2. interaction diagrams – A diagram of a flowchart

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Starting with the Controller, we agreed it should follow the expert doer principle to interact between the different components. This might cause low cohesion or high coupling as the controller passes all the requests. However, by using pageMaker and interfacePage, which meet the low coupling and high cohesion principles, we can make the page feel responsive, improving the user’s experience and reduce waiting times after polling the system to find a car. The updateController, searchRequest, and databaseConnection have both high cohesion and low coupling and are primarily to reduce the controller responsibilities regarding these principles.

3. Class diagram and Interface specifications

We have three classes, Cars, Users, and Space. The system can later incorporate sales data upon stage one completion. The cars class contains a unique identifier, car\_id, and stores various information about the car such as make and model. This class can be expanded to export data to a future sales class. The space class is the second simplest, it requires a unique space\_id attribute and is populated by a sensor class. Such sensor class only reports the status of a sensor, a Boolean value, and a method to forward the status upon change or request. The user class is the most complicated and the one that will expand as more elements of our system come online. It contains a unique id attribute, requires an encrypted password attribute, a username, and the appropriate getter and setter methods. The key thing of this class is the role attribute, which will line up with user permissions on our app. For example, we will need to distinguish between a technician and a customer. As we develop more of this system, specifically with the sales integration, we will need to add more user information such as email, contact information, etc.

Class diagrams

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