a little far from the entrance
    - But makes sense because there's no room in the entrance walkway for bike paths
  
- Any improvements?
  - Better if there were parking spots on other sides of campus
  - Lives in the village so it's not fair that the parking spot is so far
    - But makes sense because it's the center of campus
    - Try to be more considerate to people who live farther
  - Add more spots
  - Change the location to include more
  - Likes the one at Warren because right outside classroom




**This interview was conducted with a Spin user who ignored the orange zone in Geisel and parked next to it instead**

- Is there a reason you parked here?
  - Just wanted to go to Geisel
  - Parked right out here
  
- What determines where you park your Spin bikes?
  - Usually just park outside where I need to go
  - Outside classrooms
  - Outside library
  - Outside PC
  - (convenience)
  
- Is there a reason you parked here and not in the parking spot near by?
  - Didn't notice it, JUST noticed it after it was mentioned
  - Didn't know it was a parking spot
  - Was biking really fast
    - Easy to miss
  
- What can make this parking spot more noticeable?
  - Add a sign
  - Consider relocating
  - Easy to miss in the corner especially when you bike fast
  
- What do you think of the parking spot idea?
  - Good idea
  - Just make it more noticeable
  
- If you knew about it, would you have used it?
  - Sure
  - But only if he was aware
  - Hard to tell it was a spot



**This interview was conducted with a bike owner who parked in the bike racks near the orange zone at Warren Lecture Hall.**

- Have you noticed the orange box over there?
  - Yeah, I was wondering what that was for. Is that for Spin?
- Do you think it will be helpful that Spin riders will use that area for parking?
  - I think it will be great. Definitely keep the Spin bikes together.
- Is it helpful that Spin bikes are no longer being parked in the bike racks?
  - Yeah! I'm finally able to find parking
- Do you see any problems with the orange box over there?
  - I'm worried that I might not see it riding at night or when i'm not paying attention and run into it
- Did you see the box before we mentioned it?
  - I saw it but I didn't know what it was for
- Do you think there is any way we could improve the parking area?
  - Make it smaller and inwards. I don't want to hit it



**This interview was conducted with a bike owner who parked in the bike racks near the orange zone at Warren Lecture Hall.**

- Have you noticed the orange box over there?
  - Yeah
  - Seen a couple
  
- Do you think it will be helpful that Spin riders will use that area for parking?
  - I've seen a bunch of spin bikes in these boxes
  - They're doing a good job being helpful (to spin bikers)
  
- Is it helpful that Spin bikes are no longer being parked in the bike racks?
  - Hell yeah
  - I'm always looking for a parking spot
  - Less congestion in the bike racks
  
- Do you see any problems with the orange box over there?
  - Not really
  - Worst case: no one uses it, just an orange box
  
- Did you see the box before we mentioned it?
  - Yeah
  - Noticeable color
  
- Do you think there is any way we could improve the parking area?
  - Words on the tape
  - There is no hint on the box right now
  - Bikes inside the box should do it
    - But add more



**This interview was conducted with a pedestrian walking by the orange zone very slowly at Warren Lecture Hall.**

- What do you think of the parking spot placed there?
  - Saw it & the one at Geisel
  - Didn't think much of the Geisel one but this one makes sense
  - Really cool
  
- Do you bike at all?
  - No
  - Don't have personal bike
  - Don't want to rely on Spin / pay for it
  
- Is there anything that could make the parking spot more noticeable?
  - Pretty noticeable already
  - Color is eye catching
  
- Do you think this is a good idea to regulate Spin bike parking?
  - Definitely
  - It's not so "in your face" like a police citation or something
  - People should be able to understand
  - Likes how they're assigned somewhere because they don't block entrances or sidewalks this way
    - The ones here always block the door when she's trying to go in and out of class

---

**This interview was conducted with a pedestrian who walked by the orange zone by Warren Lecture Hall and took a photo.**

- What do you think of the parking spot placed there?
  - Dope
  - It's cool that people are actually using it
  - Didn't know what it was before saw spin bikes in it
  
- Do you bike at all?
  - Sometimes, rarely
  - Prefer walking
  
- Is there anything that could make the parking spot more noticeable?
  - Put some contrast in the box
  - The box itself is bright but it's kind of sunny so it kind of blends in
  
- Did you have any bad experiences with the Spin bikes before the parking spot was here?
  - Has to go to WLH everyday for class
    - People put spin bikes next to the bike racks but there's not a lot of room there
    - Spin bikes end up blocking the door
    - Really annoying
    - Takes forever to get out of class because not a lot of room
  
- Do you think this is a good idea to regulate Spin bike parking?
  - For sure
  - Looks like it's already working

**This interview was conducted with a Spin biker who parked in the orange zone at Warren Lecture Hall. This orange zone had an additional sign within it that displayed an orange image of a bicycle.**


- Why did you park in this area?
  - I saw the other bikes and decided to follow
- Did you see that sign?
  - I saw it when I came over to park my bike
- Did you think it was helpful?
  - Definitely helpful if there weren't any bikes here.
  - But it's also only visible on the floor
- Is it a good idea to have parking spots here for you to use?
  - Definitely. Most of the time I just leave it where it's most convenient
  - Examples: outside class, outside dorm, outside Geisel, places like that
- What do you think we could do to improve this design?
  - Probably make the parking spot bigger? Worried it might get full when more people begin to utilize them.
  - Maybe make the sign higher to be easier to see
    - Currently only visible on the floor and it doesn't help too much if you can't even see it
- What are your thoughts on the location? Where would be the best place for a parking spot?
  - This is a good spot (Warren). As long as it's closer to my classes



**This interview was conducted with a Spin user who just parked their bike and was on their way to class at Warren lecture hall**


- Why did you park in this area?
  - Seemed like the best place to park
- Did you see that sign?
  - I did after I got close to it
- Did you think the sign was helpful?
  - It helped a little bit but having a higher and more visible sign would have been better
- Is it a good idea to have parking spots here for you to use?
  - Don't really mind either way as long as I have somewhere to park
- What do you think we could do to improve this design?
  - Probably create a taller sign
- What are your thoughts on the location? Where would be the best place for a parking spot?
  - Somewhere that's easy for me to get to





**This interview was conducted with a pedestrian who just finished class and walked past the orange zone at Warren Lecture Hall. This orange zone was accompanied by a sign that displayed an orange bicycle.**


- Are you a biker rider and do you use Spin?
  - I don't have to time to figure all that stuff out. Walking is simple.
  - "God gave me two legs so Imma use them."
- Have you noticed anything changes in traffic?
  - Warren Lecture at 2001 does not have Spin Bikes parked everywhere
  - "There is actually room to get out of class!"
  - I can see the walkway
- Do you like the location and the amount of space?
  - It fits perfectly
  - Does not get in the way
  - Might not be big enough
- Did you notice the parking spot before the sign?
  - I didn't even know there was a sign
  - I only knew of that space because I saw orange bikes in the orange square
- Do you have any suggestions to improve it?
  - Well no it seems to be doing its job
  - No bikes are in my way



**This interview was conducted with a bike owner who just finished class and unlocked his bike near the orange zone at Warren Lecture Hall. This orange zone was accompanied by a sign that displayed an orange bicycle.**

- Do you use Spin?
  - No
  - Have my own bike
  - Spin isn't necessary
- Have you noticed anything changes in traffic?
  - The entrance here (WLH 2001) isn't as congested
  - Easier to get to my bike
- Do you like the location and the amount of space?
  - Yeah
  - Really smart
  - The size of it is perfect actually because there's normally like 10 Spin bikes that go to WLH
- Did you notice the parking spot before the sign?
  - Yeah
  - Sign is really small
  - What stuck out most was the cluster of Spin bikes in the box
- Do you have any suggestions to improve it?
  - Make the sign bigger & easier to see
  - The parking box is perfect





**This interview was conducted with a Spin biker who parked their Spin bike at the orange zone at Warren Lecture Hall. This orange zone was accompanied by a sign that displayed an orange bicycle.**

- Why did you park in this area?
  - Seemed like the best place to park
- Did you see that sign?
  - I did after I got close to it
- Did you think the sign was helpful?
  - It helped a little bit but having a higher and more visible sign would have been better
  - I didn't see it until I got really close
- Is it a good idea to have parking spots here for you to use?
  - Don't really mind either way as long as I have somewhere to park
- What do you think we could do to improve this design?
  - Probably create a taller sign
- What are your thoughts on the location? Where would be the best place for a parking spot?
  - Somewhere that's easy for me to get to

**This interview was conducted with a Spin biker who parked their Spin bike at the orange zone at Warren Lecture Hall. This orange zone was accompanied by a sign that displayed an orange bicycle as well as a sign with words saying “PARK SPIN BIKES HERE”.**

- Why did you park in this area?
  - Saw all the other Spin bikes here
- Did you see that sign?
  - Yeah
  - Saw it when parking the Spin bike
- Did you think the sign was helpful?
  - Not really
  - The box with all the Spin bikes already self explanatory
- Is it a good idea to have parking spots here for you to use?
  - Great idea
  - Easy to park the Spin bike and easy to find for people leaving class
- What do you think we could do to improve this design?
  - Don't think the sign is necessary
  - Especially since it's so small and not that visible
- What are your thoughts on the location? Where would be the best place for a parking spot?
  - Location is great
  - Places like this (outside lecture halls)

**This interview was conducted with a pedestrian walked near the orange zone at Warren Lecture Hall. This orange zone was accompanied by a sign that displayed an orange bicycle as well as a sign with words saying “PARK SPIN BIKES HERE”.**

- Did you see the orange box?
  - Yeah, saw it last week
  - Didn't know what it was for until she saw all the Spin bikes here
- Did you see that sign?
  - Yeah
  - It's pretty clear
- Did you think the sign was helpful?
  - Sure
  - In a sense
  - Could maybe add a sign elsewhere so people can have a heads up
- Is it a good idea to have parking spots here for you to use?
  - Yeah
  - Smart idea
- What do you think we could do to improve this design?
  - (stated before) add a sign elsewhere to remind people before they get here so they know the spot is here
  - Or at least make the sign stand like on a pole
- What are your thoughts on the location? Where would be the best place for a parking spot?
  - Location is good but is the box big enough?
  - Outside all buildings because you never know where Spin bikers may go

**This interview was conducted with a bike owner who was unlocking their bike near the orange zone at Warren Lecture Hall. This orange zone was accompanied by a sign that displayed an orange bicycle as well as a sign with words saying “PARK SPIN BIKES HERE”.**

- Do you bike often?
  - Yeah
  - No longer care to walk
- What do you think of the orange zones dedicated to Spin bikers here?
  - Love it
  - Used to be really bad here because there’s not enough room for bikes alone, but people that use Spin bikes always leave it where the bikes are and it gets really crowded
- Did you see that sign?
  - Not until you mentioned it
- Did you think the sign was helpful?
  - Considering i didn’t see it, not really
  - But it could be helpful if we did notice it
- Is it a good idea to have parking spots here for you to use?
  - Yes
  - It’s great that you’re keeping bikes and the rental ones separate
- What do you think we could do to improve this design?
  - Bigger
  - Might even be more noticeable if the whole box was colored orange
- What are your thoughts on the location? Where would be the best place for a parking spot?
  - Good
  - Everywhere

- Maybe price center or center hall

## Field Notes

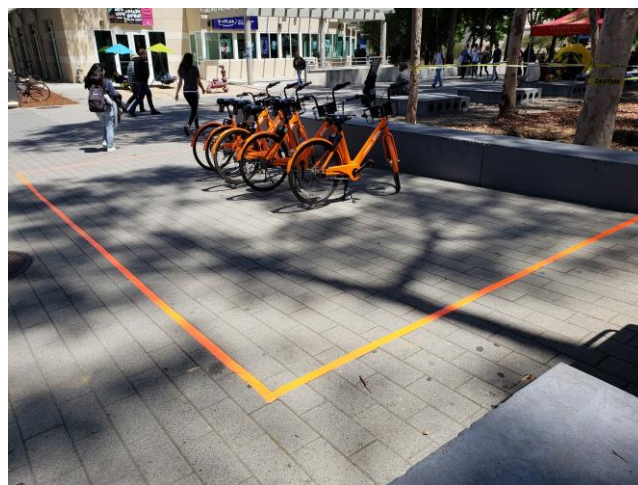
Field notes were taken during our prototyping process. This allowed us to examine human interaction with or without our prototype. Observations and field data also reduce bias that exists in interviews. Below are photos and notes that were taken while prototyping.

### Before Prototype Implementation

- Saw a spin user park near in bike parking spots
  - (BAD, blocks bikers out of their parking spots and provides inconvenience)
- Saw spin user park on top of hill outside CSB
  - (BAD, blocks sidewalk and staircase)

### After Placing Orange Parking Zone

- People are noticing the orange tape
- People are avoiding the orange tape, walking around it, slowing down
- People don't want to step on the box
- Maintenance cart stopped to look, then kept driving
- So far all golf carts are avoiding the box
- Pedestrians are actively avoiding the box
- Nobody has recognized it as a Spin parking spot
  - Nobody has used it



### After Adding Spin Bikes to the Orange Parking Zone

- Groups are walking across the box
- People walking alone/ distracted tend to walk around the box
  - People will cross the box if they see others do it
- One person parked Spin bike in parking spot
  - Looked like he found it with ease and didn't hesitate
- Had Rajiv ride a Spin bike and park it into the spin parking spot during passing period so people could see that it's a spin parking spot



- Not too much activity
  - Maybe because not many people are biking to geisel
  - People are getting to geisel by walking
  - Potentially a bad location to test

## Additional Notes

### At Warren Parking zone

- Saw a guy park a spin bike in the parking spot while there were already 8 in there
  - Interviewed him - he gestured that he saw the spot
  - He went to class right away
- Saw a guy leave the lecture hall and take a Spin bike right away
  - Interviewed him
- Saw a professor/ staff member ride Spin across Warren and park in the Warren parking spot and leave right away
  - It appeared that the parking spot was convenient for him
  - Was too far away to interview

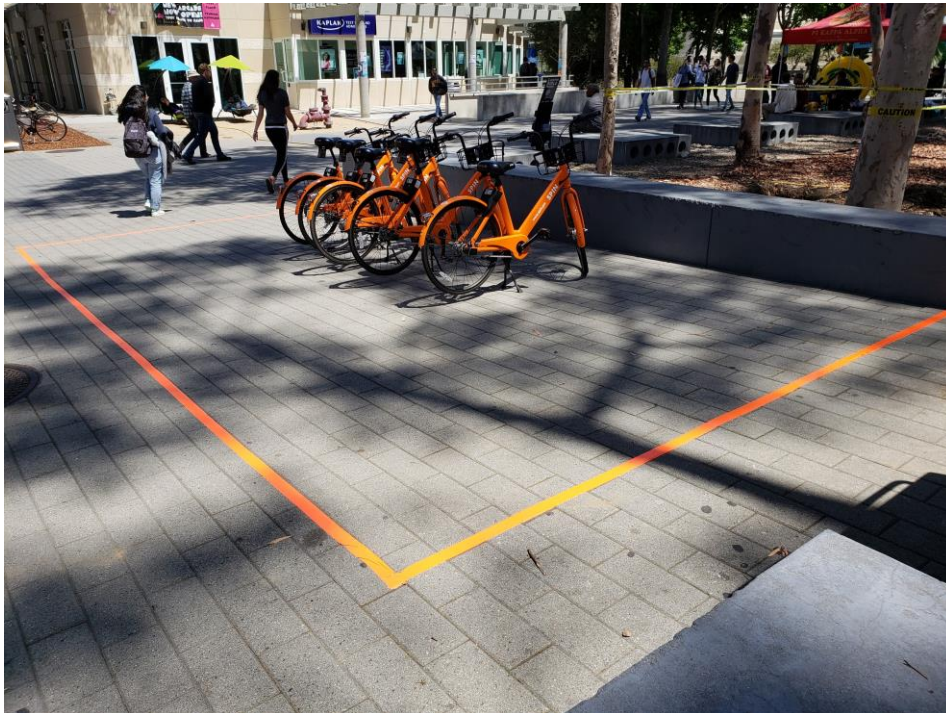
This spot appears to be more successful because of its location. It is located right outside the the lecture hall at the entrance. Many people have class in this lecture hall.



### At Geisel Parking Zone

- Some people don't notice parking spot at all
- Some people notice the parking spot (orange tape)
  - Girl walked by it and laughed saying "what is this"
  - People are snapchatting it expressing their confusion about why there is orange tape on the ground
- Some people return spin bikes where they pick them up (based on interview data & observation)
- More people are picking up here (Geisel parking spot) than parking back here
  - This could be due to Geisel not actually being a popular Spin spot
  - Not many people going to Geisel? - no reason to park here
- Pedestrians passed by Geisel spot
  - Said it was funny that we've come to this because people leave them everywhere

This spot was not as successful because of the location and maybe the size. Not as many people go to Geisel (via Spin bike specifically). Although it is in the center of campus, this part of Campus is not as popular for Spin bikers. The size of the box also maybe be too big. The fact that it is a designated Spin bike parking spot may not make sense to pedestrians / bikers/ Spin bike users.



## Field Research Photos

### Field Research Images



Image 1

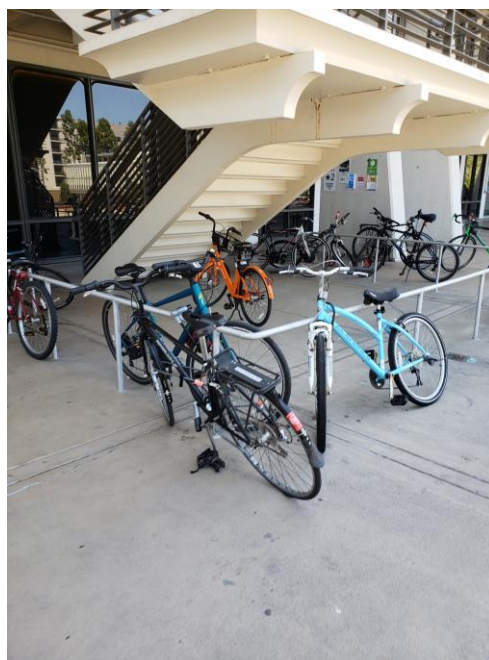


Image 2



Image 3



Image 4



Image 5



Image 6

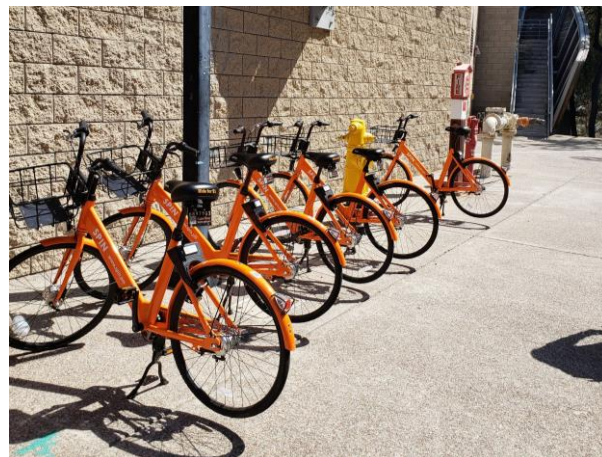


Image 7

Image 8



Image 9

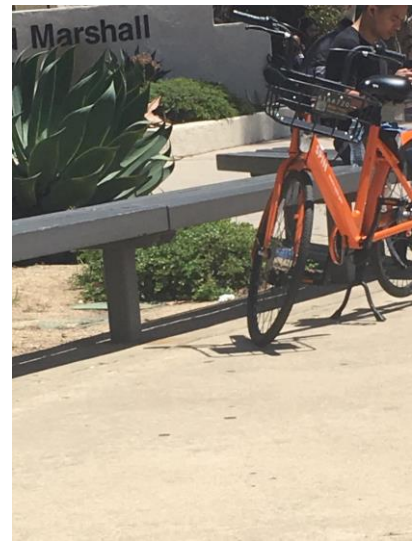


Image 10



Image 11

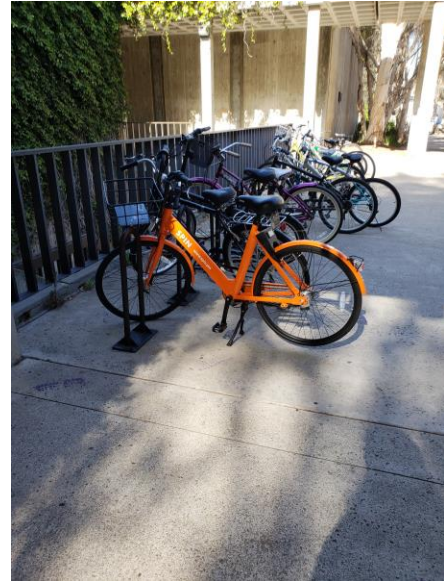


Image 12



Image 13



Image 14



Image 15

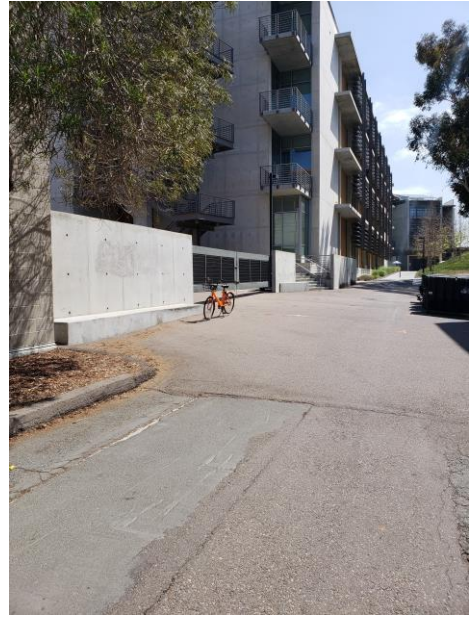


Image 16

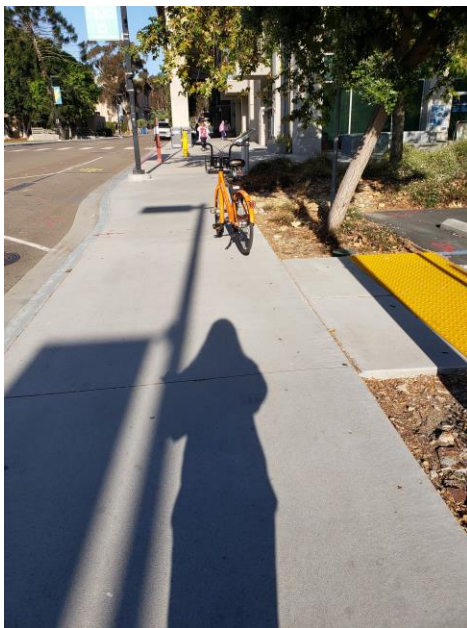


Image 17

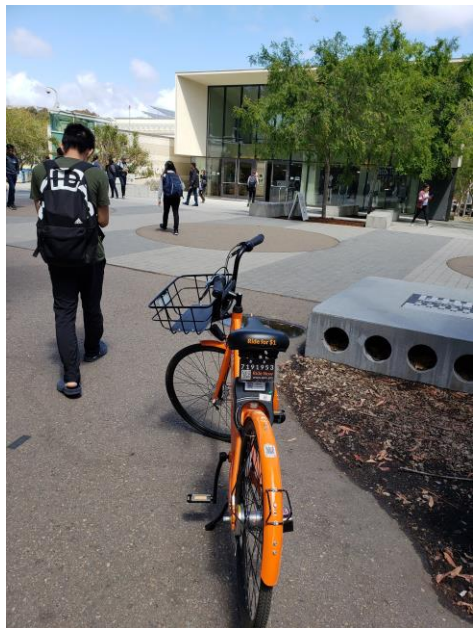


Image 18



Image 19



Image 20

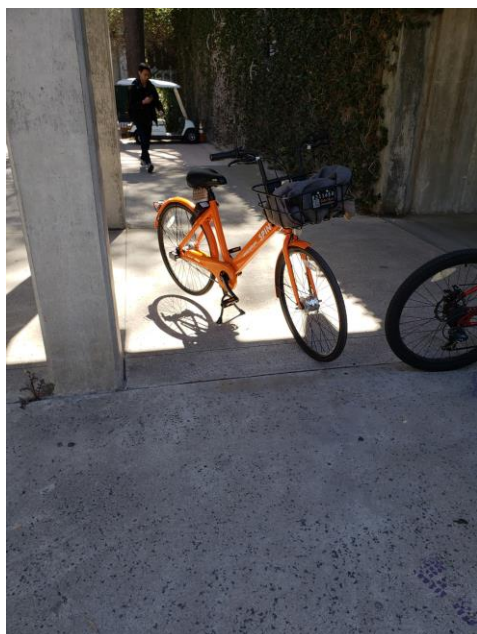


Image 21

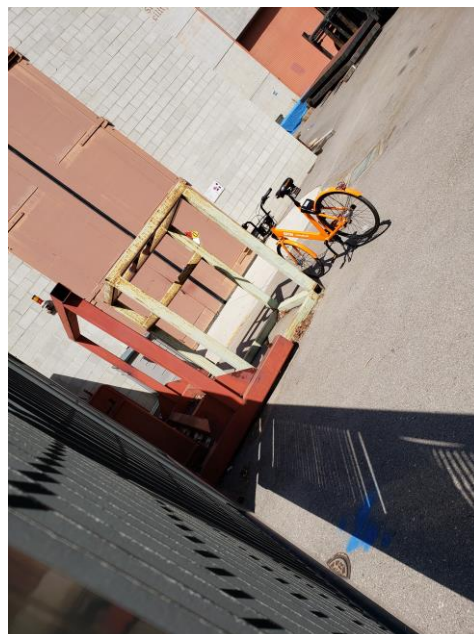


Image 22





Image 23



Image 24



Image 25



Image 26



Image 27



Image 28



Image 29

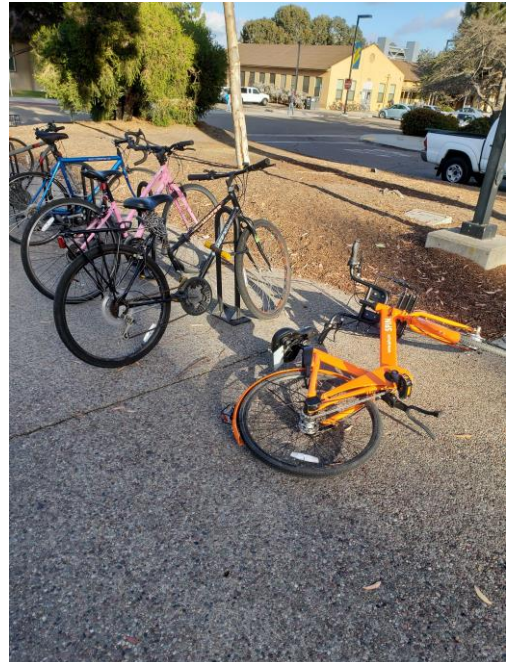


Image 30



Image 31



Image 32

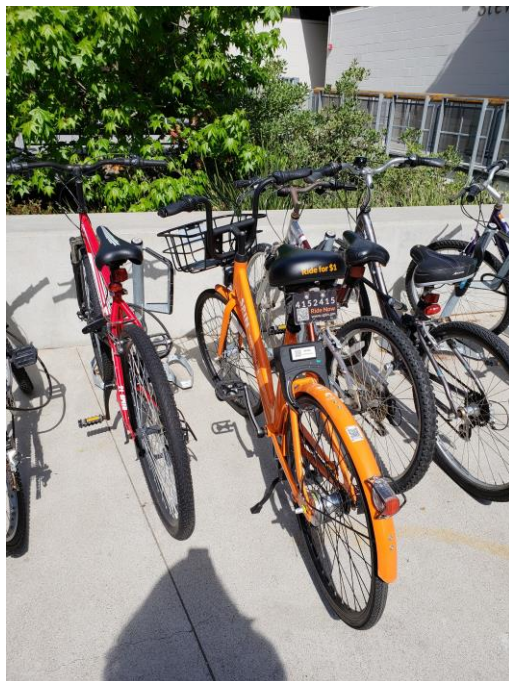


Image 33



Image 34

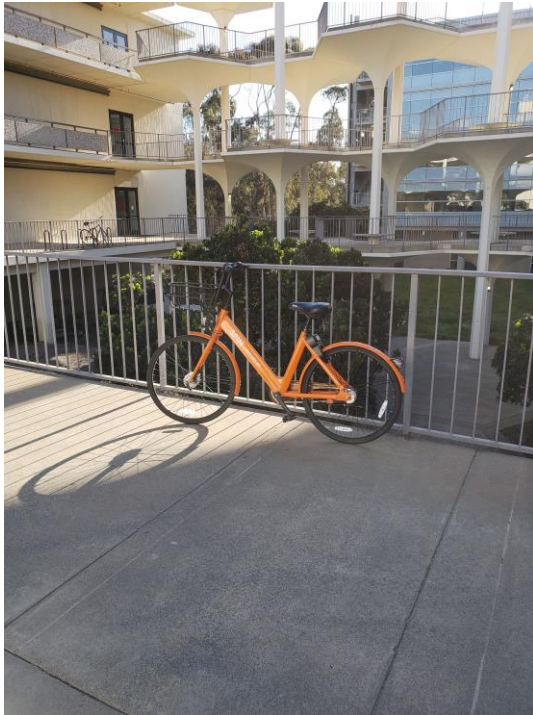


Image 35

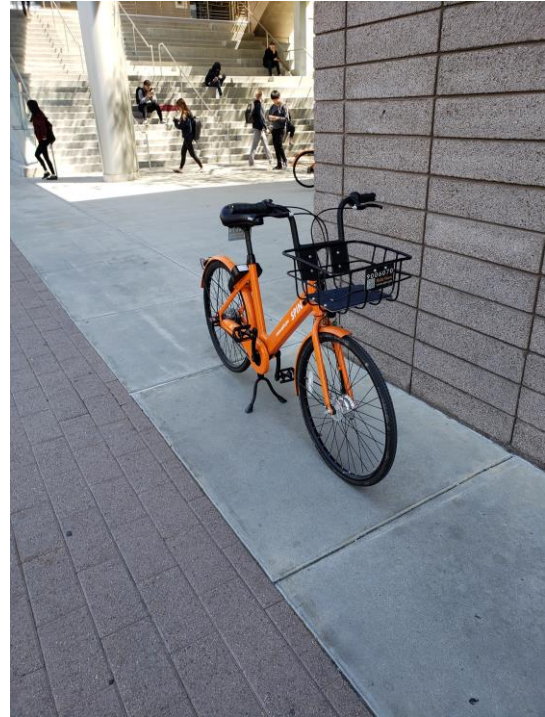


Image 36

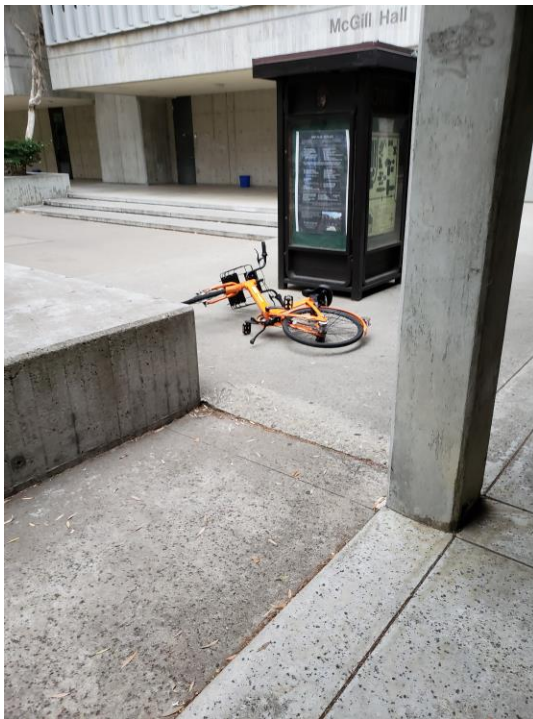


Image 37

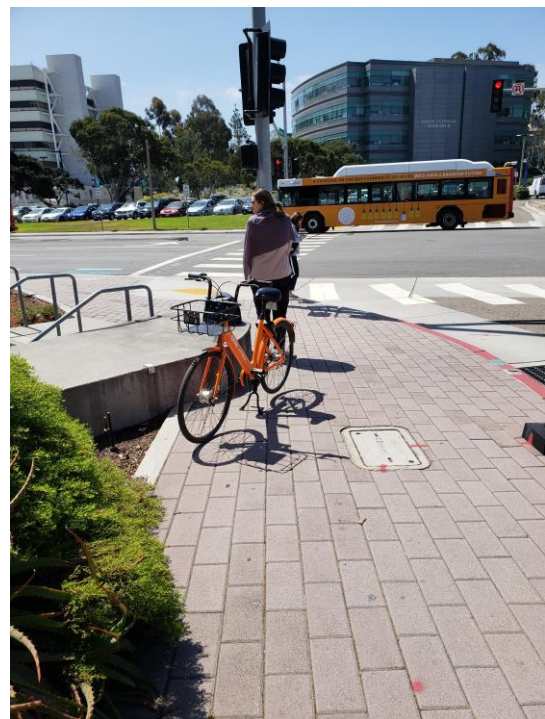


Image 38



Image 39



Image 40



Image 41

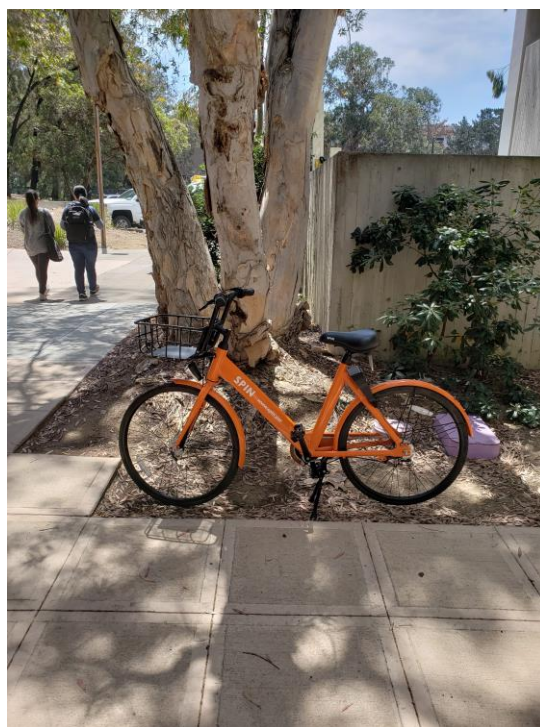


Image 42




Image 43



Image 44

### Field Research (Image) Descriptions


1. Groups of bikes blocking fire hydrant
  - a. This is illegal and will hinder fire fighters in the event of a fire
2. Hard to access for users but out of the way
  - a. Good because this bike is not blocking a pathway or bike rack but overall not great because it stops users who cannot lift the bike from accessing it
3. In the street (not on the sidewalk) and blocking the fire lane
  - a. Dangerous because it blocks the roadway and makes it unsafe / also will hinder fire fighters in the event of a fire
4. People mistreat the bikes. People sitting on bikes
  - a. This hurts the rideshare concept and shows that some Spin riders do not truly care about the bikes and their upkeep
5. Bikes are parked next to bike parking and are out of the bike racks
  - a. This is an example of good parking as the bike is out of the way and parked safely and reachable
6. Bikes are parked outside grocery stores which is convenient for people shopping. Not in the way

- 
- a. This is an example of good parking as it is available to riders who need it and out of the way for our other stakeholders
  7. Blocking library walk, bike racks and a large section of the sidewalk
    - a. This is a prime example of bad parking in a high traffic area because it blocks all of our stakeholders and interferes their movement around campus
  8. More bikes blocking the fire hydrant
    - a. This is illegal and will hinder fire fighters in the event of a fire
  9. This bike is blocking the bench, not allowing people to sit
    - a. This stops users from accessing school facilities and is in the way of one of our key pedestrians (stakeholders)
  10. Another bike blocking a bench in a hard to find area that makes it hard for people to find the bike.
    - a. This stops users from accessing school facilities and is in the way of one of our key pedestrians (stakeholders)
  11. Bike blocking bike path and sidewalk. Easy to hit for bike riders. Dangerous
  12. Blocking the bike racks, making it hard for bikers to lock their bikes
    - a. This is in the way of our key stakeholder of bikers and uses one of the campuses impacted facilities
  13. Bike in the middle of Pepper Canyon, outside classrooms, blocking pedestrians from leaving classrooms
    - a. This is in the way of pedestrians and can cause a fire hazard
  14. Blocking the middle of library walk, a highly populated area
    - a. This is an example of a specific issue we want to address because this type of parking affects all of our stakeholders
  15. Bikes toppled over in front of stairway at Hopkins Parking Structure. Bikes are damaged, look bad and block the front of the stairs and sidewalk
    - a. This is an example of bad parking and shows that if not managed bikers will not take care of the bikes

- 
16. Bike is blocking the gate at SME
    - a. This prevents cars from entering and exiting and is a potential hazard for drivers
  
  17. This Spin bike is blocking the handicap ramp and half of the sidewalk
    - a. This blocks a pathway for a key stakeholder and litters the campus
  
  18. Bike is placed in middle of walkway by library walk. Blocks bike riders and pedestrians
    - a. This negatively affects two of our key stakeholders: bike owners and pedestrians
  
  19. Bike placed at an intersection blocking half of the sidewalk and a bench
    - a. This negatively affects two of our key stakeholders: bike owners and pedestrians
  
  20. Blocking sidewalk at Imprints entrance
    - a. This can cause a tripping hazard for pedestrians
  
  21. Blocking the sidewalk at HSS between pillar and bike racks, not allowing people to walk through
    - a. This negatively affects two of our key stakeholders: bike owners and pedestrians
  
  22. Blocking industrial zone parking area which ends up blocking cars and interfering in someone's job
    - a. Negatively affects a tertiary stakeholder: UCSD maintenance and cars
  
  23. Spin in bike rack. Doesn't allow bikers to park in the bike rack. Spin bikes do not need to be locked as they are self-locking
    - a. Negatively affects our key stakeholder: bike owners
  
  24. Another Spin bike parked in bike rack blocking other bikers
    - a. Negatively affects our key stakeholder: bike owners
  
  25. Bike parked in bike rack
    - a. Negatively affects our key stakeholder: bike owners



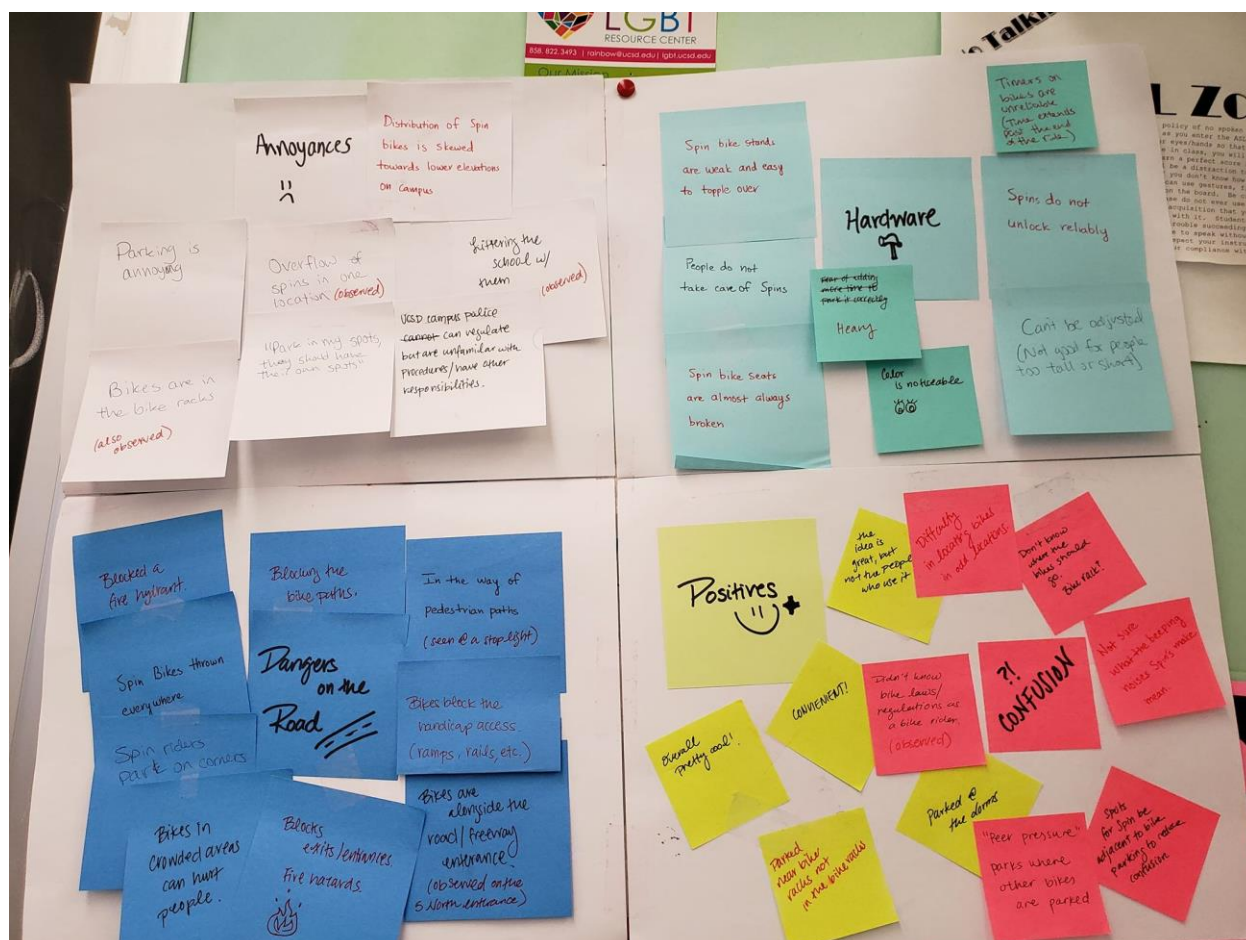
- 
26. Good parking next to bike rack and not in the bike rack
    - a. Example of how Spin users should park their bikes
  27. Another bike blocking the middle of Pepper Canyon
    - a. Negatively affects our key stakeholder: pedestrians
  28. Spin bike blocking a large portion of the sidewalk at Peterson's Hall
    - a. Negatively affects our key stakeholder: pedestrians
  29. Bunch of bikes placed around bike racks haphazardly. They look bad and block bike racks
    - a. Negatively affects our key stakeholder: bike owners
  30. Bike parked near the bike rack is parked great but would look better if the bike was still standing
    - a. Negatively affects our key stakeholder: bike owners and is a tripping hazard for pedestrians
  31. Bike parked in bike rack, blocking other riders
    - a. Negatively affects our key stakeholder: bike owners
  32. Bike in bike rack
    - a. Negatively affects our key stakeholder: bike owners
  33. Another bike in bike rack
    - a. Negatively affects our key stakeholder: bike owners
  34. Bike in bike rack
    - a. Negatively affects our key stakeholder: bike owners
  35. Bike blocking railing at York near staircase. Looks bad
    - a. Negatively affects our key stakeholder: pedestrians
  36. Bike in Pepper Canyon by the side of a building.
    - a. Negatively affects our key stakeholders: bike owners and pedestrians
  37. Bike fell over in the middle of the major sidewalk at McGill Hall.

- 
- a. Negatively affects our key stakeholders: bike owners and pedestrians
38. Bike fell over by bench. Also blocks a pedestrian pathway.
- a. Negatively affects our key stakeholder: pedestrians
39. Bike fell over by bike racks at Center Hall. Blocks the sidewalk to a major classroom, Center 101
- a. Negatively affects our key stakeholder: pedestrians
40. Parked well by bike racks at library walk
- a. Example of how Spin users should park their bikes
41. Bike blocking bike racks by SSB
- a. Negatively affects our key stakeholder: bike owners
42. Spin Bike Parked randomly near walkway
- a. Negatively affects our key stakeholder: pedestrians
43. Spin bikes blocking almost the entire set of bike racks
- a. Negatively affects our key stakeholder: bike owners
44. Spin user parking bike in a bike rack
- a. Negatively affects our key stakeholder: bike owners

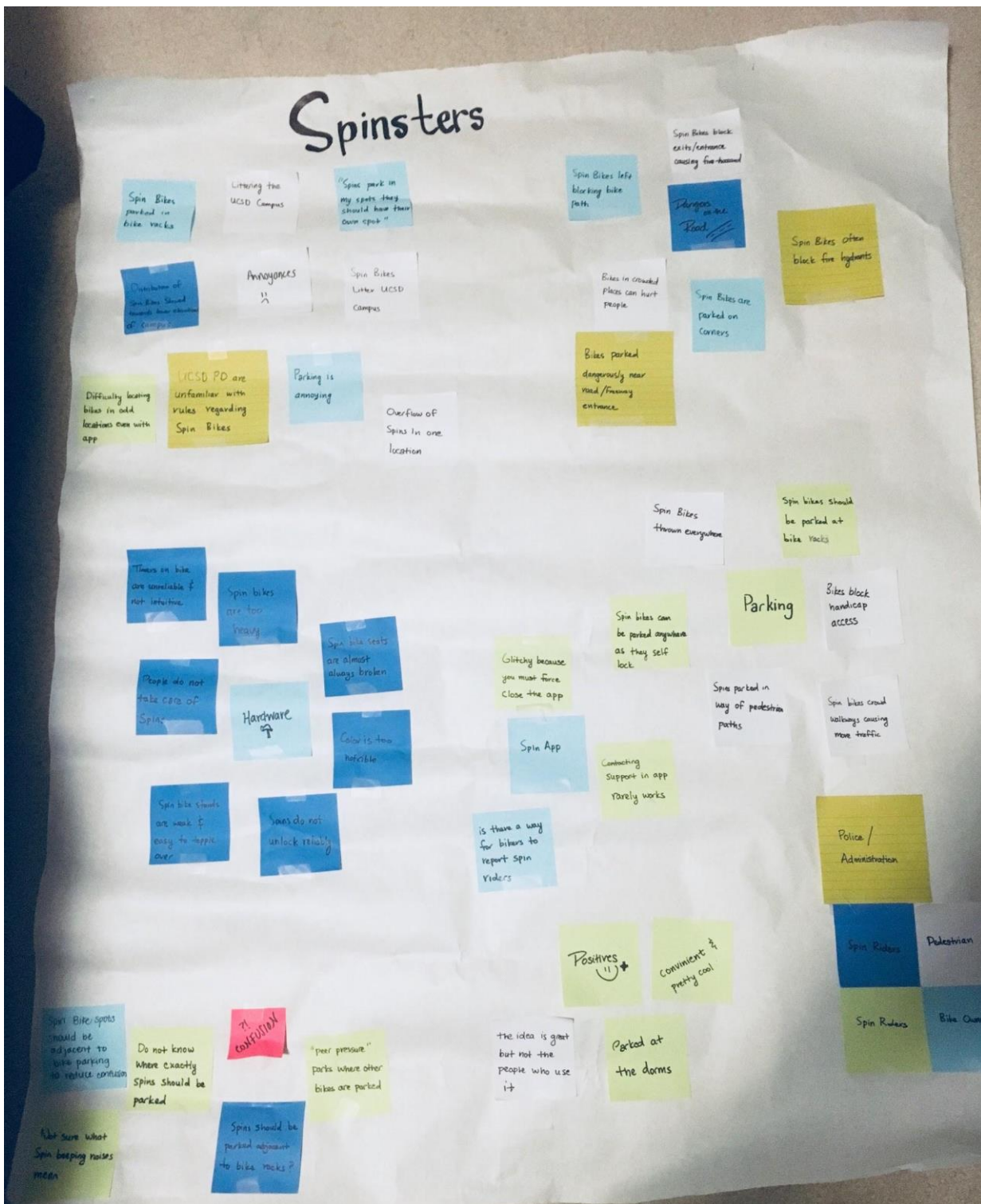
## Affinity Diagram

Our Affinity Diagram allowed us to take our data we had from interviews, field notes, and images to form a collective visual in which we could see connections. We had two affinity diagrams. In our Affinity Diagram 1 we went through the data and wrote it down, and if it fit into any pre existing category then we would place it there. But if there was no relevant category, we would create a new one. We ended up with 5 categories and distinguished where via color (red vs black) if information As you can see in the image, our diagram seemed in comparison smaller than most. There was a concern for leaving out information by making categories we we went along, as well as filtering out any app related issues. To ensure we covered all areas, we created a Affinity Diagram 2; as shown in the image there was a significant amount more of data as we did not filter anything out and created categories after all sticky notes were laid out. We had more categories and more data, but overall, because of the amount of similar data, was still very condensed.

Affinity Diagram 1



Affinity Diagram 2





## Design Models

Design Models were important in the process of ideating for our design solution. Design models were all created based on interviews with stakeholders and field data (including notes and observations) of our stakeholders. Design Models were another way to better understand our stakeholders and their experiences. This was important for us to understand so that we were capable of catering to our stakeholders.

## Day in the Life Models

Day in the Life models were created for: bike owners, pedestrians, and Spin bike users. The Day in the Life models of each stakeholder were made to observe their daily lives and activities. Being able to understand their daily lives also allowed us to understand how their daily routines could be altered or disturbed by an inappropriately parked Spin bike.



# A Day in the Life of a PEDESTRIAN

**At Home**  
 At home I am chilling and resting up before classes start. I eat breakfast, play on my phone, or do some homework until it is time to go.

**While Preparing for Class**  
 I wrap up any work I'm doing and get my notes and homework ready for my classes. I always leave 20 minutes at most before my class starts to ensure that I am on time.

**While Commuting**  
 While walking to class, I always take shortcuts to class. I cut through the woods, use bike paths, or go behind buildings because these routes are easier and faster to take. Sometimes I like to listen to music or go on my phone while walking to class. While doing this, I still have to watch out for my surroundings to ensure my safety.

**Before Class**  
 If time permits I may grab a snack at a nearby market study some notes so I can be better prepared for the lecture.

**Before Class**  
 I attend lecture and actively listen and participate in the teacher's instruction. I take notes and ask questions so that I can succeed.





## Identity Models

Identity models were created for: bike owners, pedestrians, and Spin bike users. The Identity models of each stakeholder were made to immerse ourselves in the shoes of our stakeholders. These models allowed us to understand why they choose the method of transportation they use daily. With these senses of identity and pride going into their decision of mode of transportation, we were able to identify values of all our stakeholders.

### The Biking Student



I am a student living in a very large campus. The campus is very large; it's much easier to get around with my bike. Walking with the traffic is too slow, and my classes are really far. There are many bike racks on campus; this makes me feel more welcome. I like how I can easily park my bike outside my classrooms with ease. With my bike, I don't have waste any time relying on transportation.

GIVE ME ...



HMM...

- Give me a map of the bike routes on campus
- Give me a map of all the bike racks on campus

## The Travelling Student



I am a student living in a very large campus. I see people walking, biking, or boarding around campus. I would also like to get around campus fast and efficiently. I want to have more transportation options available to me. I do not have a personal bike with me but I would like to use one to get around campus like other bikers. Spin bikes look like a good option. I have seen them around campus and would like to know more.

### GIVE ME ...



HMM...

- Inform me about the Spin Bike process
- Tell me the dos / don'ts when using Spin
- Give me an overview of how/where I should park

## ┌ The Walking Student ┐

I am a student living in a very large campus. I like to walk around campus, but I'm intimidated by all the bikers that are riding around campus. I share the road with other bikers, but I would like to feel safe when walking around campus. I prefer walking because there is no cost and I feel it to be the safest transportation option. I normally walk around and stay cautious of my surroundings, so I don't walk into obstacles, trip, or get hit by fast bikers.

GIVE ME ...



HMM...

- Give me a map of high bike population
- Tell me more about safe passageways

## Personas

Personas were created for these stakeholders: bike owners, pedestrians, Spin bike users, and authority figures (police officials). These personas were created for each of our stakeholders to allow us to see their profile and motivations based on their occupation. We incorporated the values identified in previously created design models as well as evidence gathered from interviews to create these profiles that portray their goals, and biographies depending on their occupations.



**Age:** 21  
**Occupation:** Student  
**Location:** UCSD  
**Value(s):** Bike Parking & Safety

**Goals:**

1. To no longer have parking spaces blocked by Spin bikes
2. To walk around campus without being blocked by poorly parked bikes
3. Spin bikes should have their own parking spots

**Frustrations:**

1. Spin bikes blocking parking spots and sidewalks
2. Spin bikes littering the campus, making it look ugly
3. Spin bikes clump around important areas (ex: fire hydrants), creating a fire hazard

### **Bio:**

Ray is a student who rides his bike around campus to get to each of his classes. He finds riding his bike extremely convenient to get around campus. He is a diligent worker, working on dozens of school projects in the hopes of being the next Elon Musk. He has no patience for bikes blocking his bike paths.



# TJ Goodwin *Pedestrian*

Hannah Ytares

**Age:** 20  
**Occupation:** Student  
**Location:** UCSD  
**Value(s):** Safety & Time

**Goals:**

1. To be able to walk around campus without hurdling through any obstacles
2. To be able to go from Point A to Point B in peace
3. To get to class without having to deal with pedestrian traffic

**Frustrations:**

1. Physical objects (Spin bikes) blocking sidewalks and pathways
2. Surrounding students walking at a slow pace, causing her to walk at a slow pace
3. Being late or having to rush to class because of pedestrian traffic

## **Bio:**

TJ is a responsible straight A UCSD student. She always puts in her best effort by persevering. Having been 20 minutes late to a midterm once because of a Spin bike blocking the sidewalk and tripping her, TJ now prepares for the future and leaves her dorm 30 minutes earlier than normal to get to her destination safely and timely. TJ wishes to graduate with a 4.0 GPA and become the President of the United States. She no longer tolerates any obstacles slowing her down.



# Taylor Hutchins

## *Spin Rider*

Rajiv Sancheti

**Age:** 19  
**Occupation:** Student  
**Location:** UCSD  
**Value(s):** Convenience

**Goals:**

1. To easily be able to locate a Spin bike
2. To be able to use Spin bikes that are properly maintained
3. Know exactly where to find a Spin bike

**Frustrations:**

1. Spin APP rarely works and overcharges
2. Not enough Spin bikes in Muir, Revelle, and ERC
3. Confused where to park Spin bike when done

### **Bio:**

Taylor is a Spin user who loves the bikeshare program to get around to her classes and the gym on campus. She loves how she does not have to maintain bikes in this program and that they are available and accessible around campus. She does not tolerate slow pedestrians and bikers. She hopes to start her own skateboard/bike shop in the future.



**Age:** 39  
**Occupation:** UCSD Campus Police Officer  
**Location:** La Jolla, CA  
**Value(s):** Safety

**Goals:**

1. Ensure students are acting safe on campus
2. Removal of dangerous things/ people on campus that may compromise students' safety
3. Implement citations to increase destructive behaviors

**Frustrations:**

1. Students' disregard for safety themselves and each other
2. Students' poor knowledge of campus regulations/ safety policies
3. Students blocking emergency exits and fire hydrants with Spin bikes

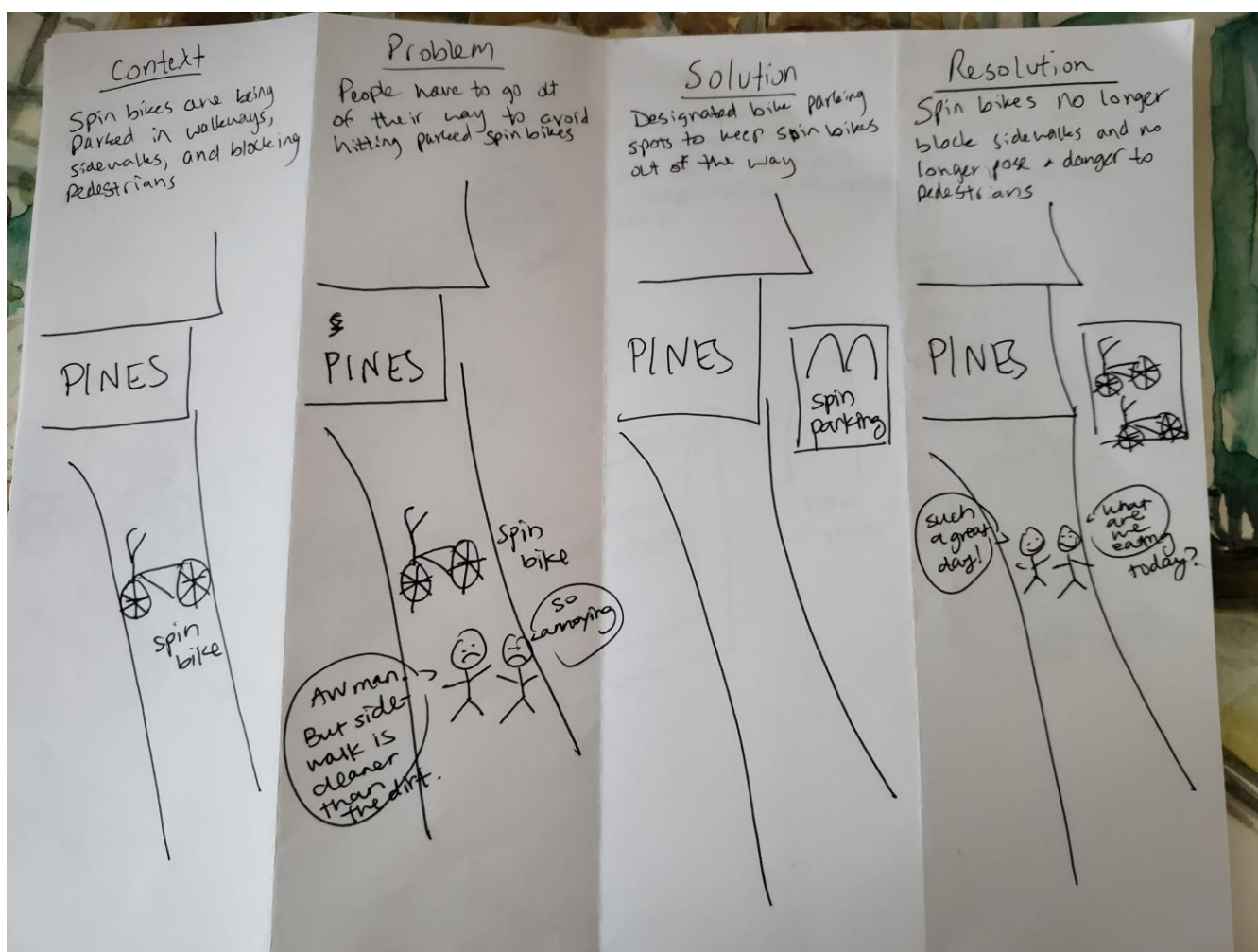
**Bio:**

Scott is someone who takes safety very seriously. After getting injured from a bike in his way, when escaping a fire, he takes into account how one's actions could seriously impact another. He feels lucky to be alive and hopes to one day implement an educational understanding amongst students to take safety precautions for themselves and others into their own hands, because his job is not a one-man job.

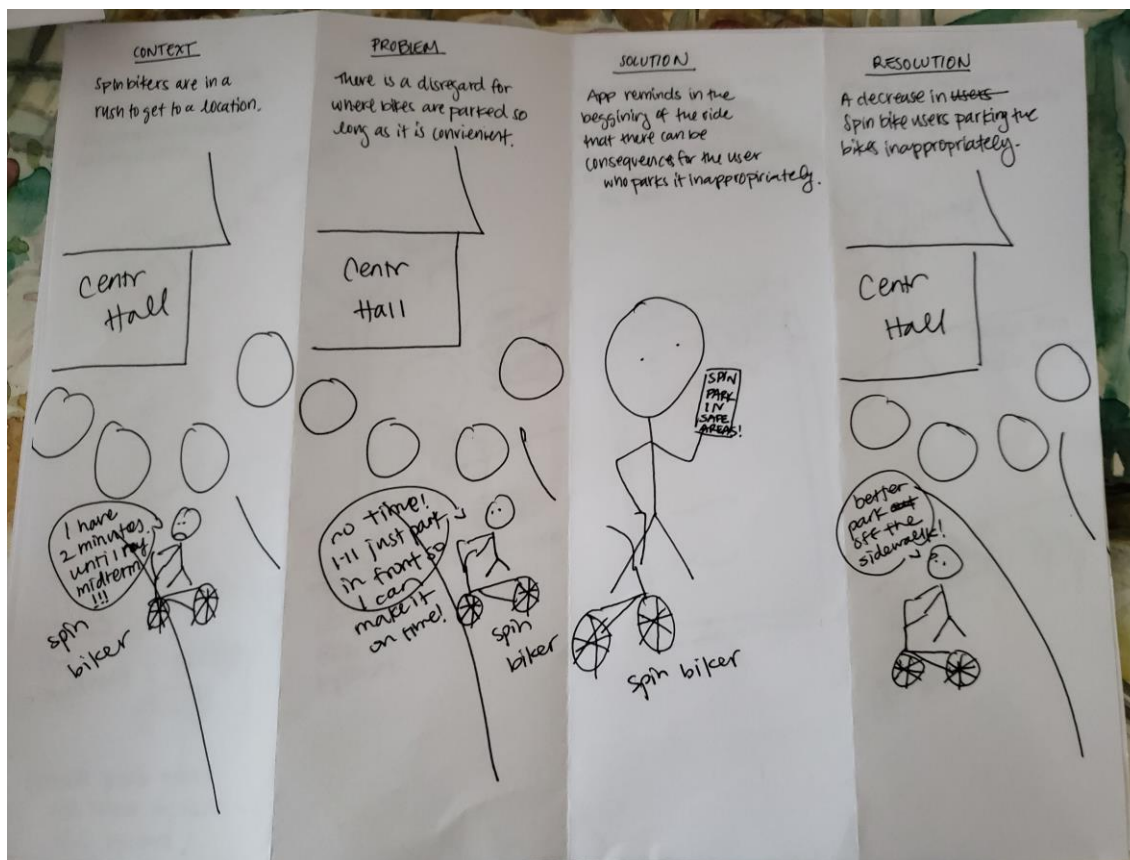
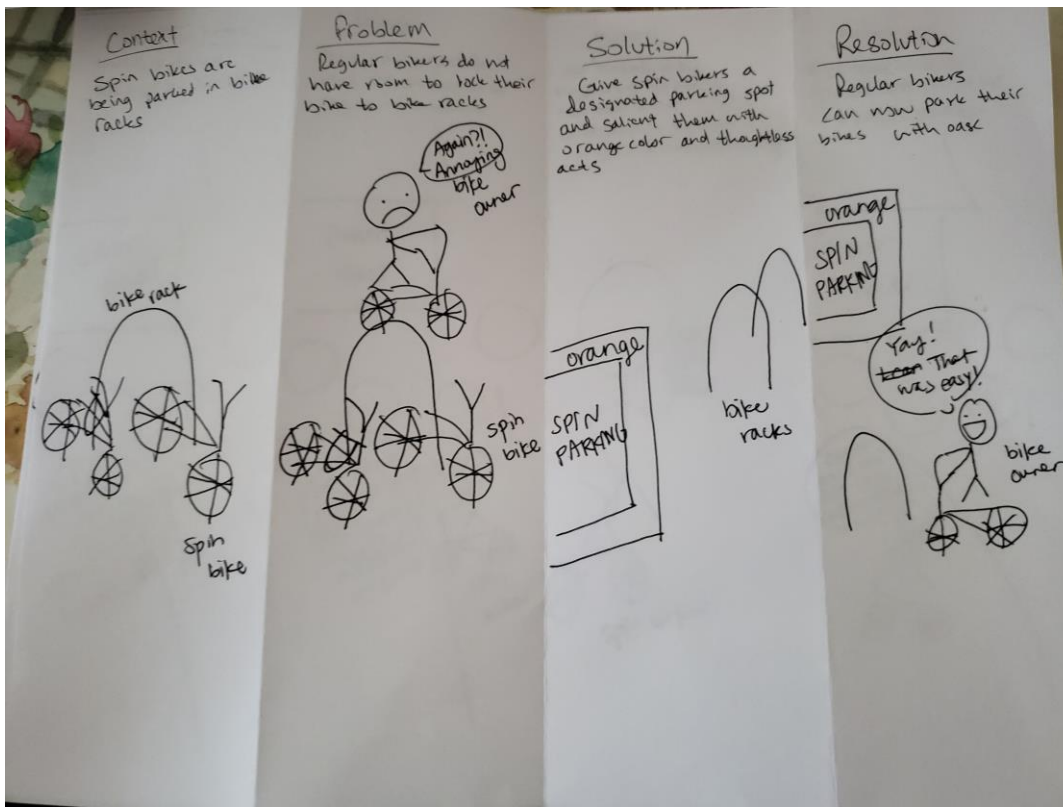
## Storyboards

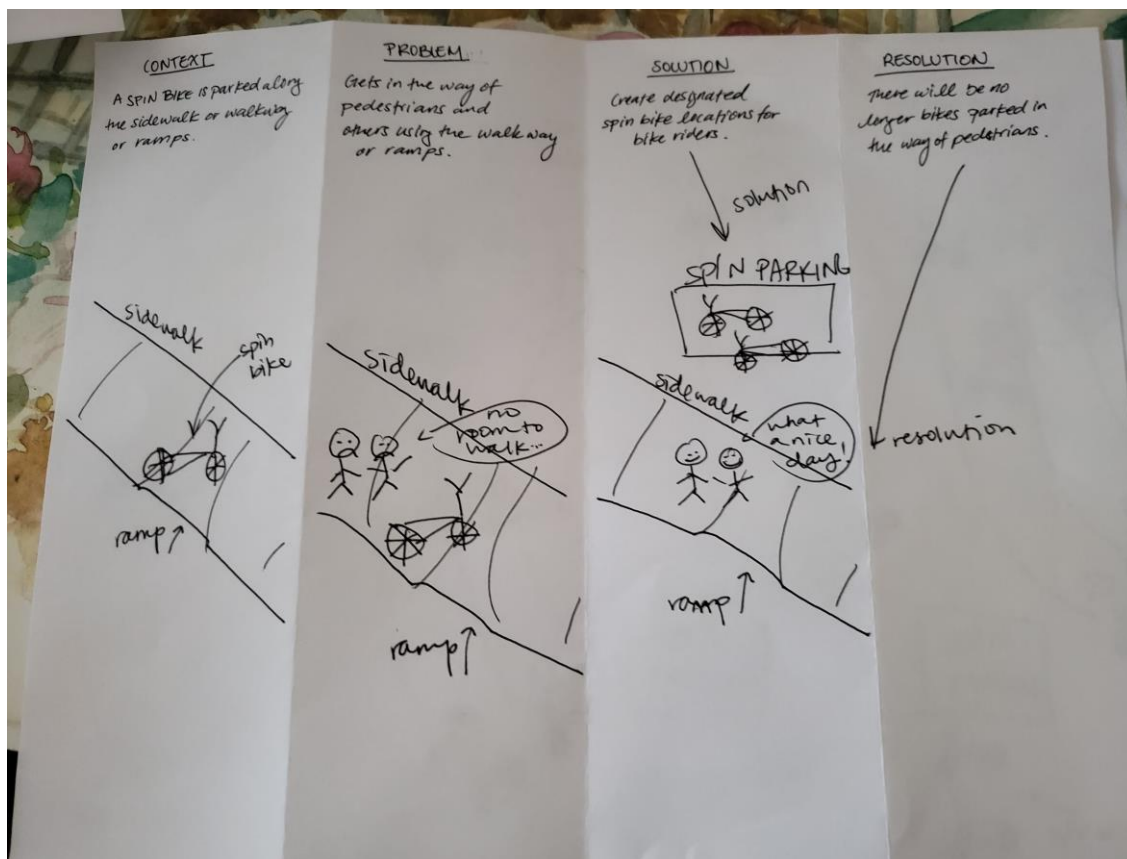
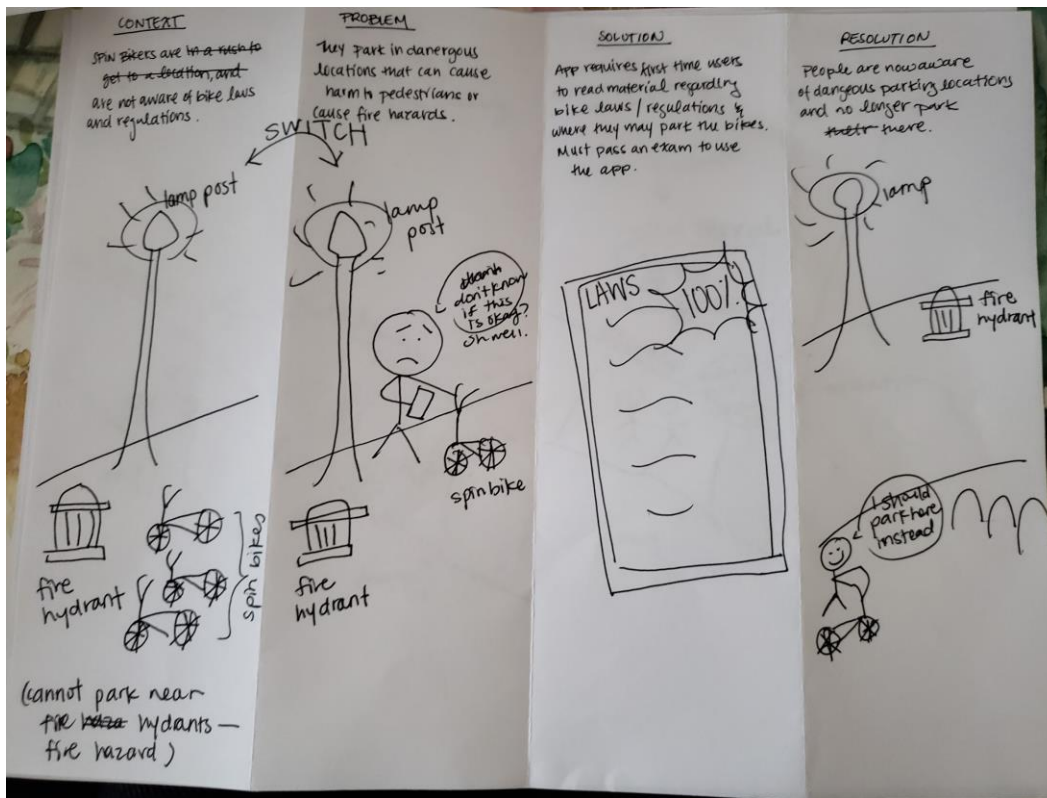
### Initial Storyboards

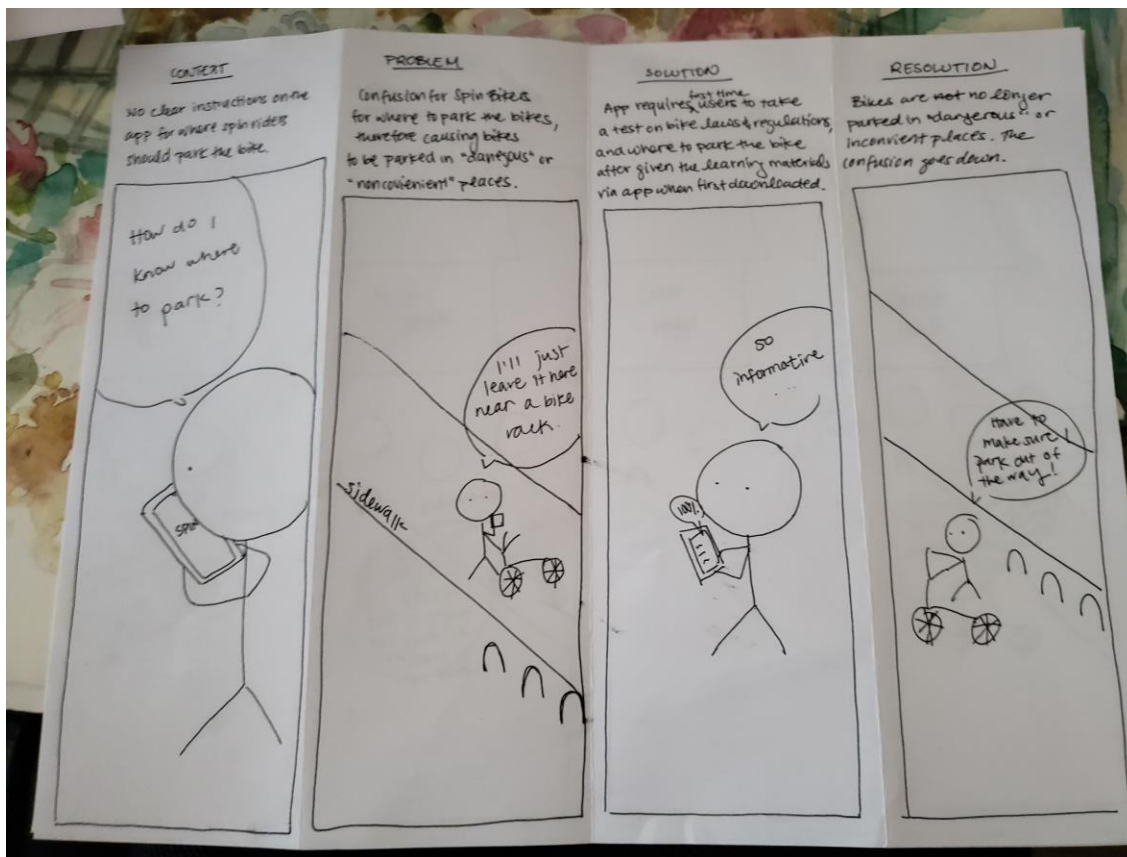
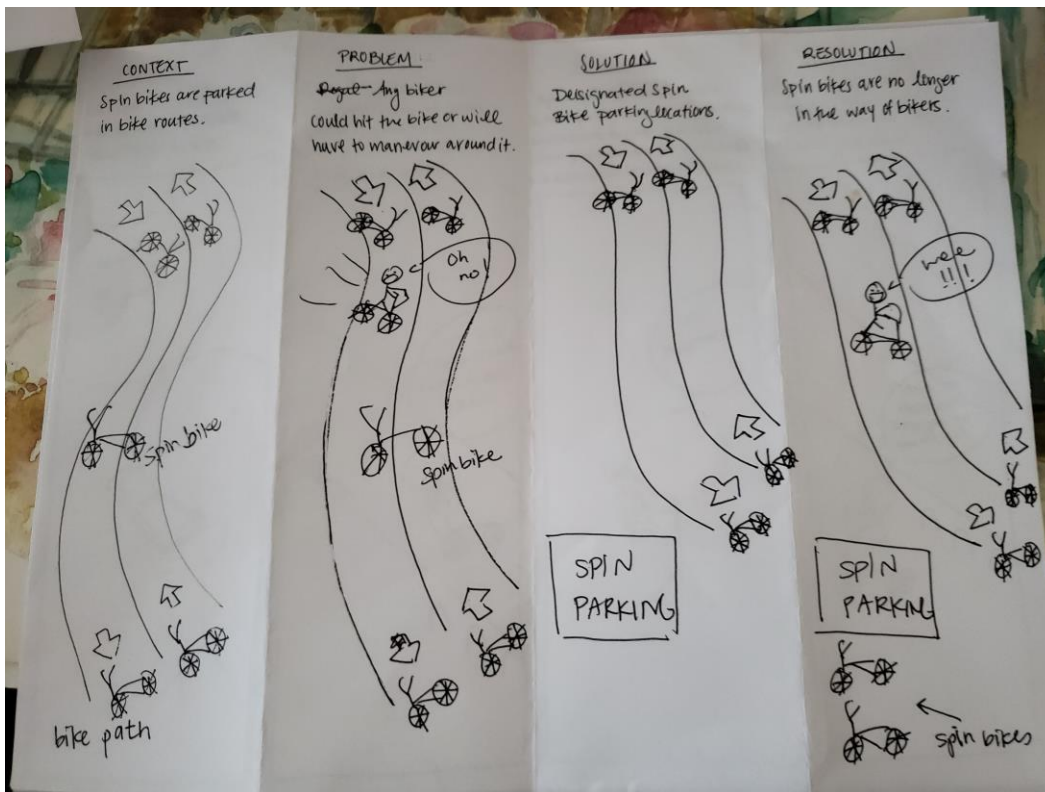
Below are the storyboards we created to better understand our stakeholders. The data was gathered from the interviews we took and the copious amount of field notes that were gathered. These were ran through with stakeholders to understand their values. This greatly helped us narrow our focus and with our prototyping stage.

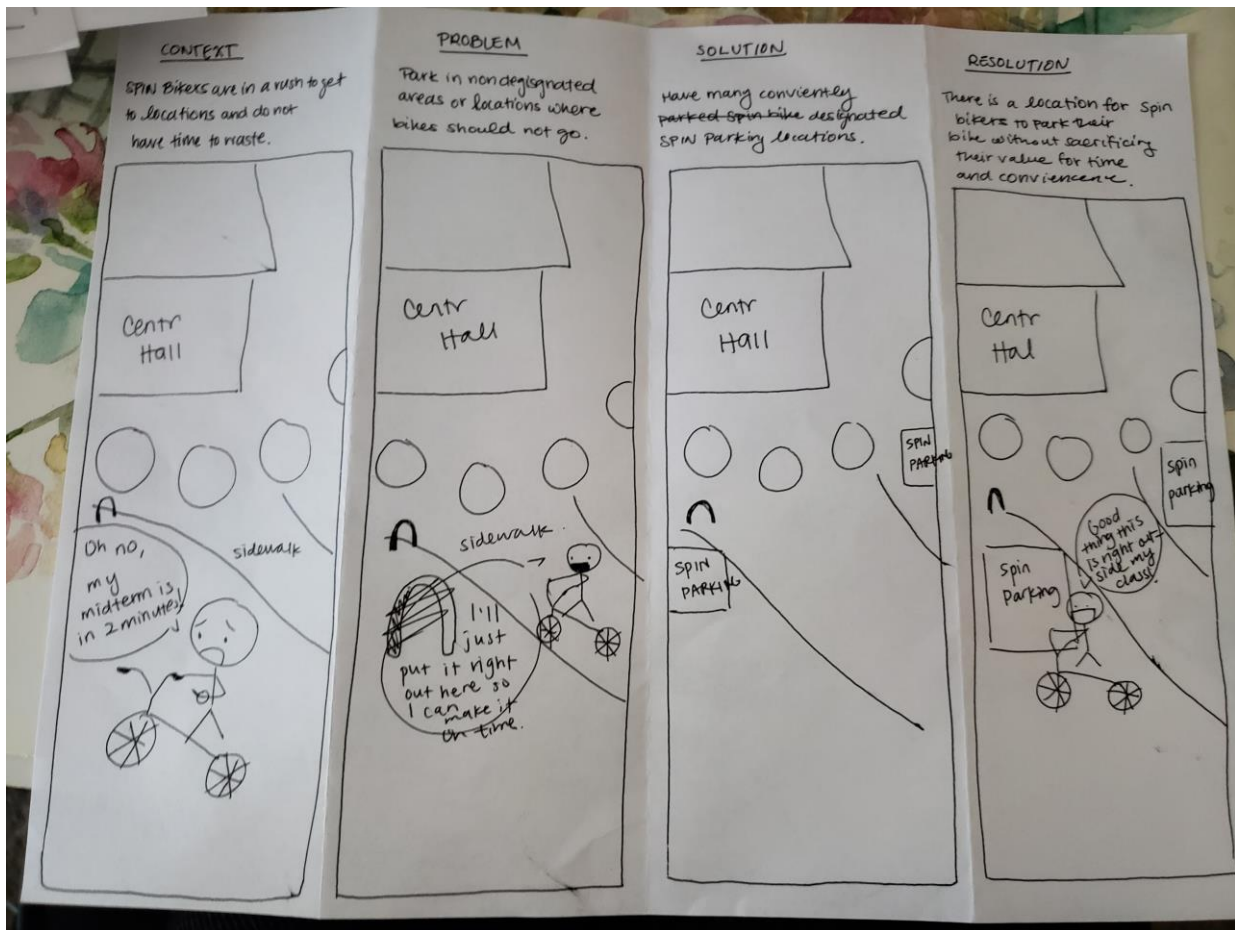








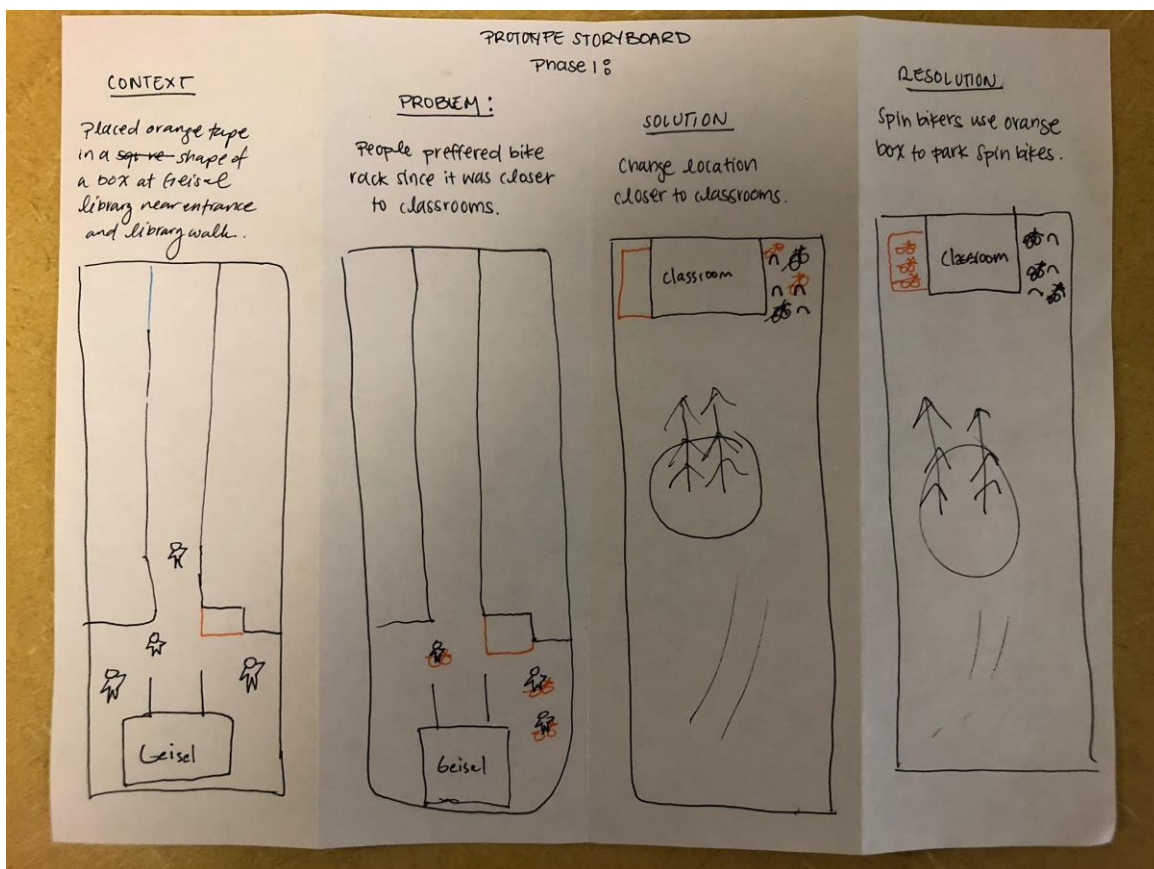


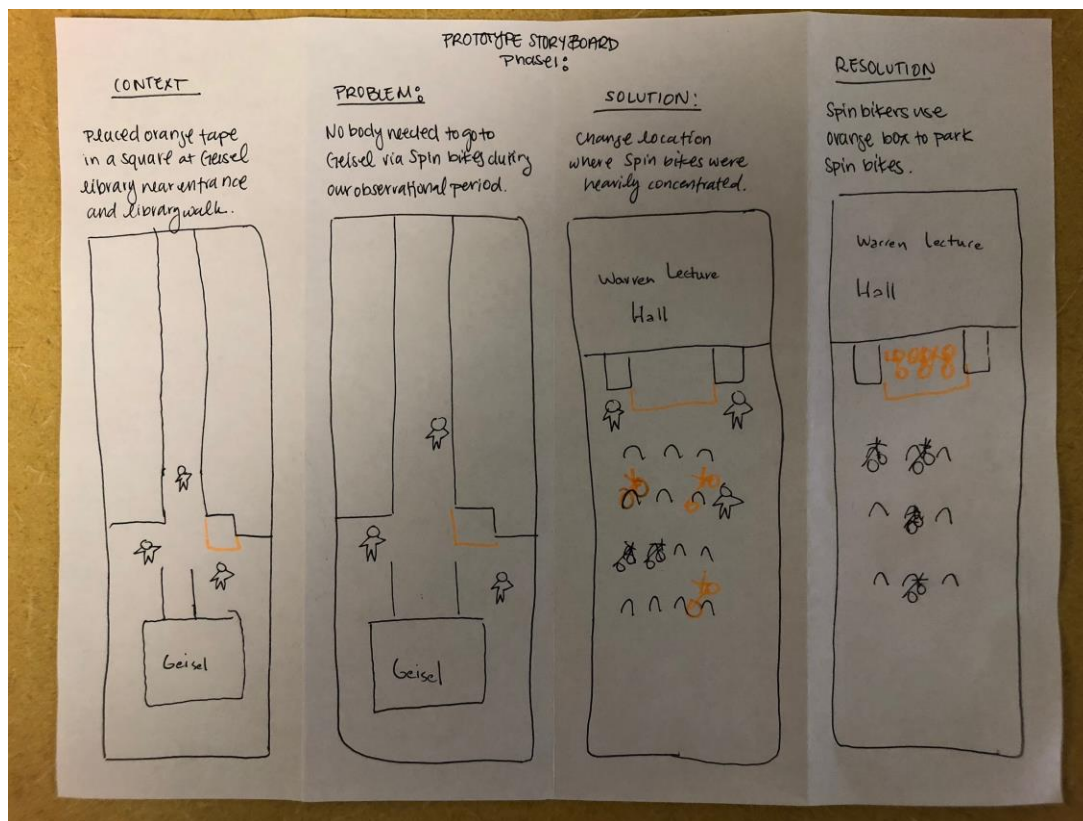
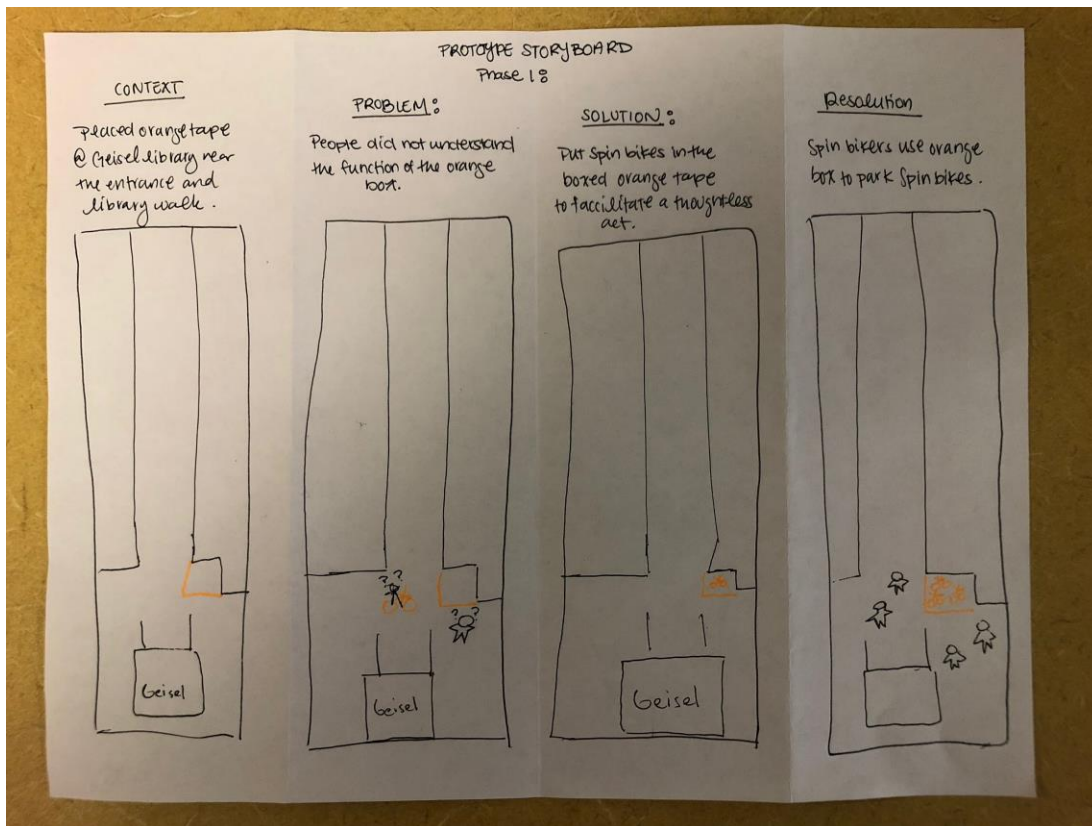


## Prototype Storyboards

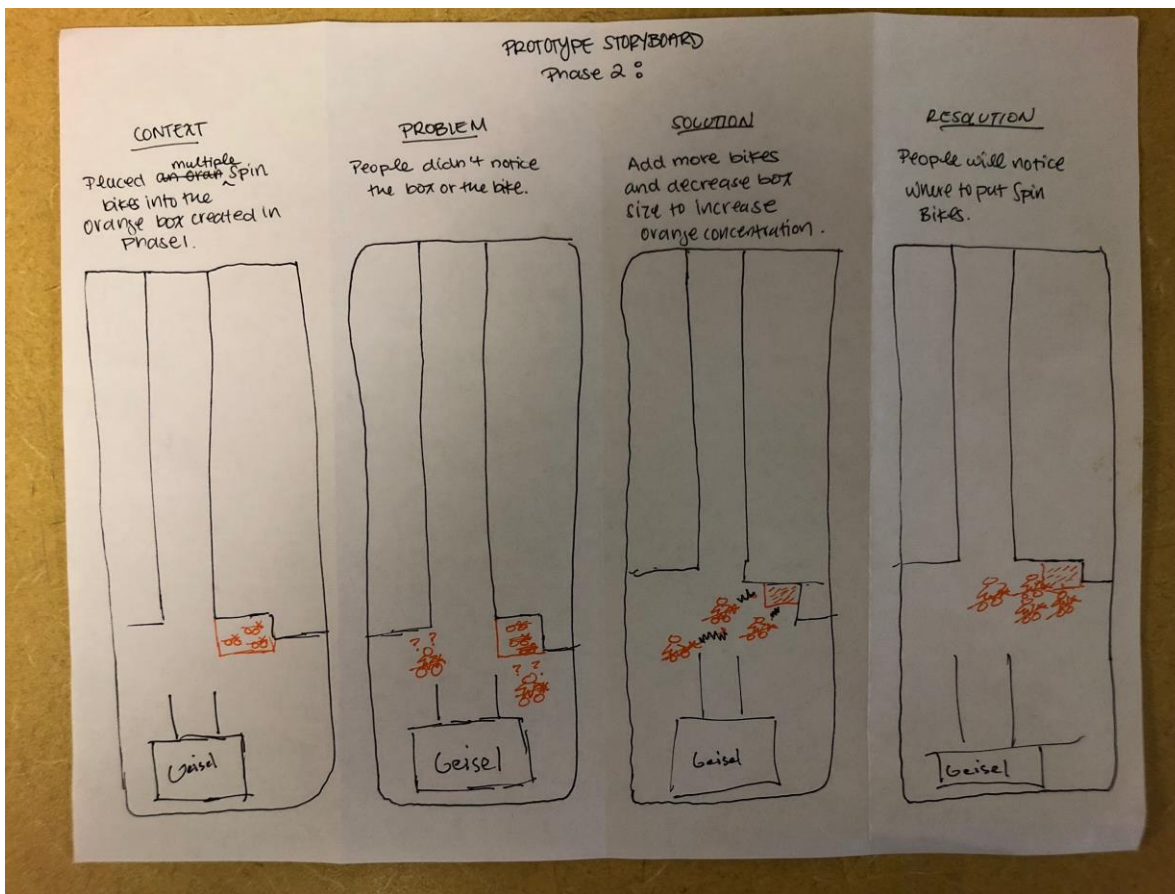
Below are storyboards that we made for our various prototypes. The stories are based on the observations and user feedback we received after each round of testing. By drawing out the issues that our prototypes faced we were more easily able to come up with bottom-up driven solutions. Overall, this process truly helped with our iterative design process and we believe helped us make an ultimately successful final product.

### Prototype 1 Storyboards

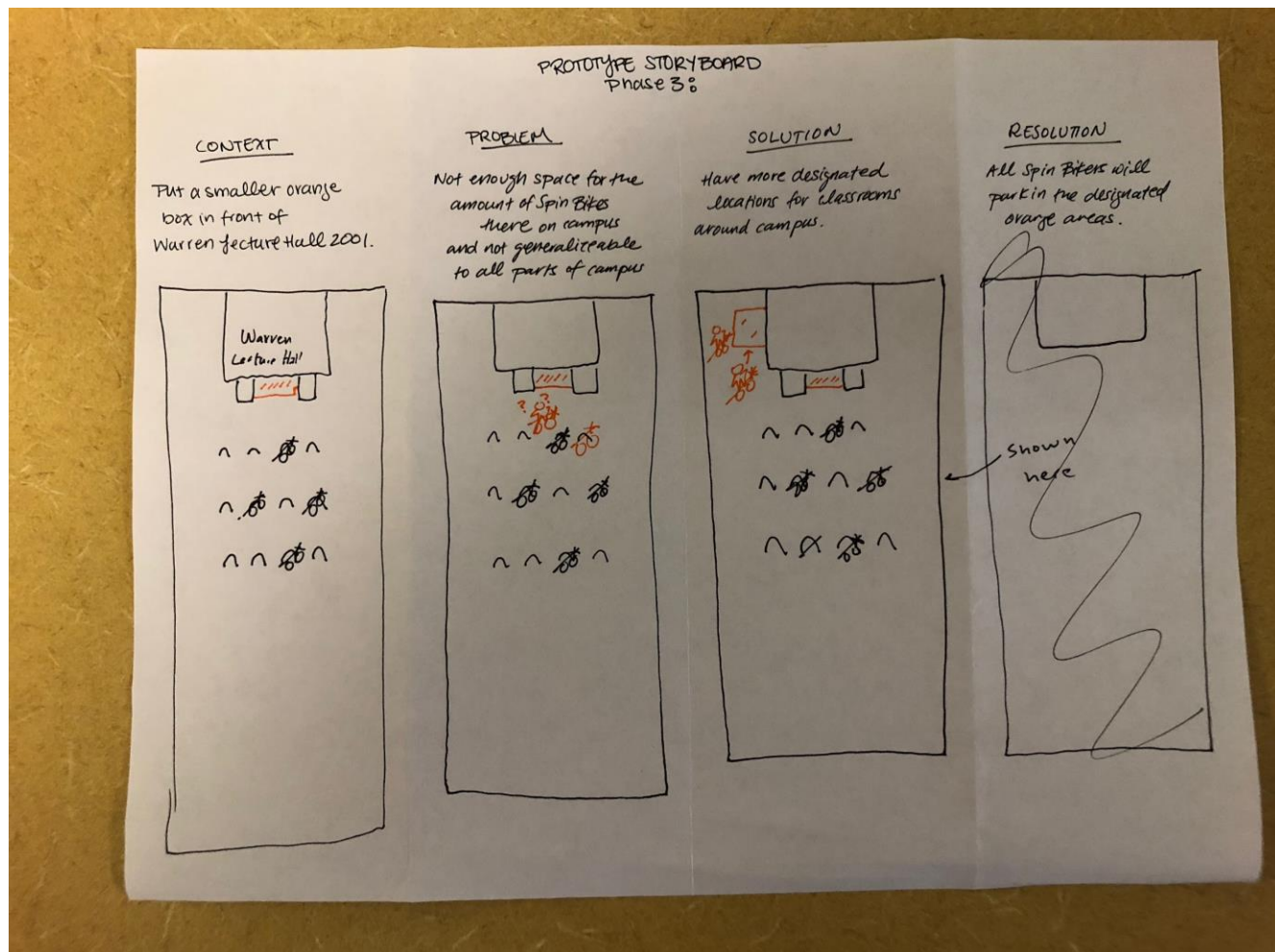




## Prototype 2 Storyboard



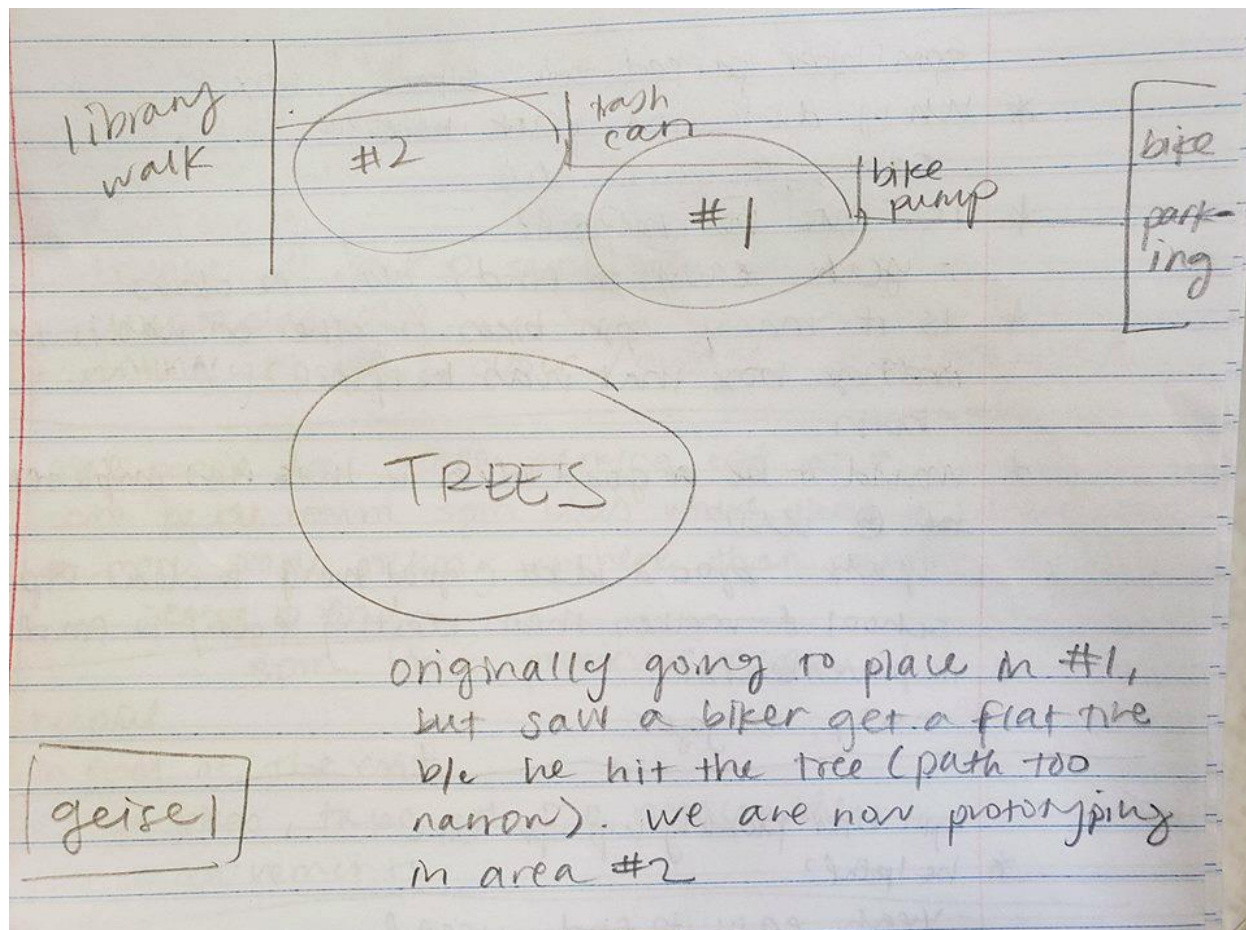
## Prototype 3 Storyboard

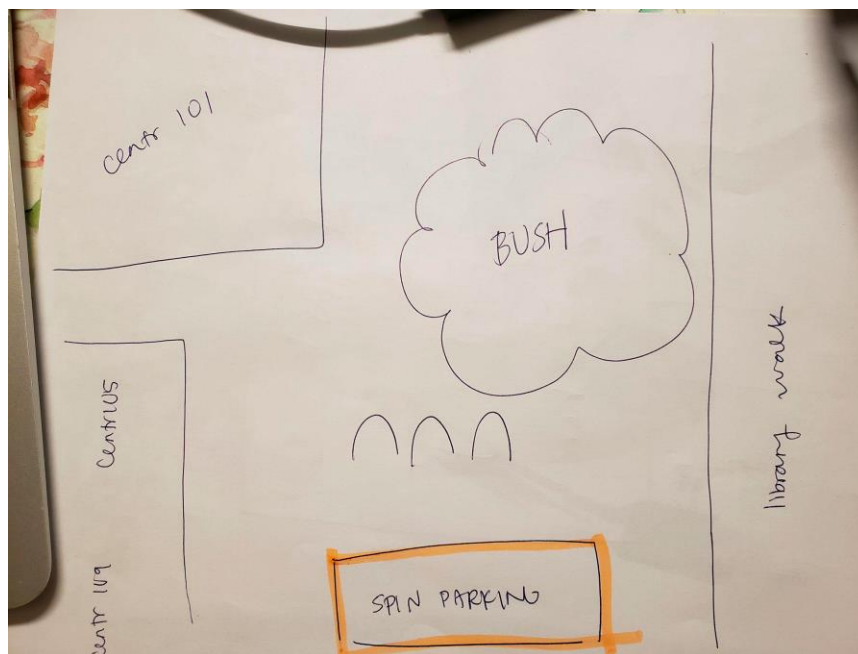
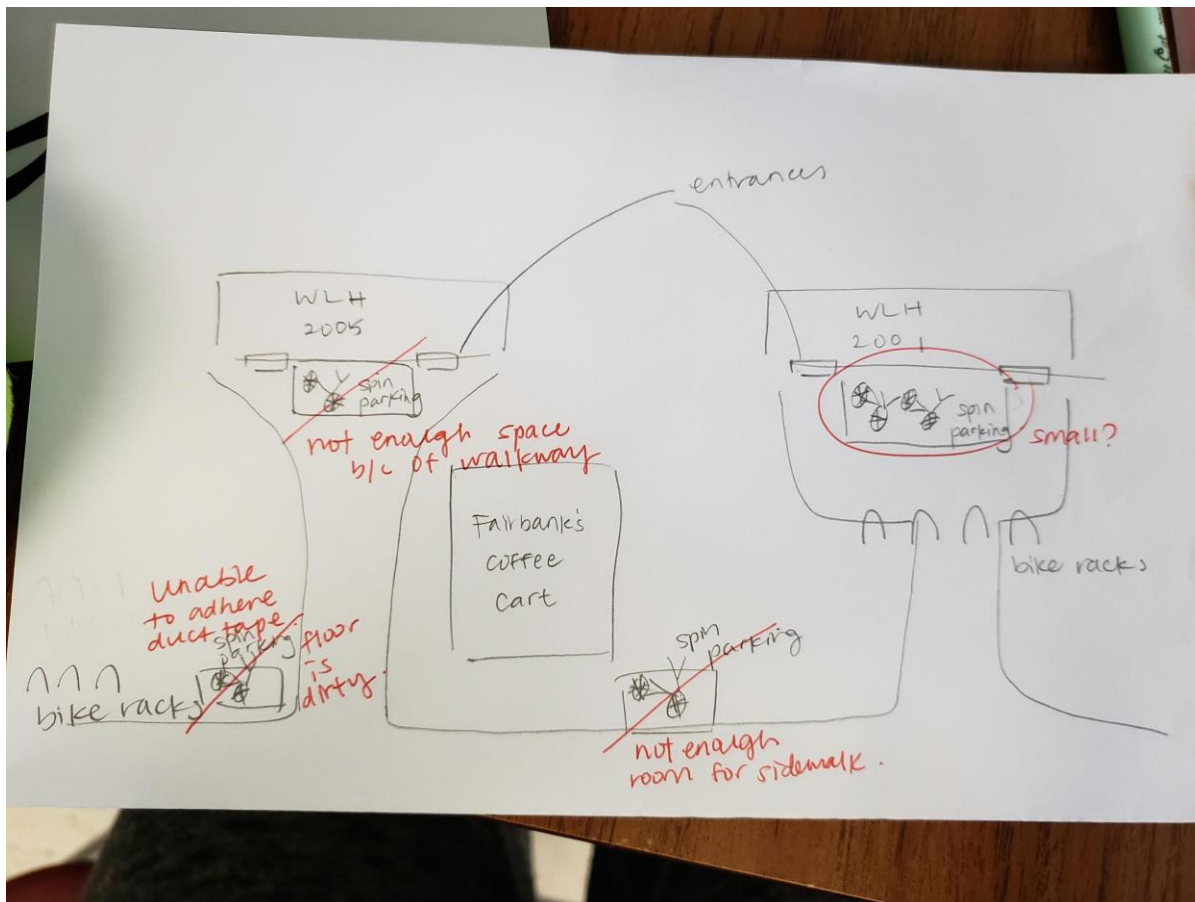


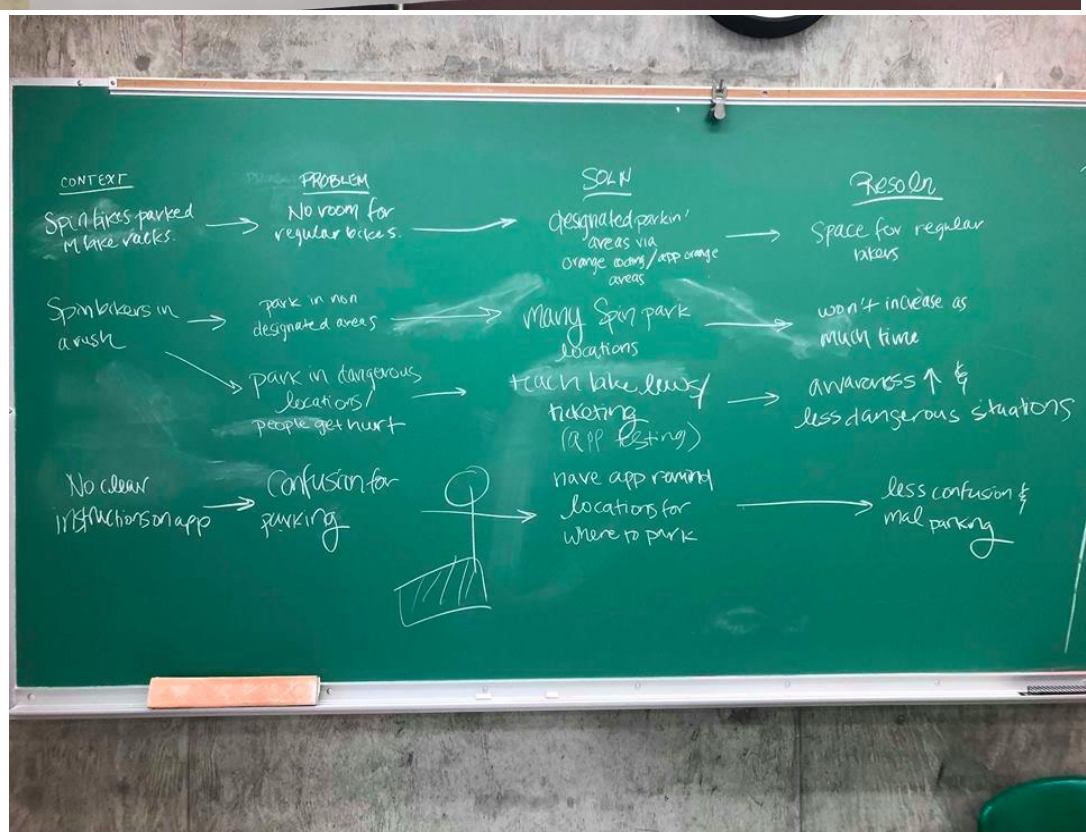
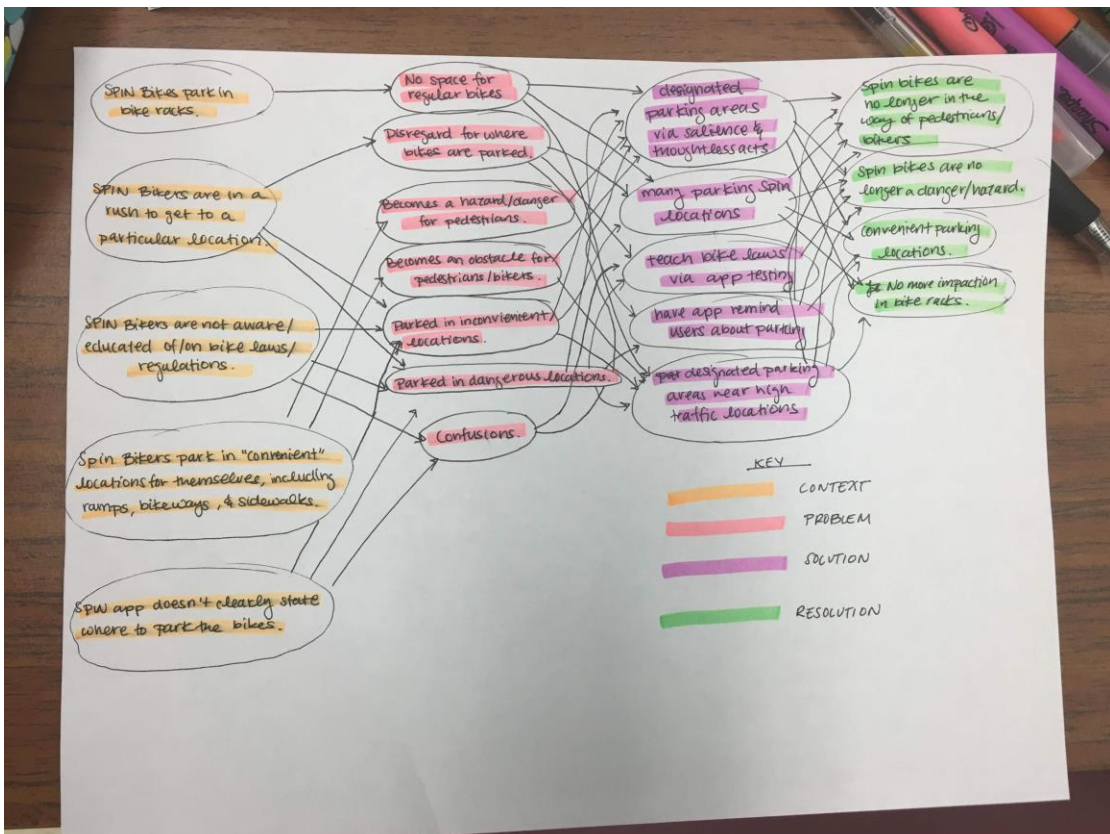


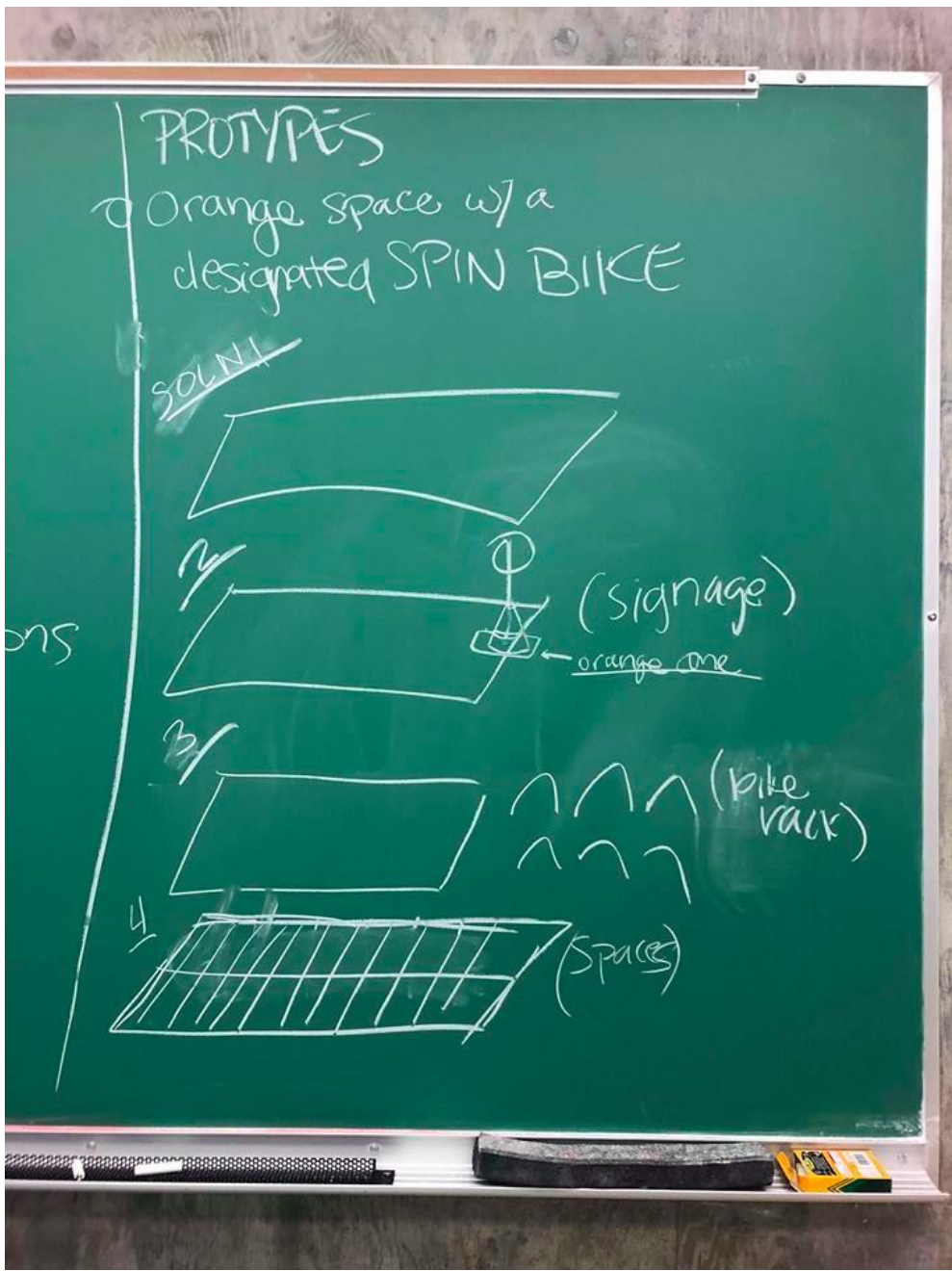
## Prototype Sketches

Below are sketches that our team created for our prototyping stage. The sketches were created to show how we were going to create our prototype and the different ideas that were floating around. These sketches were crucial in our design of our final solution. Several sketches also include iterative design ideas as well as edits for why or why not certain ideas would work.



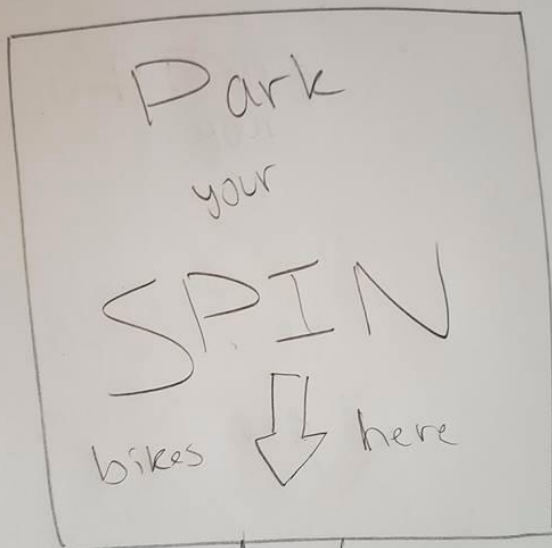






# Sign ideas

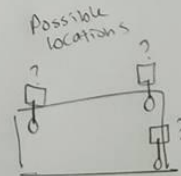
how high?  
I'm 6'  
Eye-level?  
higher?

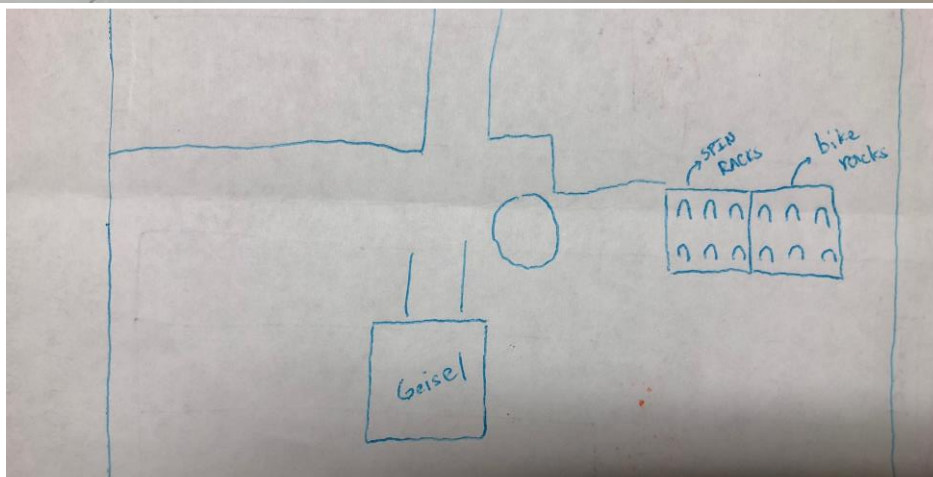
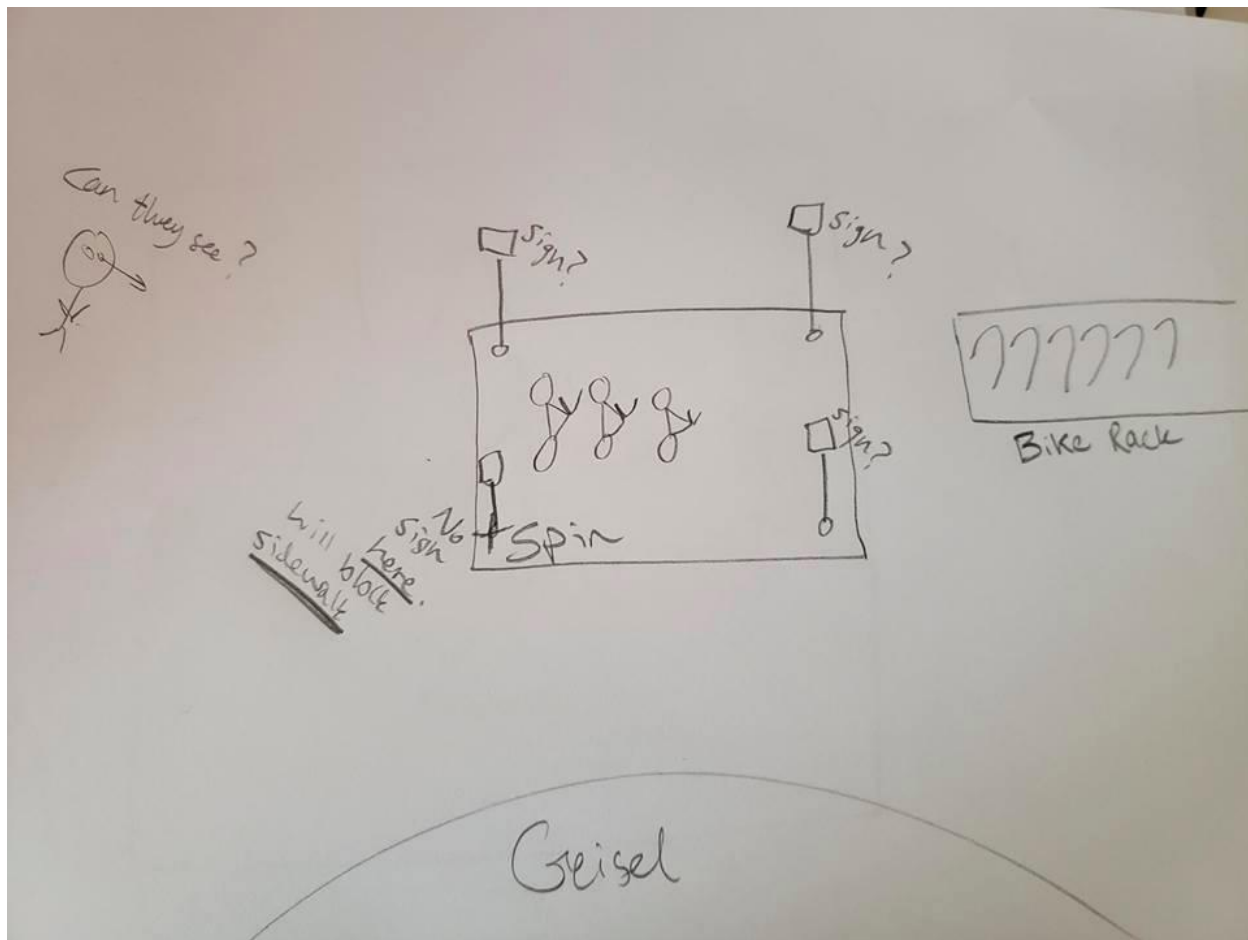


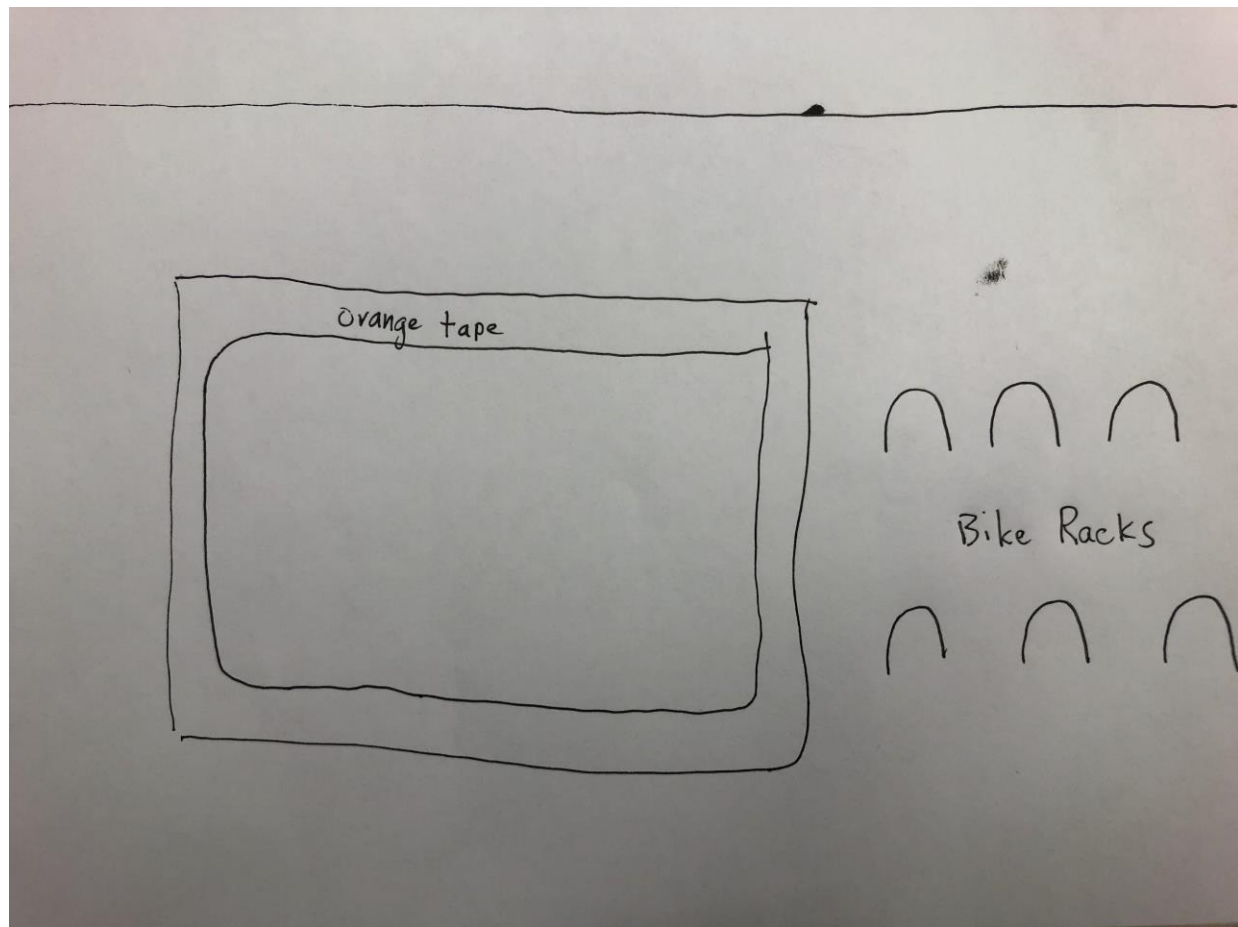
Orange? Color?  
White or black font

Orange or white  
or black background

Test







## Prototype Videos / Photos

We gathered numerous field photos of our prototype in action. First at Geisel and then at Warren Lecture Hall 2001. Below includes the before prototype and after implementation for both zones. Geisel only includes the outlined zone as that was the limit we implemented at that area. Warren includes the final prototype that we implemented and the iterations that got us there.

### Time Lapses:

Phase 1 Testing: [https://www.youtube.com/watch?v=Kziog\\_AWh4o](https://www.youtube.com/watch?v=Kziog_AWh4o)

Phase 2 Testing: <https://www.youtube.com/watch?v=GspiCWEggME>

A time lapse was taken during passing period after we had started prototyping. After finding that the highlighted orange zone we created was unsuccessful, we added 1 Spin bike as shown in Phase 1 Testing. The time lapses shows our stakeholders (Spin bikers) interacting with our prototyped parking space and adding 3 more Spin bikes to the highlighted space designated for Spin bike parking as shown in Phase 1 & 2 Testing. At the end of passing period, 4 Spin bikes were in the Spin bike parking space.

### Geisel

Before:



After:



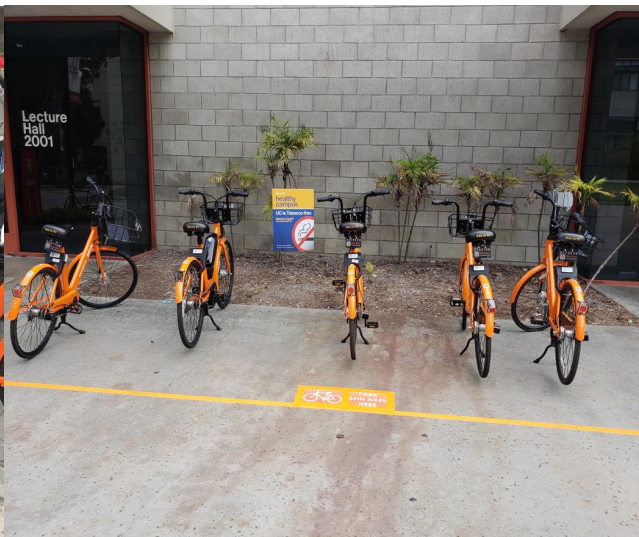


### Warren Lecture Hall 2001

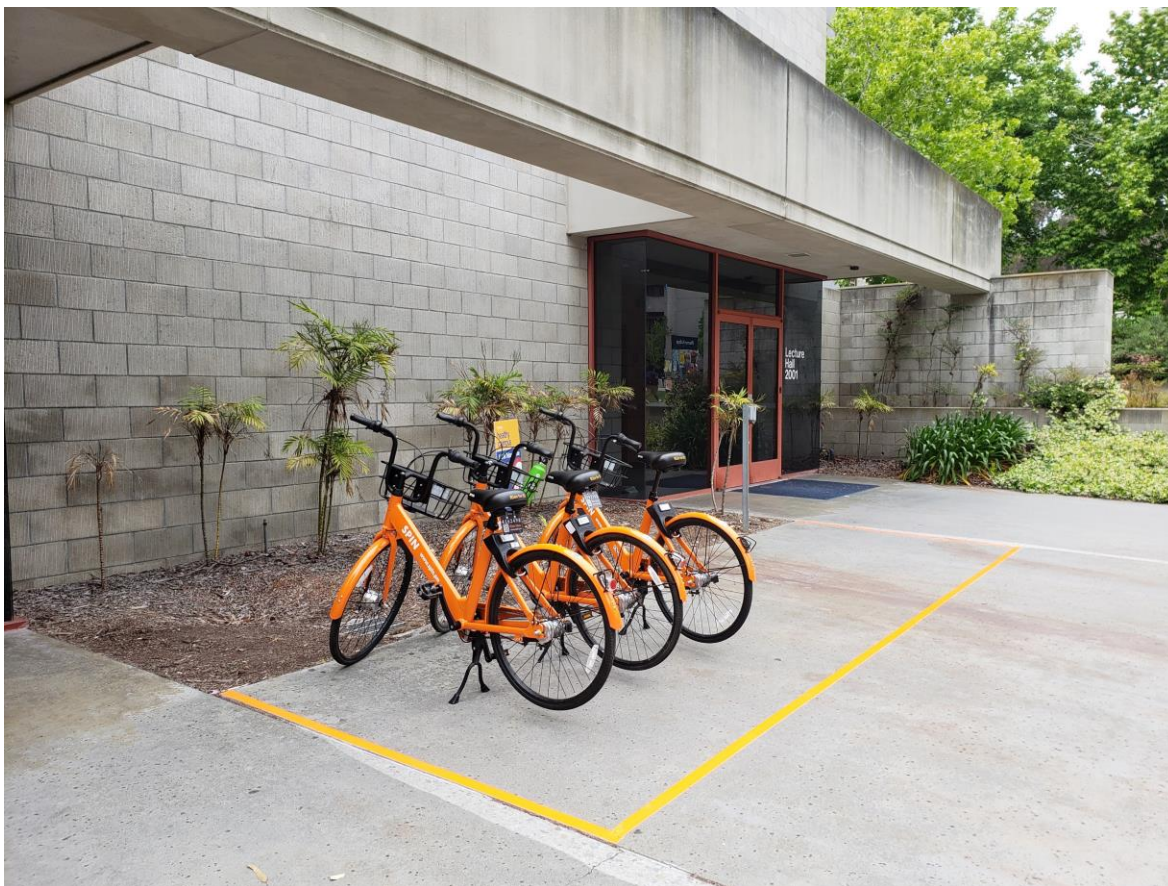
Before:



After:



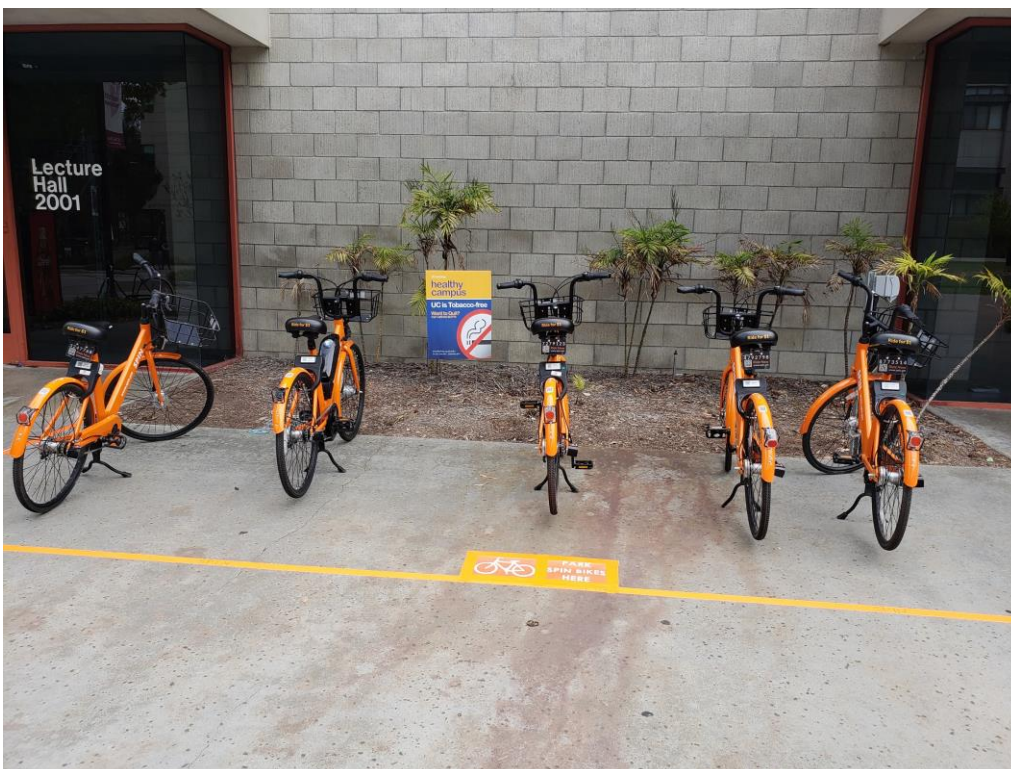
Zone outline at Warren Lecture Hall 2001



## Warren Lecture Hall With Outline and First Sign Iteration



## Warren Lecture Hall With Final Iteration



## First Sign Iteration (Sign without words)



Sign Used With First Sign (Sign with words) // FINAL ITERATION

**PARK  
SPIN BIKES  
HERE**