This application provides the basic services for a small community to standup a basic bike share program. It works a lot like a public library, but with bikes. The idea is that a bike store(s) would sponsor the program by providing older, but still functional, bikes for riders to check-out. There are various locations (called waypoints in the system) where bikes can be checked out from and returned to. Anyone can sign up and check-out a bike, but can only have one bike out at a time. The sponsoring bike shop(s) is/are responsible for the maintenance of the bikes to make sure they are in good working order. This application enables this basic functionality of allowing riders to check-out/check-in bikes as well as helping the sponsors with tracking their locations and performing maintenance.

1. As a rider, I want to be able to check the availability of bike share bikes to rent, so that I can see if one is available nearby.
2. As a rider, I want to be able to reserve a bike, so that I can ride around the city.
3. As a rider, I want to be able to extend my rental time on a bike if needed, so that I can continue to use the bike in the event I misjudged the time I need it for.
4. As a rider, I want to be able to see all drop off locations for my rented bike, so that I can use the most coinvent available one to return the bike.
5. As a rider, I want to be able to see the types of bikes available for rental, so that I can choose the bike best suited for my ride style.
6. As a bike share coordinator, I want to be able to monitor the inventory of bikes for a city, so that I can ensure there is a good balance of bikes available.
7. As a rider, I want to be able to indicate there is an issue with my bike, so that I can get a new one and someone can fix the broken one.
8. As a bike share coordinator, I want to be able to track bikes with issues, so that I can have them picked up and fixed.
9. As a bike share coordinator, I want to be able to mark bikes as inactive, so that I can keep them from being reserved while they are out on maintenance.
10. As a bike share coordinator, I want to be able to see a heat map of pick up and drop off locations, so that I can use that data in logistical planning.

**Use Case Diagram**

A diagram of a bike share application

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**Services Sequence Diagram**

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**Domain Class Diagram**

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