

# ParkUF

**Mobile application for parking  
at the University of Florida**

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# USER RESEARCH

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**Target User:** University of Florida students who park on campus at least 3 times a week.

## Focus Group 9/24/2014

Question	Answers
<b>How many times a week do you park on campus?</b>	All participants park on campus between 2 and 5 times a week.
<b>How often would you say you're able to successfully park on campus?</b>	<b>1 &amp; 2 &amp; 4:</b> Always, but not in preferred place and usually far from where I need to be. <b>3:</b> Never in the morning, but in the afternoon/evening I find a spot in a convenient location.
<b>Tell me about the experiences and issues you've had parking on campus.</b>	<b>1:</b> When I lived at Keys I could never find a parking spot in the evening. I never have problems with park and ride spots. <b>2:</b> Mornings are the worst. I always end up paying for parking at the Reitz. <b>3:</b> I hate when I don't know what times parking is lifted for the different lots on campus. <b>4:</b> I hate having to drive around to multiple lots to find parking. I also don't like having to park far away and factor in that extra time. There isn't enough parking for off campus students.
<b>Would you use an app related to parking on campus?</b>	All participants expressed positive interest for a parking app.
<b>What features would you like to see in this app?</b>	- Check if a parking lot is full - Restriction times for each lot - Keeps track of meter time and notifies you if time is up - Checks if gates are open/closed - Live view of parking lot - Ability to enter in what building you need to go to and what the nearest available lot is - Rate parking lots - Game day parking restrictions
<b>Out of all the features listed, what is most important to you and why? You can pick something you mentioned or something that was said by others?</b>	All four participants agreed on these features being the most important: -Check if lot is full -Check restriction times for a lot -Ability to enter in what building you need to go to and see what the nearest available lot is.

## Focus Group 9/25/2014

Question	Answers
<b>How many times a week do you park on campus?</b>	All participants park on campus between 3 and 5 times a week.
<b>How often would you say you're able to successfully park on campus?</b>	<b>1 &amp; 2:</b> Always, but not where I'm intending to park and usually far from where I need to be. <b>3:</b> I can successfully find a spot if it's before 8:30 a.m.
<b>Tell me about the experiences and issues you've had parking on campus.</b>	<b>1:</b> I drive around forever and end up parking really far away from where I'm going. The spots are really skinny. <b>2:</b> Have to come early to factor in walking time from having to park far away. Sometimes I find a spot but I can't park there because it's too small for my wide car. <b>3:</b> I have issues finding a place to park before parking is lifted.

<b>Would you use an app related to parking on campus?</b>	All participants expressed positive interest for a parking app.
<b>What features would you like to see in this app?</b>	<ul style="list-style-type: none"> <li>- Feature that shows where parking is available on campus</li> <li>- Show all of the lots and what times restrictions are in effect and what decal you need</li> <li>- Tell you how many spots are left at any given time in a lot</li> <li>- Show general space sizes in lots</li> <li>- Red, green, yellow visual based on how full lots are. Black out full lots.</li> </ul>
<b>Out of all the features listed, what is most important to you and why? You can pick something you mentioned or something that was said by others?</b>	<p>All four participants agreed on these features being the most important:</p> <ul style="list-style-type: none"> <li>- Knowing when lots are full</li> <li>- Knowing restrictions</li> <li>- Knowing size of spaces in lot</li> </ul>

**Final outcome:** Based on our user research, we were able to identify the core user needs for our application: availability of spaces, location based suggestions, parking lot information (including time and decal restrictions and space size), and personalization.

**How we came to this outcome:** All participants in the focus group emphasized the need to know when and where spaces are available when they head to campus. They also expressed the need to know where they are allowed to park on campus and when. Participants also wished they knew what lots were closest to their destination so they could have a back up if a lot happened to be full. All participants in our group repeated these themes, making it easy to prioritize needs for our users.

## USER PERSONAS

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### Jimmy Sanders

*"I wish I knew which lots near the library are available and have spaces big enough for my car"*



#### Basic Information

Age: 20  
 Year: Junior  
 Living arrangement: Off-Campus Apartment  
 Decal Owner: No  
 Vehicle: Pickup Truck  
 Technological Use: Casual  
 Major: Engineering

#### Day in the Life

Jimmy has class MWF starting at 11:45 AM. He's not a big fan of taking the bus, so he often tries his luck with the Reitz Union garage. Sometimes he is able to find all-day-parking, and other times he must do 2-hour parking and come back to move his car. Even if there are parking spots available, Jimmy is very concerned about his truck not fitting in between two cars since some of the Reitz spaces can be rather small. Jimmy gets out of class at 2:45 and usually heads back home for a few hours. He comes back to campus during the nighttime to study at Library West since he can't focus that well at his apartment. Finding an open parking space that is big enough at Library West can be difficult for Jimmy, so he usually has to park far away and walk to the Library late at night.

## Beth Jones

*"I need the closest available lot to the art buildings during the nighttime"*



### Basic Information

Age: 19  
Year: Freshman  
Living arrangement: On-Campus (Lakeside Complex)  
Decal Owner: Yes (Red 3 Decal)  
Vehicle: Honda Accord  
Technological Use: Casual  
Major: Fine Arts

### Day in the Life

Beth usually keeps her car parked at Lakeside during the day and takes the bus to class. Since Beth is a freshman, she isn't too familiar with the parking restrictions on campus and only knows about the Red Decal lots. As an art student, Beth spends a majority of her late afternoon and evenings in the studio. She heads back to the art buildings around 4:30 to 5:00 PM, but most of the lots are still full and she assumes that they are restricted anyways, so she ends up not parking near the art building most of the time. This becomes more problematic when she gets out at night and feels uncomfortable walking back to her car by herself. When she finally makes it back to Lakeside, all of the spots are full and she has no idea where to park. She either parks far away from Lakeside in a valid decal lot and walks back, or parks in a lift lot for the night and moves it at 7:30 AM in the morning.

**Final outcome:** Based on our four user needs, we were able to create two personas that embodied characteristics of our target users. Both personas are UF students that have issues with parking. Their problems could be solved by a parking application that addresses availability of spaces, location based suggestions, parking lot information and personalization to their needs.

**How we came to this outcome:** Our two personas, Beth and Jimmy, were created to help us understand our target audience. Both Beth and Jimmy are students who regularly park on campus and continually have the same issues. Beth and Jimmy were created based on themes we observed in our focus group, and their problems closely align with those expressed by multiple participants in our focus group. Our personas are representations of our interpretation of user needs based on our research, and are representative of the breadth of our target audience, while also being extremely personalized. We believe Beth and Jimmy's problems can help us make informed decisions about design moving forward.

## BRAINSTORMING PROCESS

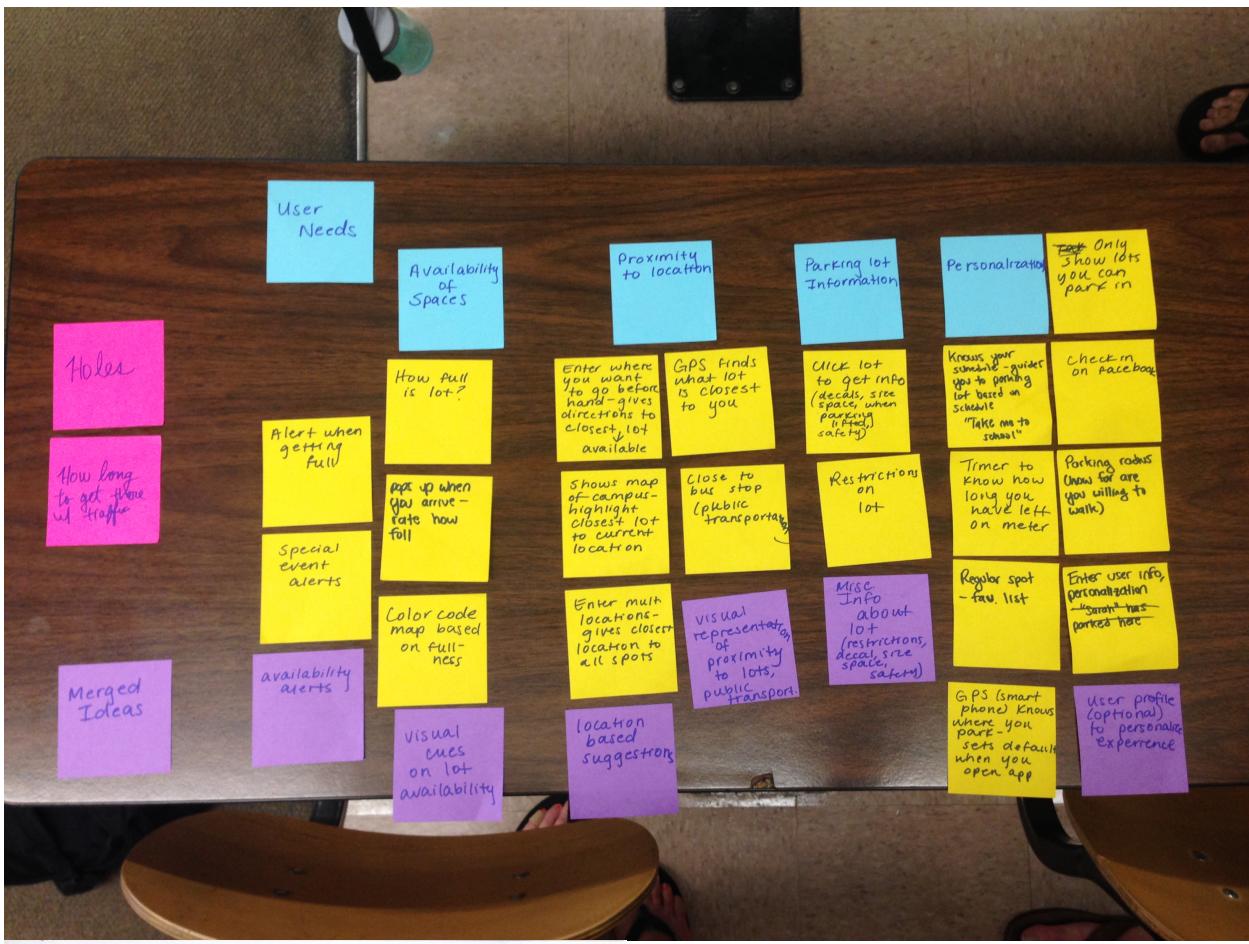
### User Needs:

- Availability of spaces
- Location based suggestions
- Parking lot information
- Personalization

Idea	User need addressed
GPS uses location to show lot that is closest to you	-Location based suggestions -Personalization
One touch feature to take you to a familiar location	-Personalization - Location based suggestions
Enter lot you need to go to beforehand, gives you directions to closest available lot	- Location based suggestions
Map of campus highlights closest parking lot to where you are	- Location based suggestions
Click on a parking lot and get information about that lot (decals allowed, size spaces, safety, when parking is lifted etc.)	-Parking lot information -Availability of spaces
GPS tracks where you park a lot, defaults to that parking lots information when you open the app	-Personalization
Timer to track metered parking so you know how long you have left	-Personalization
Tells you if you're close to public transportation (bus stop)	- Location based suggestions -Parking lot information
Enter multiple locations and gives you closest parking lot between the locations	- Location based suggestions -Personalization
Tells you how long to get to parking lot with traffic	-Personalization
Special event alerts to let you know parking might be more difficult than normal	-Personalization
Favorites list to get quick information about parking	-Availability of Parking -Parking lot information
Suggests parking lot based on your parking radius (how far are you willing to walk?)	-Location based suggestions -Personalization
Put in your schedule, gives you parking suggestions based on time of day	-Personalization -Availability of spaces
"Take me to school!" button-one touch to get parking lot information closest to where you are and when you're there	-Personalization
User can check in when they get to the lot and rate how full it is	-Personalization -Availability of spaces
User profile to give parking lot suggestions	-Personalization
Color code map based on how full lot is	-Availability of spaces
Map only shows lots you can park in	-Availability of spaces -Parking Information
Alerts when lots are getting full	-Availability of spaces

#### Ideas for addressing space availability information:

- Users “check-in” using the application when they park in a lot
- Users required to scan ID to lift gates and get into parking garage
- Rubber tube sensors in entrance/exit that track how many cars roll over them
- Headlight sensors to track number of cars (same used at some traffic lights)
- Sensors in ground track number of cars (same used at some traffic lights)



### Brainstorming

#### - Login Screen (create account)

Email

Password

Confirm Password

next button  
skip or exit  
Enter schedule (times and bldg)  
name of class  
Radius How far are you willing to walk  
Do you have a decal?  
Do you live on campus?  
where?  
Alerts y/n

#### Main Screen



Restrictions Times/Decal

location based alerts



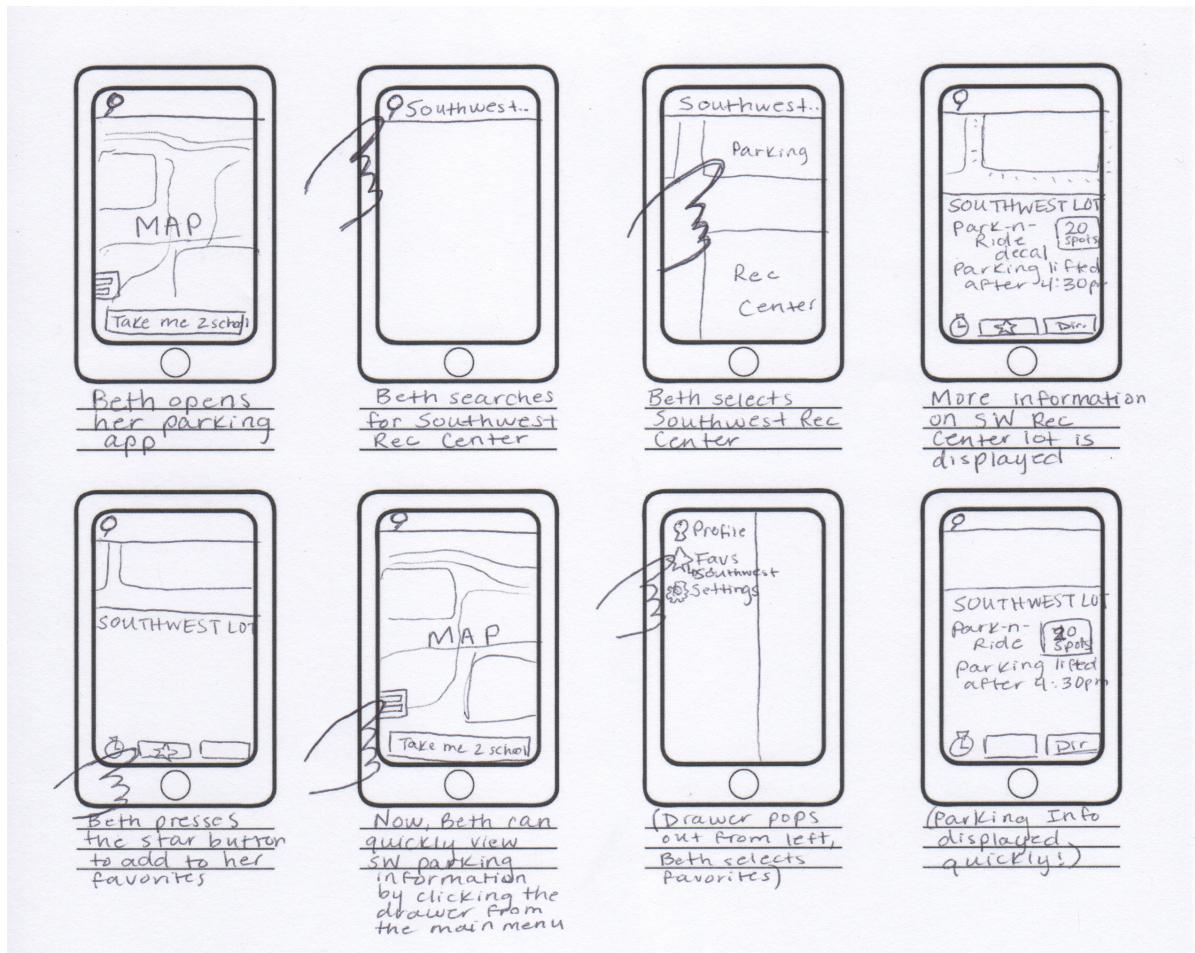
**Final outcome:** Our brainstorming process helped us connect our user needs with actual features to be included in the application. We decided on several key features the application should have: the ability to determine availability and restrictions on a parking lot through searching/browsing, the ability to personalize the application based on where you need to go and the ability to access this information quickly through the use of “favorites.”

**How we came to this outcome:** By brainstorming a good amount of ideas and talking about the breakdowns and opportunities of each, we were able to merge and refine ideas through the use of affinity diagrams. Through this process we were able to identify the “holes” and then discard ideas that users did not ask for or need. We also were able to address what user needs were primary and secondary needs and decide what features would address each need in the most efficient way. We also were able to go beyond our user research and personas to anticipate our users needs by offering the option to personalize the application for faster and easier use.

## SCENARIOS & STORYBOARDS

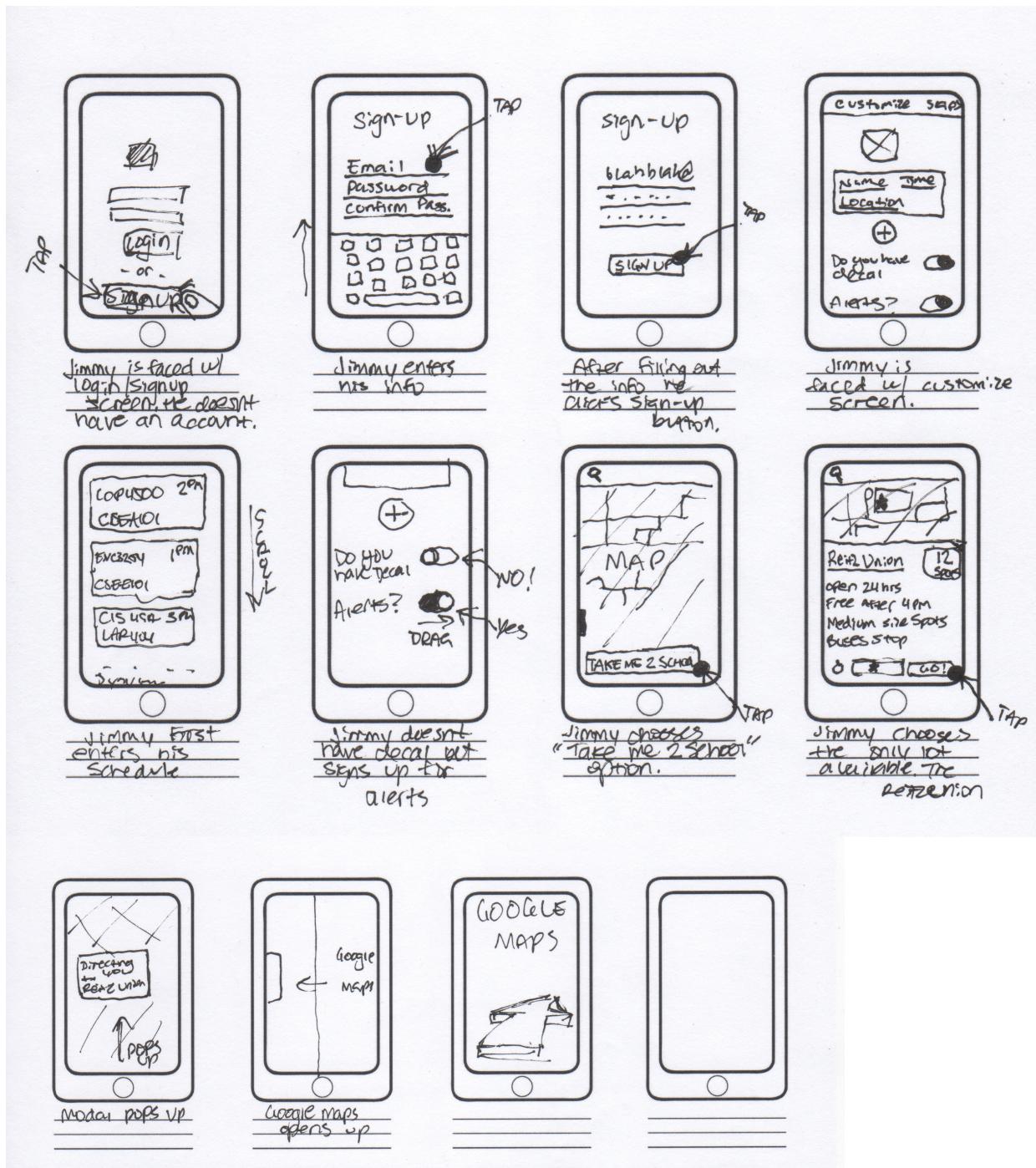
### Scenario and Storyboard #1:

Beth loves to exercise and visits Southwest Recreation Center for various athletic classes at least four times a week. She also parks at Southwest Rec when all the spots at Lakeside are taken. Beth is an avid user of the UF Parking Mobile App; she has completed her user profile and wants a quick way to tell how much parking is available at Southwest from her phone. She decides to use the favorites feature on the parking app. From the main menu she searches for the rec center parking lot and clicks on the lot to display more information. She then clicks the star icon to add this parking lot to her favorites list. Now Beth can quickly view how many spots are available by clicking the drawer icon and clicking the lot under her favorites list.



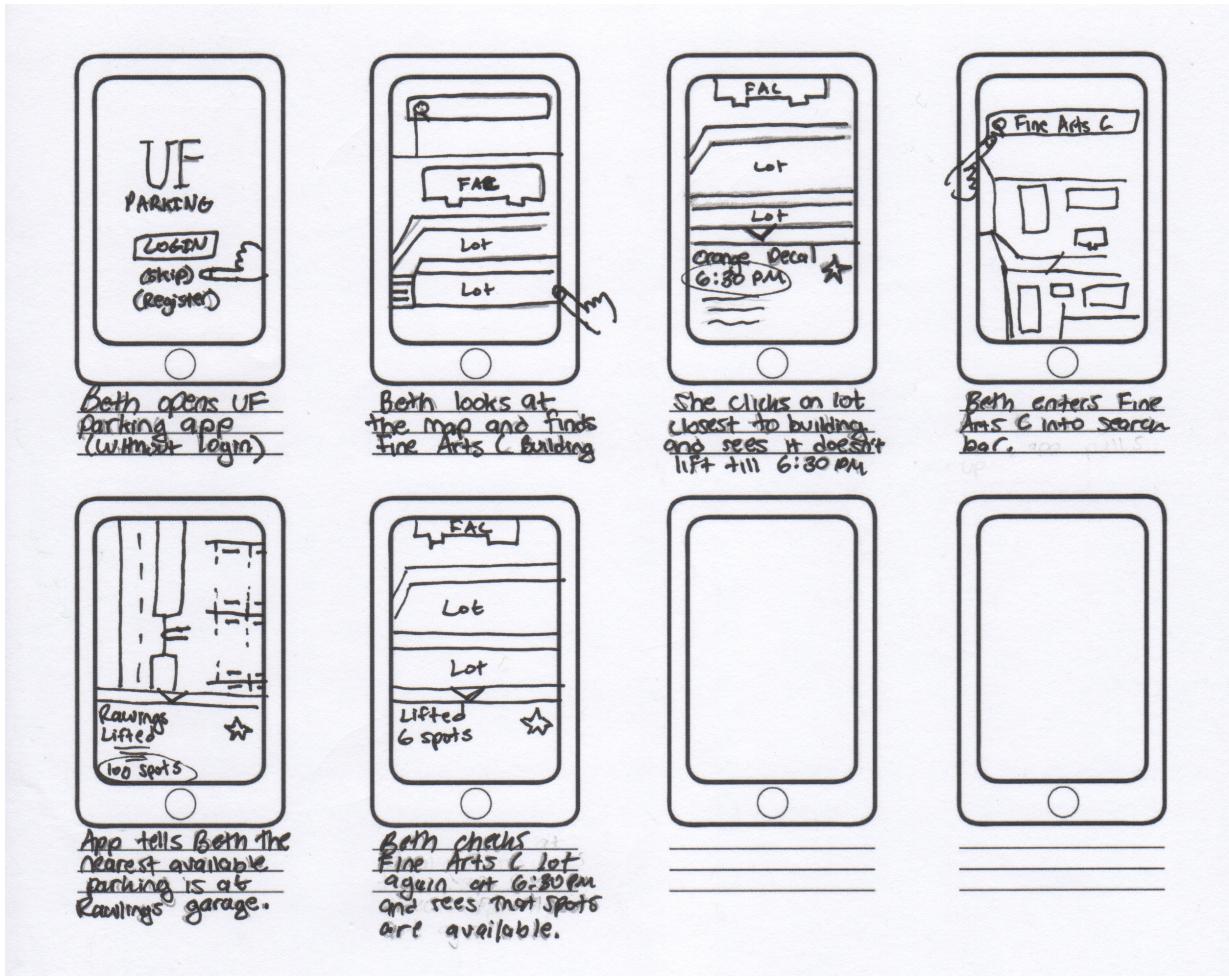
## Scenario and Storyboard #2:

Jimmy wants to optimize his parking search, so he's going to try and use the Parking App to find parking on campus near his classes. He opens the app and is faced with a login or signup. Since he just downloaded the app and doesn't have an account yet, he decides to create an account. After entering the required information to create an account, he notices the app gives him the option to customize his profile. Since he wants to find the best parking near his classes, he decides to continue further and customize his profile. Once on that screen, he's faced with the options to enter his UF schedule, his decal information, and whether to receive alerts. Since he doesn't have a decal, he just enters in his UF Schedule and signs up for alerts. Once customized, Jimmy notices a button to "Take Me To School". Upon clicking, since it is the afternoon, the only available parking spots that are available are a few All-Day spots in the Reitz Union. Jimmy selects the parking garage and gets directions. The phone directs him to the Reitz Union.



## Scenario and Storyboard #3:

It is 4:30 PM. Beth is currently at Lakeside and she needs to get to the Art Building to work in the studio all night. She knows she's going to have to walk out of the building late, so she would be more comfortable finding a spot that is close to her building. She pulls out her phone and opens the UF Parking App. Beth finds the Fine Arts C building on the map and checks the lots immediately near it. She sees that the restriction time is till 6:30 PM, so she enters Fine Arts C into the search bar and it shows her that the closest available spots are in the Rawlings garage. Beth decides drive over and park there for now, and at 6:30 she wants to move her car. She double checks the app to make sure the art building lot has spaces available at that time, and she successfully moves her car into a spot.



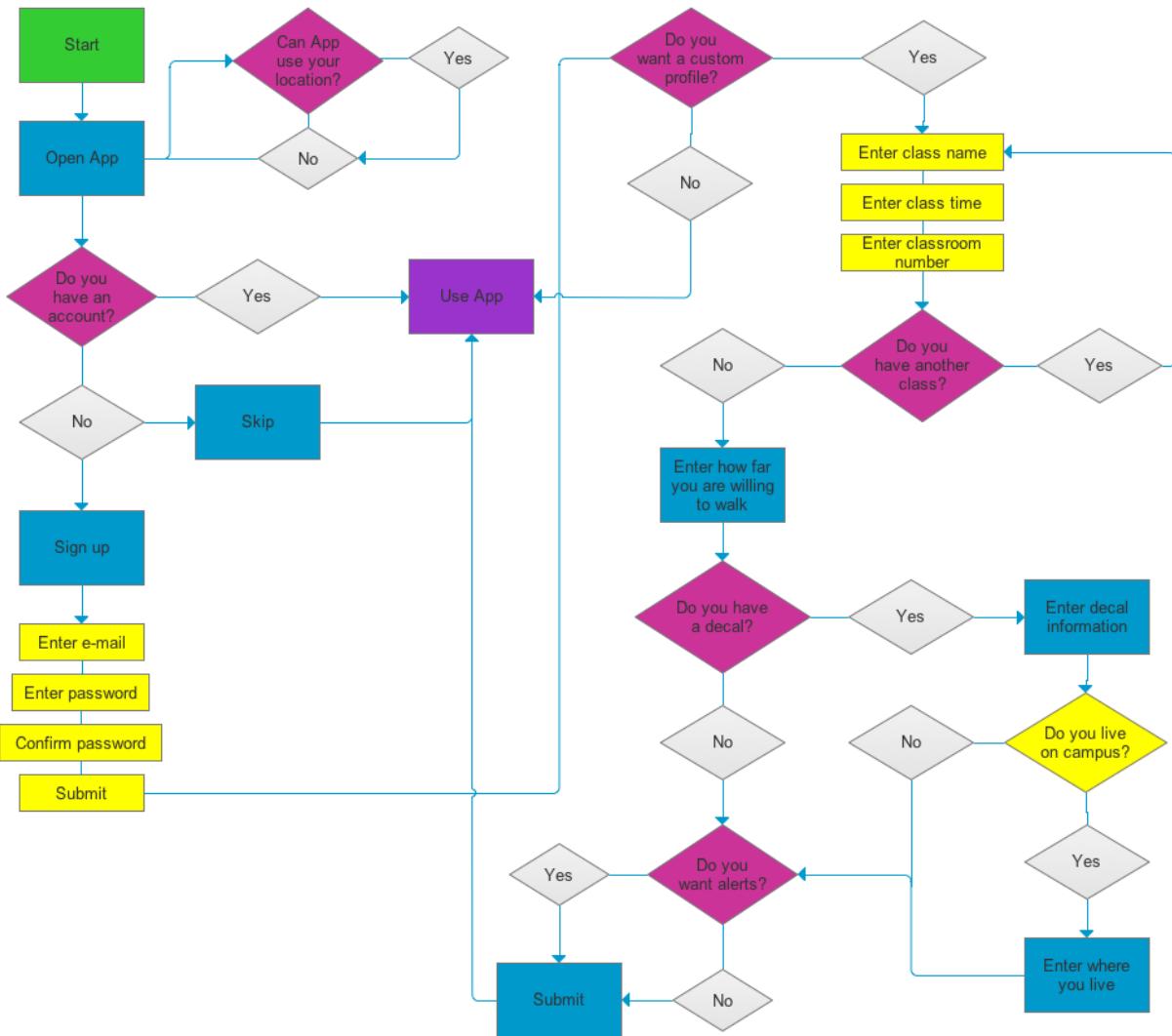
**Final outcome:** Our scenarios and storyboards highlight key features in our application: the user can find the lot closest to their current location, the user can view parking lot information including availability, restrictions and space size, the user can customize their profile for personalized use and the user can favorite locations for faster and easier use.

**How we came to this outcome:** We chose scenarios that illustrated key functionality in our application. These key features were determined by how well they addressed our primary user needs. Our scenarios address the specific goals and problems of our personas (who are representative of our user base). Our scenarios provide clear solutions to these problems through the use of our mobile application. We chose to storyboard using step-by-step sketches of the application so the flow of the application is easily communicated.

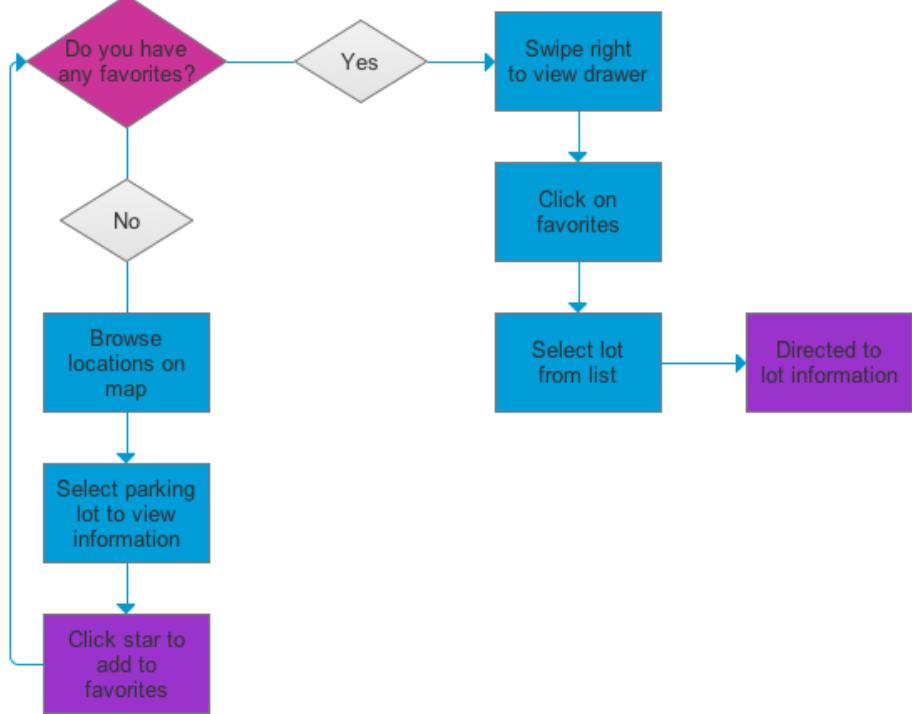
# TASK FLOW & WIREFRAMES

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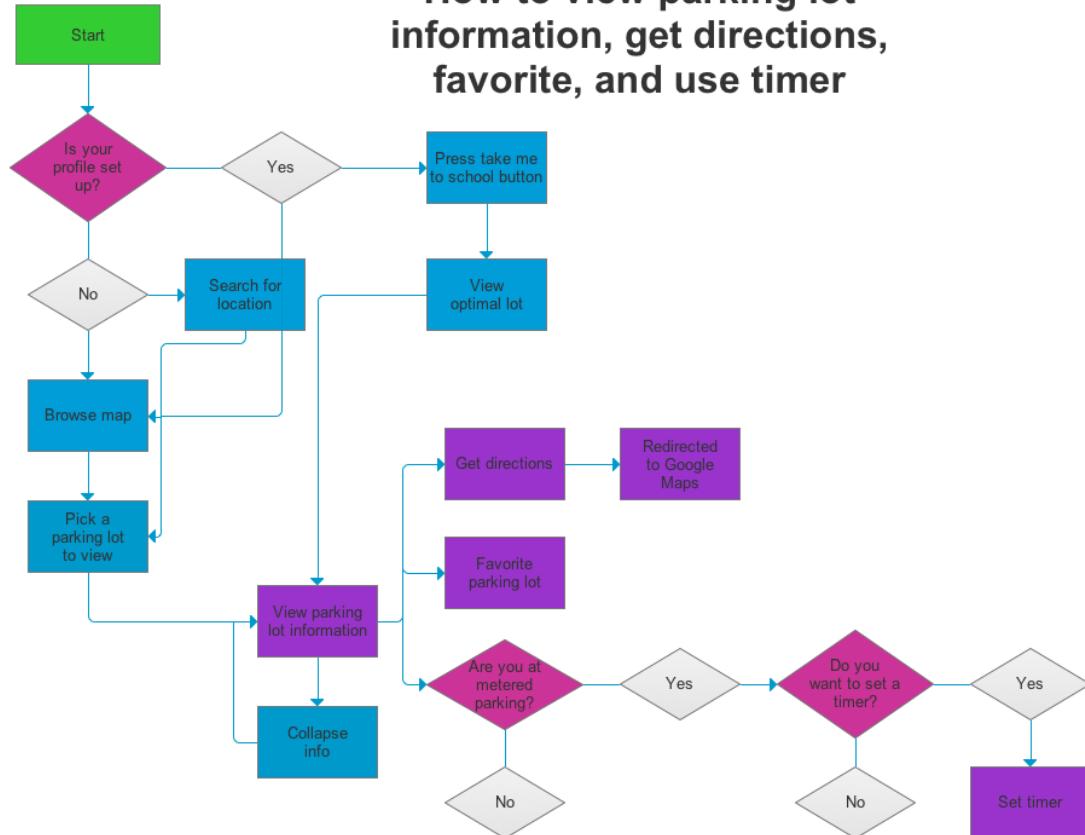
## How to create an account & custom profile



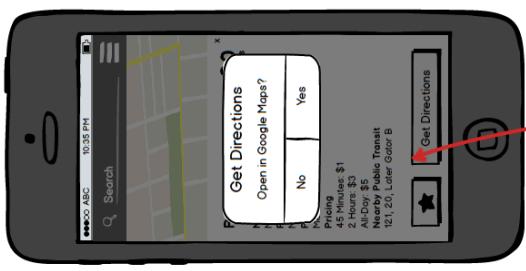
# How to favorite and use favorites from main screen



# How to view parking lot information, get directions, favorite, and use timer



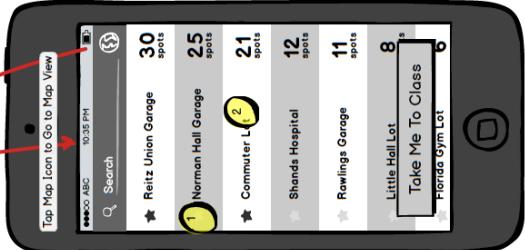
## Select 'Get Directions'



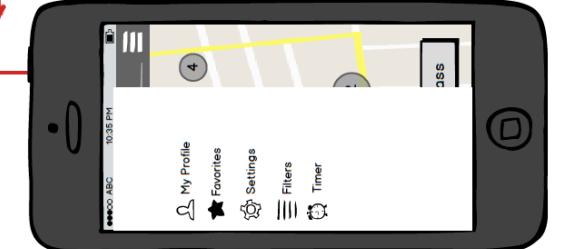
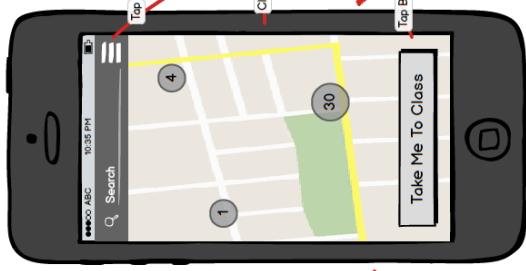
## Parking Lot Info Screen



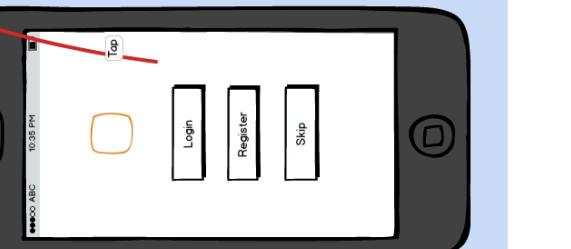
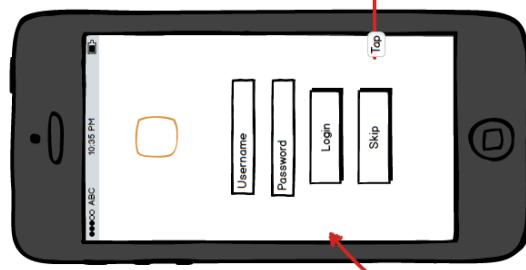
## Main Screen (List View)



## Main Screen (Map View)

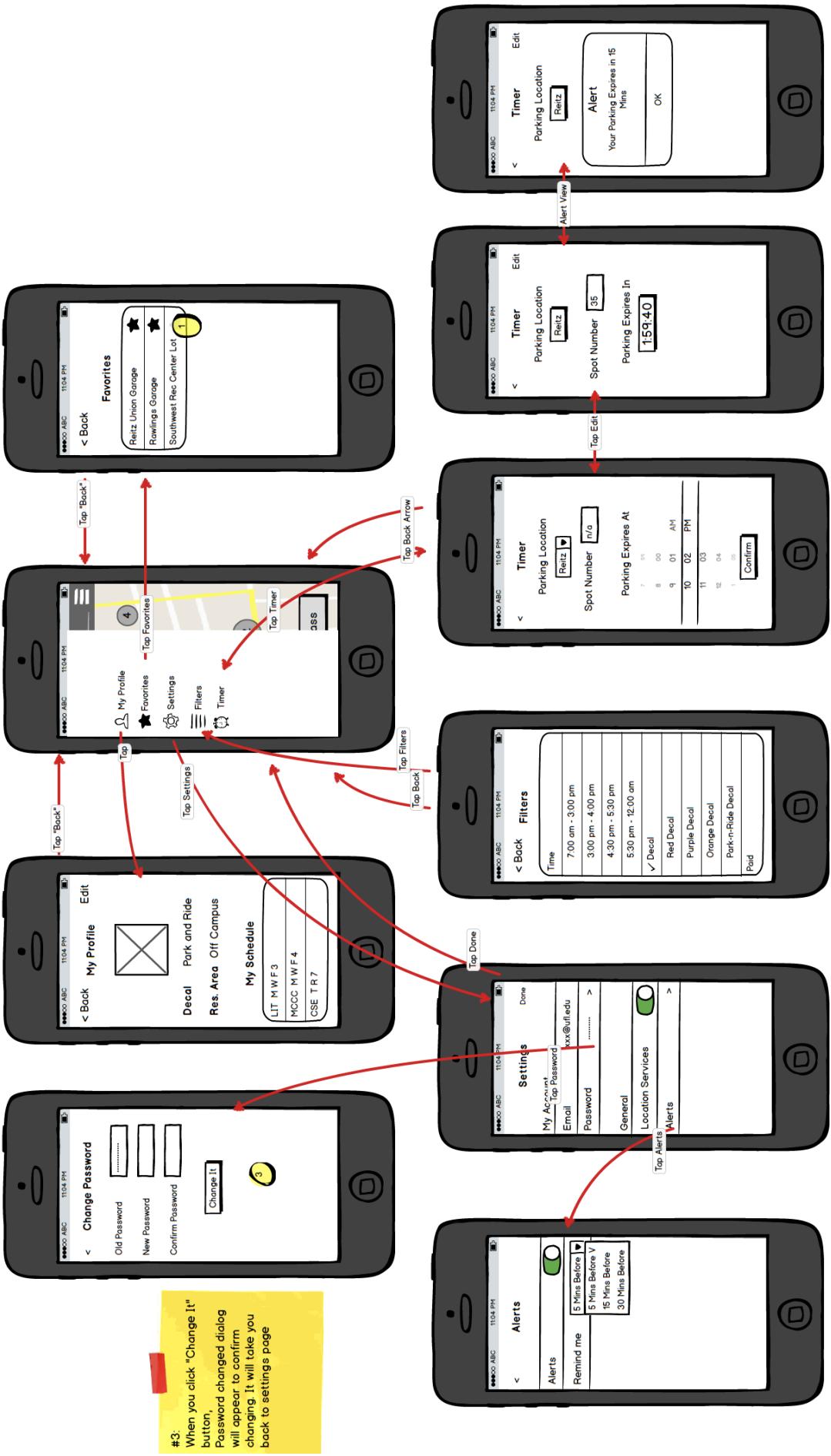


## Login Screen

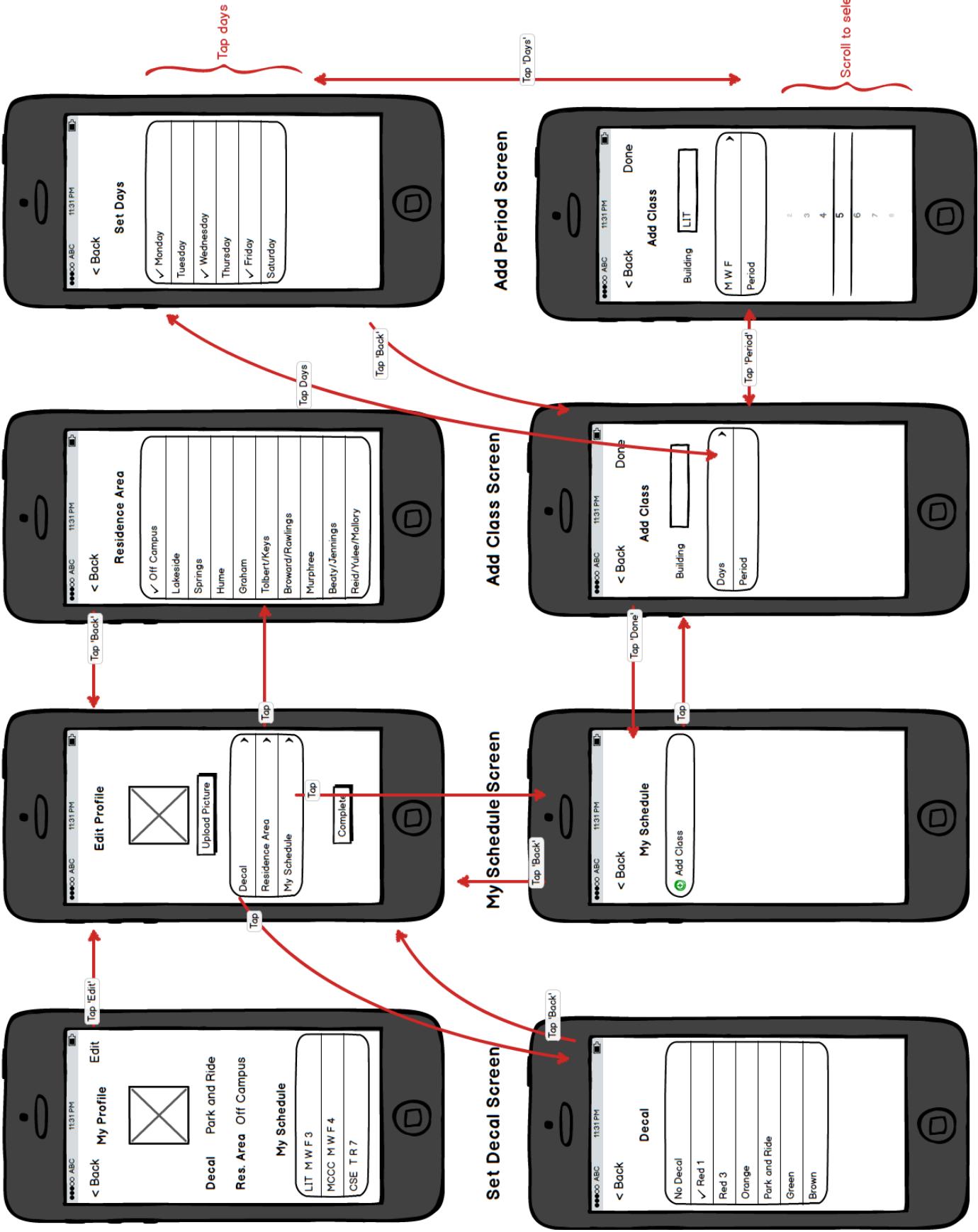


## Parking Lot Info Screen (from List View)

## View User Profile



## Set Days of the Week



**Final outcome:** Our task flow diagrams break down step-by-step the key tasks a user would perform when using our application. Our wireframes illustrate all the main screens in our application and how to transition between them. We have also made sure to clearly identify what interactions can take place on each screen. Overall, we have provided thorough documentation of the flow of our application and how our target user would use it.

**How we came to this outcome:** By using an iterative design process, we were able to build and merge ideas to create an application that clearly addresses our user needs. Specifically, in our task flow diagrams and wireframes, we made sure to consider every interaction the user would have with the application and made sure it was clearly addressed in both diagrams. The task flow diagram helped us break down every step and create a list of every screen the user would see so we were able to easily transition to the wireframes.