

# FindRack

## Problem

Bike riders of Boston are an oft-abused, neglected people. Forced to ride on cramped, narrow, winding streets, they often arrive at their destination frazzled and running late. Much to their chagrin, the bike racks they need to secure their bikes are often full by the time they arrive, forcing a desperate search for an alternative spot. This hunt for a bike rack takes precious time, and often results in the cyclist being late for work or class. We are proposing an application that would solve this problem for these cyclists. Our application, which would target mobile users, but may be mocked up as a desktop app, would automatically show a user the bike racks within a certain radius of their location. It would also allow the option to manually change the location to look in a different area. It will also include many other features that will add to its usefulness.

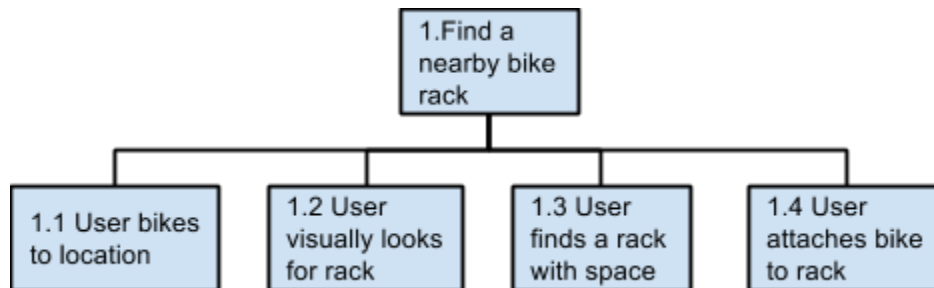
## Users

- **Primary** - This category includes the people who will actually be using our product. They will be students or professionals that ride a bicycle to work or school on a regular basis and rely on finding a bike rack to store their bike during the day.
  - Trixie is a 20 year old student at Northeastern University, she is a business major with a focus in marketing. She recently purchased a used bike from a local shop because she was constantly frustrated with riding the green line from Mission Hill to the Northeastern campus every day. Since she is new to the bike riding world, she is not aware all of the bike rack locations on campus and often has trouble finding somewhere to park her bike.
  - Rocco is a 26 year old sommelier at a very expensive restaurant in Cambridge. He recently completed his training and is thrilled to work in such a fancy environment. Since he lives in the Back Bay and commutes to Cambridge. He has been riding his trusty bike instead of taking the T, which takes way too long for him. There are only a few bike racks near the restaurant and often he will arrive to find them all taken and will have to go to a rack much further away. This often causes him to be late for work and to get in trouble with his boss.

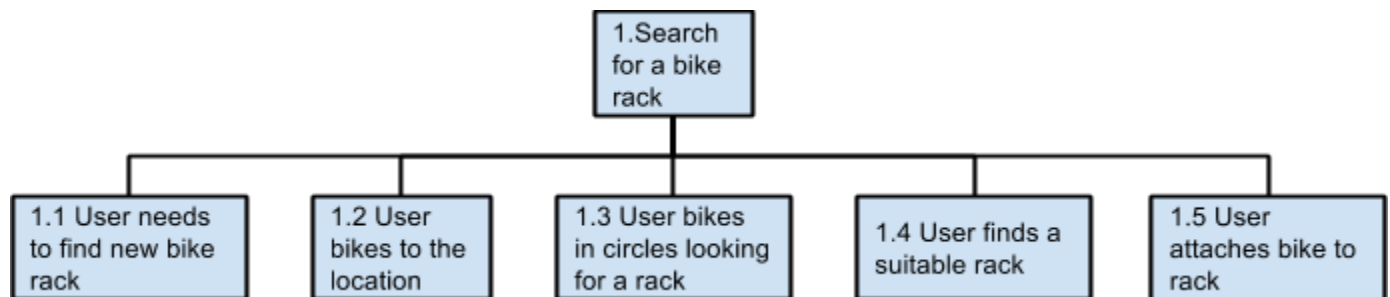
- **Secondary** - This category includes the people who install and monitor the sensors on the bike rack and provide the current space information for our application.
- **Tertiary** - This category includes anyone else who may be affected by the product. For example, people who do not use the product and therefore have a harder time finding bike racks. In Rocco's case, his employer would benefit because he would be on time more often and is more beneficial to the business.
- **Facilitating** - This category includes the people bring this product to market. Matt and Kyle belong to this category of stakeholders.

### Tasks

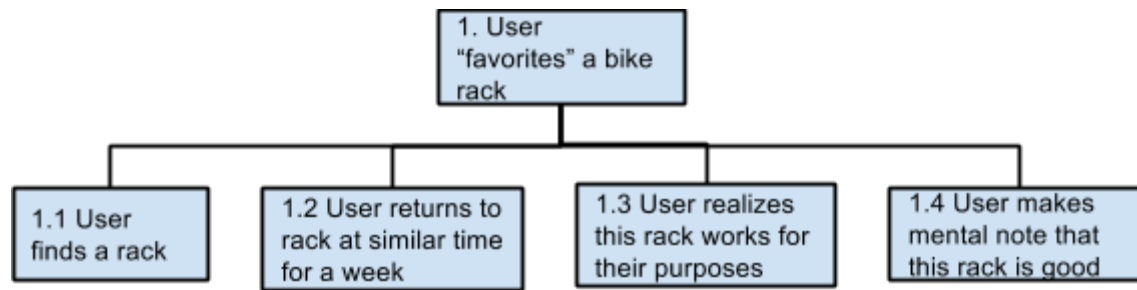
- **Find a nearby bike rack**
  - **Goals:** find a place to lock up a bike in the nearby area
  - **Preconditions:** need a bike, racks need to actually exist
  - **Performed occasionally**



- **Searching for a bike rack**
  - **Goals:** find a place to lock up a bike in another (not nearby) area
  - **Preconditions:** need a bike, need to know where you want to look for racks



- **Favorite a bike rack**
  - **Goals:** remember a good bike rack
  - **Preconditions:** needs to have a bike rack in mind, needs space in brain



### Problem Scenarios

- **Rocco finds a nearby bike rack** - Rocco, on his way to work after a long day of sitting around and watching House of Cards on Netflix, flies by cars sitting in traffic as he crosses over the Charles River into Cambridge. Already running late to work, Rocco arrives at a pair of bike racks closest to his work and discovers that both are completely full. He then must bikes to the next closest rack that he knows about which causes him to be 15 minutes late for work. On his way to this bike rack he happened to pass one fairly empty rack on a side street that would have saved him time, but he had no way of knowing that it was there.
- **Trixie searches for a bike rack in another location** - Trixie, while sitting in class, receives a text from her friend to meet for lunch in downtown Boston. Trixie agrees and once class ends, she heads outside to her bike and gets ready to ride. Since the restaurant is in an area she is not familiar with, she attempts to quickly research bike rack locations on her phone, but comes up empty. This forces her to ride to the area around the restaurant and circle the area looking for a bike rack. It takes her a long time to find one and she is late meeting her friend for lunch.
- **Trixie favorites a bike rack** - Trixie, after meeting her friend for lunch, walks back to the rack at which she parked her bike. She makes a mental note that this bike rack was in a safe location and was mostly open when she got there. She decides that the next time she is in the area, she will try this bike rack again.

### Usability Requirements

- A requirement for efficiency would include making sure the user can check on the bike rack status within 2 seconds. This would mean they would gather the required information as fast as possible without too much fumbling in the app.
- A requirement for learnability would be to use buttons and icons that are the same or similar to other products on the market. This would add an element of familiarity. We would also display a help button on every screen that would take the user to a guide that will allow them to quickly learn the features and functionality of the product.