23MX21 – SE – Interaction Diagrams

Coffee Machine Example

Coffee machine interface consists of

- ✓ a GUI
- ✓ a coin slot for accepting change and returning change
- ✓ a slot for delivering the cup of drink.
- ✓ selection buttons for coffee and tea

The coffee machine can handle coins of the values [x 10 Rs.] 5 and 10, where 5 is the price for a cup of tea while a cup of coffee costs 10.

Internally, the coffee machine consists of:

- ✓ A change verification device, that counts money and makes change

- ✓ A computer controller, to control the actions of the machine

- ✓ A kettle to heat water

- ✓ A dispenser to pour water and add coffee/Tea if necessary

Requirements: customer interactions

- If a coin with the value of 10 is inserted and the Coffee button is pressed - the customer receives a cup of coffee.

- If a coin with the value of 10 is inserted and the Tea button is pressed - the customer receives a cup of hot water plus change.

- If a coin with the value of 5 is inserted and the Coffee button is pressed - the money is returned.

- If a coin with the value of 5 is inserted and the Tea button is pressed - — the customer receives a cup of hot water

Requirements: Drink dispense

- **If a coffee request is validated -** the machine heats water, adds water and coffee to a cup, and delivers the customer a cup of coffee.

- **If a tea request is validated -** the machine heats water, adds water to a cup, and delivers the customer a cup of tea.

Coin Slot | **GUI** | **Selection Buttons** | **Dispenser**

coffee

1.1 Enter Coins
10 cents
Display Message "Please Select Drink"
Message
1.4 Select Coffee
1.5 Dispense Coffee
1.6 Deliver Coffee

Tea + change

1.1 Enter Coin
10 Cents
1.2 Display Message "Please Select Drink"
1.3 Message
1.4 Select Tea
1.5 Dispense Tea
1.7 Change
1.6 MAke Change
1.8 Deliver Tea

Coffee: fail

1.1 ENter Coin
5 Cents
1.2 Display Message "Please Select Drink"
1.3 Message
1.4 Select Coffee
1.5 Return Coins
1.6 Coins

Tea

1.1 ENter Coin
5 Cents
1.2 Display Message "Please Select Drink"
1.3 Message
1.4 Select Tea
1.5 Dispense Tea
1.6 Tea