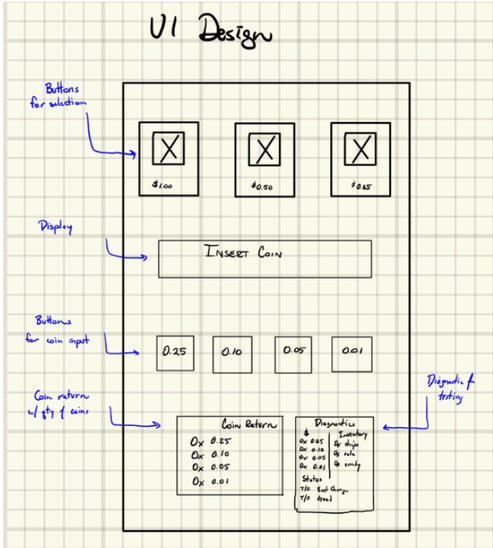

Vending Machine Kata

User Stories

- **Accept Coins**
  - *As a vendor*, I want a vending machine that **accepts coins** *so that* I can **collect money from the customer.**
- **Select Product**
  - *As a vendor*, I want customers to **select products** *so that* I can give them an incentive to **put money in the machine.**
- **Make Change**
  - *As a vendor*, I want customers to **receive correct change** *so that* they will **use the vending machine again.**
- **Return Coins**
  - *As a customer*, I want to have my **money returned** *so that* I can **change my mind** about buying stuff from the vending machine.
- **Sold Out**
  - *As a customer*, I want to be told when the item I have selected **is not available** *so that* I can **select another item**.
- **Exact Change Only**
  - *As a customer*, I want to be told when **exact change is required** *so that* I can determine if I can buy something with the money I have **before inserting** it.

Interface

- **Display**
  - "INSERT COIN" when no coins inserted
  - "INSERT COIN" when all coins returned (by button press)
  - "$#.##" when coins inserted
  - "THANK YOU" when item purchased (button pressed, >= req money, product dispensed)
  - "PRICE $#.##" if insufficient money has been inserted
  - "SOLD OUT" when item selected is out of stock
  - "EXACT CHANGE ONLY" when cannot make change with money in machine
- **Buttons**
  - Products
    - Cola
    - Chips
    - Candy
  - Return Coins

Drill down requirements

- **Coin Specific**
  - **Accept Coins**
    - Input
      - Valid: nickels, dimes, quarters
      - Invalid: pennies
    - Actions
      - When coin inserted, add value of coin to current amount
      - When coin inserted, update display amount
      - When no coins inserted, display reads "INSERT COIN"
      - Invalid coins will be placed in the coin return
    - Notes: as per instructions, use strings, enums, constants, or the like to represent coins (rather than Coin objects)
  - **Make Change**
    - Actions
      - When item is select that is less than the money provided, remaining amount goes to coin return
  - **Return Coins**
    - Actions
      - When return coins button pressed, all money is returned and display is set to "INSERT COIN"
- **Product Specific**
  - **Select Product**
    - Options
      - Cola - $1.00
      - Chips - $0.50
      - Candy - $0.65
    - Input
      - Buttons for each item
    - Output
      - 'THANK YOU' when sufficient money
      - 'INSERT COIN' after dispensing
      - 'PRICE $#.##' when insufficient money
    - Actions
      - Press button for item, check that money is sufficient, update display
      - Dispense item if sufficient money is inserted on button press
  - **Sold Out**
    - Action(s)
      - When item selected is out of stock, display reads "SOLD OUT"
        - Will show amount of money inserted or 'INSERT COIN' after delay
- **System Status**
  - **Exact Change Only**
    - Action(s)
      - If machine cannot make change, display reads "EXACT CHANGE ONLY" instead of "INSERT COIN"