Test Set 1: User

In our class diagram, the customer class and the driver class will access the user class, which will contain functions such as: login, logOff, search, deleteAccount, and contactSupport.

By creating unit tests to validate the functions, we are able to ensure that both the customer and driver are able to utilize our application correctly.

- Since the customer and driver class extend the user class, it is essential that the user class works.
    - In order to determine that the customer and driver class can be accessed, the user must be able to login, log off, search for restaurants, delete their account, and contact support.
    - After confirming that all the methods are functional, it is essential to ensure that user data is stored in the database and saved.

1. Test Case: Login
    a. Username validation
        i. A user must provide a username made up of 8 to 20 characters (excluding special characters not limited to: !, @, #, $...)
        ii. If there is >8 characters, this method will be invalid
        iii. If there are <20 characters, this test will be invalid
        iv. If special characters are included, this test will be invalid
        v. If the username already exists, this test will be invalid
    b. After logging in, the user will have to option to become a customer or a driver
2. Test Case: Log Off
    a. Access
        i. After logging off, the user must not be able to access the functions of customer or driver
        ii. Data must be saved prior to logging off
3. Test Case: Account Deletion
    a. Username availability
        i. Once an account is deleted, another user should be able to create a username that was deleted
    b. Deleted Data
        i. If the account is deleted, their data must also be deleted
        ii. Encrypted data, such as their login information payment information, must be deleted from the database.
        iii. The server must update in linear time for other users to create login information that was deleted.

Test Set 2: Driver

The driver class inherits from the user class which in addition accesses locator, customer, and payment class. Functions of this class include but are not limited to: acceptOrder, cancelOrder, getDirections, and viewPay.

With the unit tests, we are able to ensure the driver class can perform the essential functionality needed on a day-to-day basis when at work.

- The driver must be able to go online and offline in order to receive order requests, must be able to receive and view payments, be able to contact the customer via SMS or phone call, enable GPS navigation to destination, accept/cancel orders, and view their earned tips.

1. Test Case: Online Status
    a. Offline
        i. When the driver is offline, they should not receive any order requests or notifications.
        ii. While offline, the driver should have the option to go online.
    b. Online
        i. While online, drivers should receive order requests and also have the option to go offline at any time when not completing an order.
        ii. In conjunction with locator class, the driver will be able to view any orders that are available nearby.
2. Test Case: Order acceptance
    a. Accept
        i. The functionality of accepting an order should only be possible when the driver has their online status set to “online”.
        ii. Drivers can only complete up to 3 orders at a time so it should not prompt them to take another order for 3 or more orders in progress.
    b. Cancel
        i. Drivers must have an option to cancel an order when completing an active order.
        ii. Driver will be given a prompt that will ask for cancellation reason
        iii. Will work with the customer class to notify of their canceled order and get their money back.
3. Test Case: Contact Customer
    a. Message
        i. Phone numbers should be encrypted to protect both the driver and the customer's contact information.
        ii. Drivers should be able to message their customers about their order for the duration of the delivery and 30 minutes after.
        iii. Drivers should not be able to contact customers after 30 minutes of when the order has been marked complete.

    b. Phone Calls
        i. Drivers should be able to call customers about their order anytime during the delivery process and after 30 minutes of completion
        ii. Phone numbers for both customer and driver must still be encrypted.

4. Test Case: GPS Directions
    a. After accepting an order, the driver should have the ability to get GPS directions to the restaurant and customer's location.
    b. GPS should notify of any delays on the road and estimated time of arrival.
5. Test Case: Viewing Payment
    a. Tips
        i. Drivers must be able to view their earned tips after each delivery has been completed.
        ii. Driver can choose to see the amount of money earned through tips per work day or in total
        iii. If no tips have been earned, display 0 and link to a page as to how to be a good driver to the customer.
    b. Payment
        i. Drivers also need to see their payroll after each delivery alongside the tips they have earned.
        ii. Will show the gross amount and the amount of money earned after taxes
        iii. Will be able to print out a full pay stub