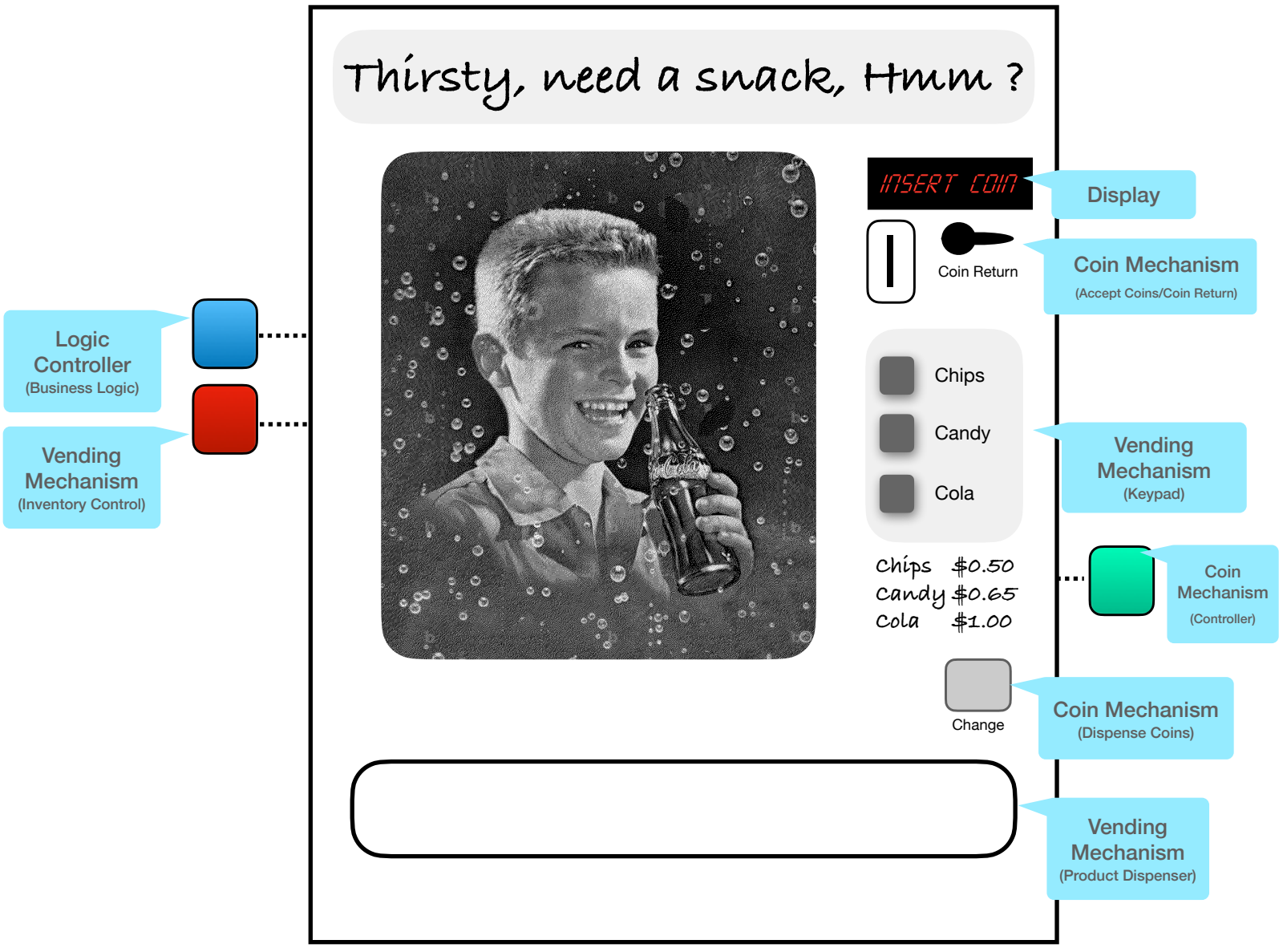
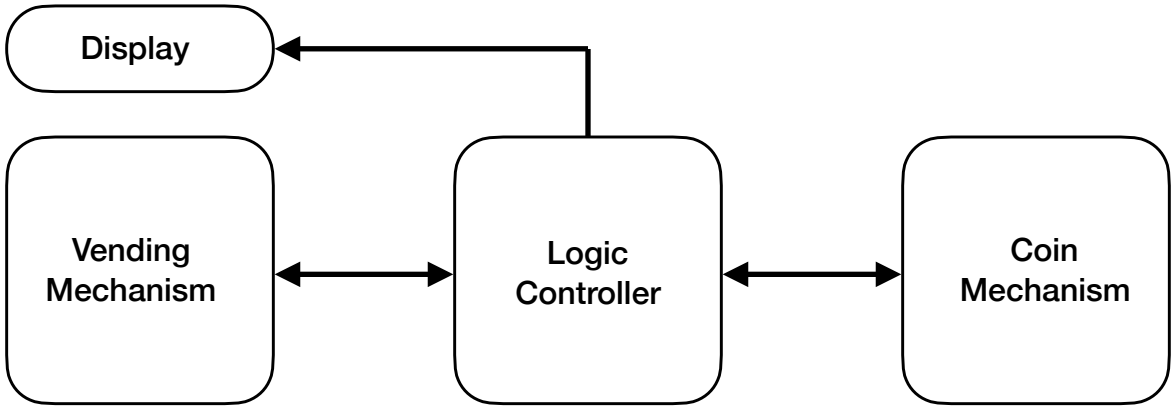
Vending Machine Sketch



Vending Machine Diagram



Components And Their Responsibility

Display

- Updates message on LED display

Vending Mechanism

- Monitors 3 button product selection keypad
- Reports 3 button product selection keypad value
- Monitors out of stock statuses for products
- Reports out of stock statuses for products
- Dispenses indicated product when commanded

Logic Controller

- Implements all business logic
- This is the “brains” of the machine
- Manages the overall state of the vending machine
- Orchestrates interactions between components
- Processes user input and system events
- Makes decisions based on current state and conditions

Coin Mechanism

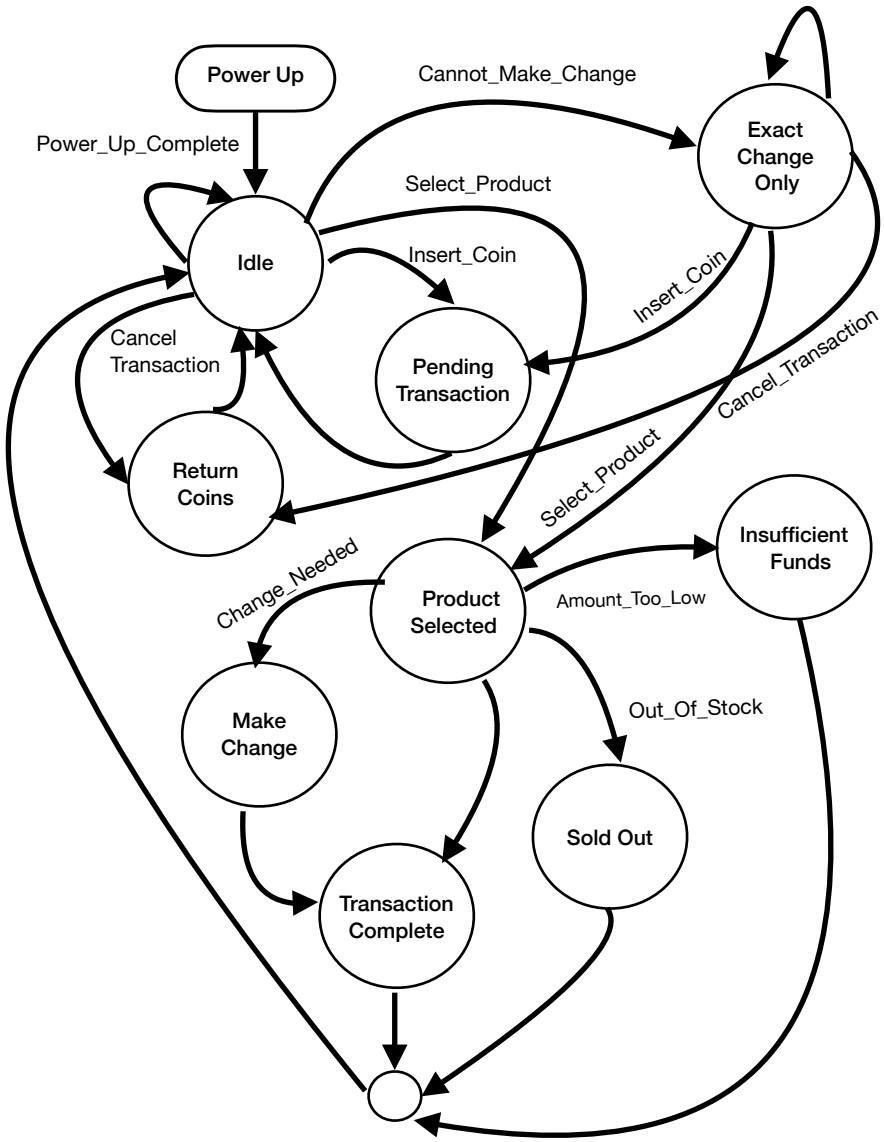
- Accepts valid coins and ignores invalid coins
- Reports accepted coin
- Monitors out of type of coin statuses
- Reports out of type of coin statuses

- Dispenses coins for making change and returning canceled transaction when commanded
- Monitors Coin Return (Cancel Transaction) status
- Reports Coin Return (Cancel Transaction) status

Logic Controller State Machine

States

1. Power Up
2. Idle
3. Pending Transaction
4. Product Selected
5. Insufficient Funds
6. Sold Out
7. Exact Change Only
8. Return Coins
9. Transaction Complete
10. Make Change

Events for Transitions

1. Insert_Coin
2. Select_Product
3. Cancel_Transaction
4. Cannot_Make_Change
5. Dispense_Product
6. Power_Up_Complete
7. Out_Of_Stock
8. Amount_Too_Low
9. Change_Needed