USER MANUAL

Vending Machine

Group 1
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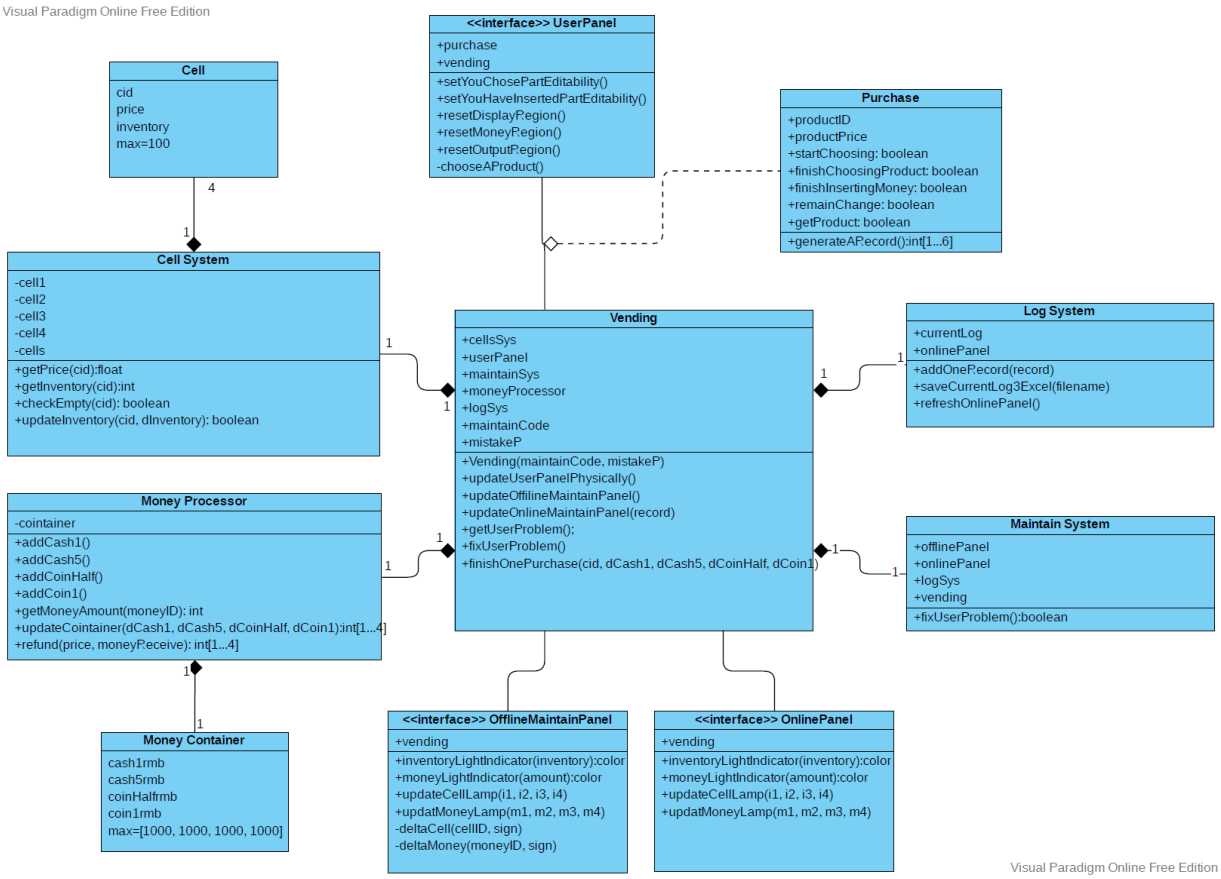
Table of Contents

System Architecture

The system architecture is shown below:

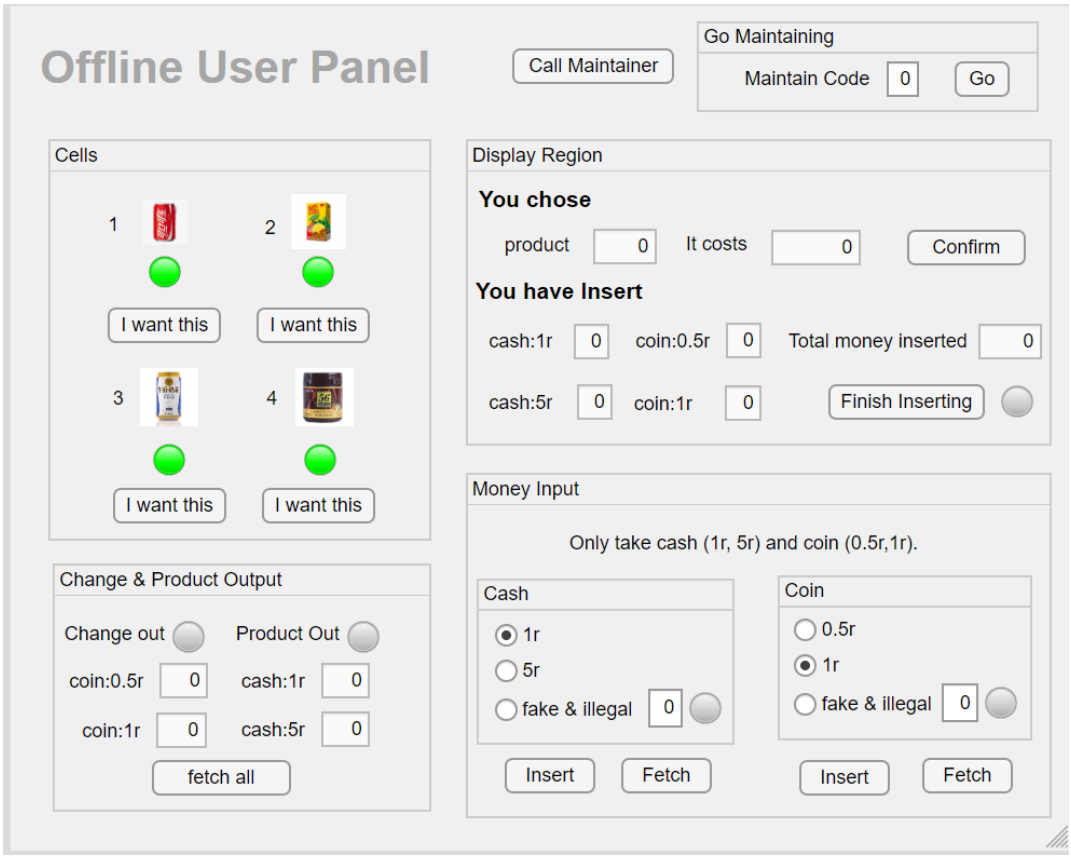


How to Use & Notion for Maintainer

Input Vending(maintainCode, mistakeProbability) in the command line. If the maintain code is the same as a pre-defined value (1 here), the offline maintain panels will be out and can be editted. Since only one computer is used and responsible for displaying and taking the input, the maintain panel and the user panel will be shown at the same time. If the code is not correct for the command line input, then the offline panel will not be able to be accessed, which is set to Unable in the implementation.
Example input: Vending(1, 0.1), Vending(2, 0.1).

User Interaction: User Panel

The user panel includes 5 parts: Cells, Display Region, Money Input and Change & Product Output, one button “Call Maintainer”, which allows the user to contact the maintainer by pushing it, and Go Maintaining.



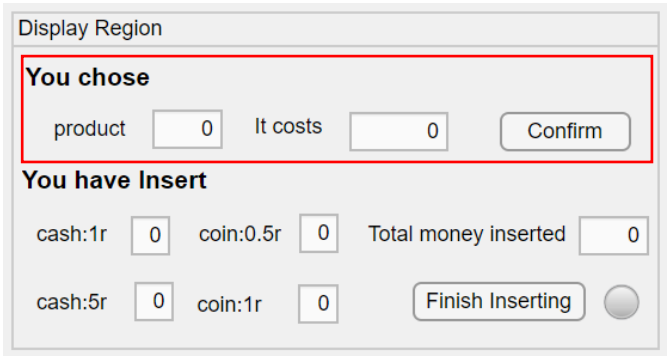
Cells

A purchase is started by selecting a product form the Cells part. This part includes four cells, each of which has a lamp that indicates the inventory situation of the cell. If there is inventory left for this cell, the corresponding light will be green and “I want this” button will appeared be able to be pushed. If there is no inventory for the corresponding cell, the lamp will be red and “I want this” button will not be able to be pushed.

Display Region –"You chose" part

This region indicates the current situation of product selection to the buyer.

When choosing the product, the "You chose" part will display the product ID and the product price on real time. When the user finishes choosing the product, he or she should push the confirm button and the product will not be changed again before the next purchase begins.

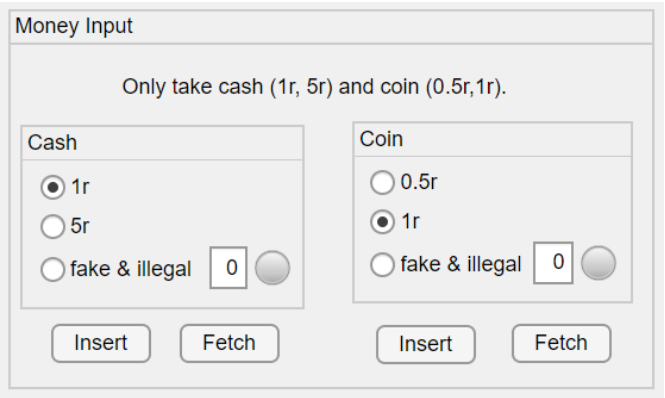


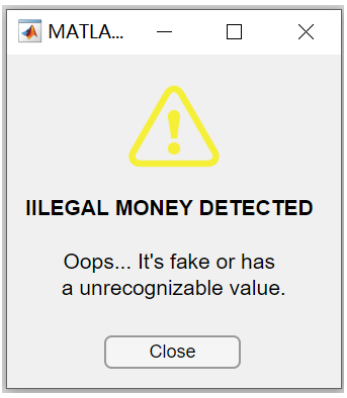
When the confirm button is pushed, the money input part starts to take money.

Money Input

This part includes an indication sentence that reveals the handling ability of money of this vending machine on the top.

After the user finishes choosing the product and pushes the "confirm" button on the Display Region, the two "insert" button is able to be pushed. The user selects the value of money in the cash or coin part, and if the user inserts fake or illegal money, the vending machine will not receive it and display a warning information as shown in the right. The user can push the close button to close this window and he or she should fetch the illegal input by pushing "fetch" button before inserting anything else in this part.

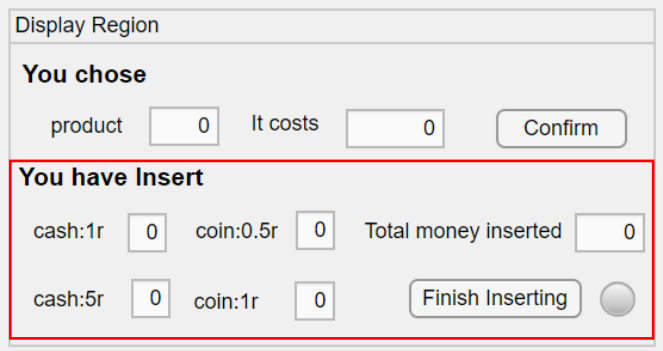




Display Region – "You have inserted" part

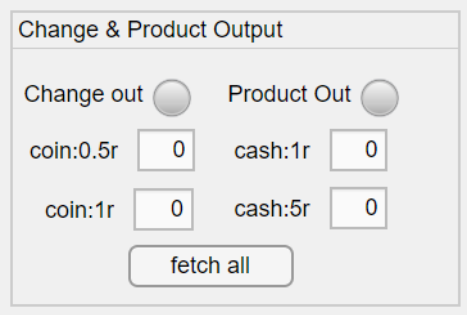
This region indicates the current situation of money input to the buyer.

When inserting money from the Money Input part, this region updates in real time. The total money inserted is also computed and updates. When the total money inserted reaches the product price, no money can be inserted anymore and the "finish inserting button" is able to be pushed. The user should push this button before getting the change and product.



Change & Product Output

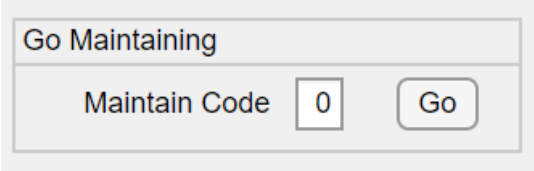
After pushing "Finish Inserting", the user can fetch change and product in this region. There are two lamps which indicate whether change and product are out respectively. If out normally, the lamp will be green. If not, the lamp will be red. The four money texts indicate the number of corresponding money value. When the change is not enough, all of the inserted money will be out here and the change out lamp will be red indicating an abnormal behavior and the product out lamp will be red too since no product will be out in this case.



When "fetch out" is pushed, the user can get things that are outputted here.

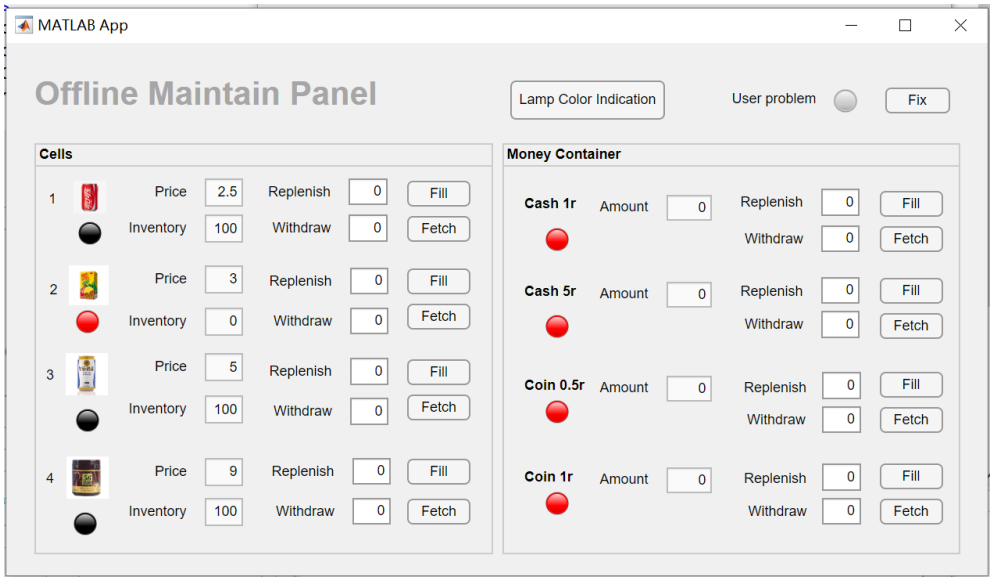
Go Maintain

If the maintainer needs to operate offsite, he/she should input the correct maintain code and push Go.



User Interaction: Offline Maintain Panel

The offline panel includes 2 parts: Cells and Money Container, one lamp that indicates whether there is a user who needs help from the maintainer, one button “Fix”, which allows the user to maintainer to answer the user’s call, and a Lamp Color Indication Panel.

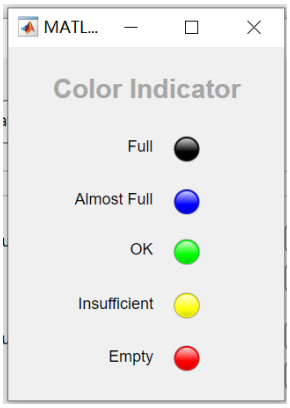


Color Lamp Indication

When pushing the “lamp color indication” button, this color indicator panel will be shown. This is in accordance with the color indication of the lamps in the cells and the money container part.

Cell:

- ✓ Amount == 100: Full, black
- ✓ 95 < amount < 100: Almost Full, blue
- ✓ 5 <= amount <= 95: OK, green
- ✓ 0 < amount < 5: Insufficient, yellow
- ✓ Amount == 0: Empty, red

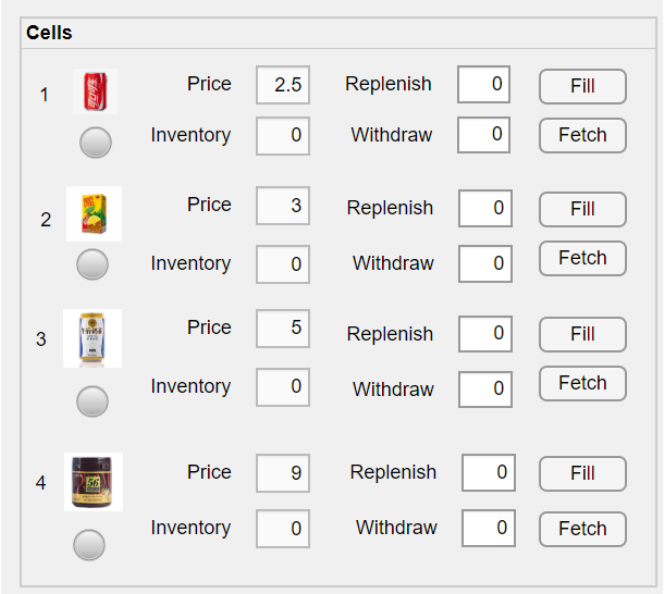


Money Container:

- ✓ Amount == 1000: Full, black
- ✓ 950 < amount < 1000: Almost Full, blue
- ✓ 50 <= amount <= 950: OK, green
- ✓ 0 < amount < 50: Insufficient, yellow
- ✓ Amount == 0: Empty, red

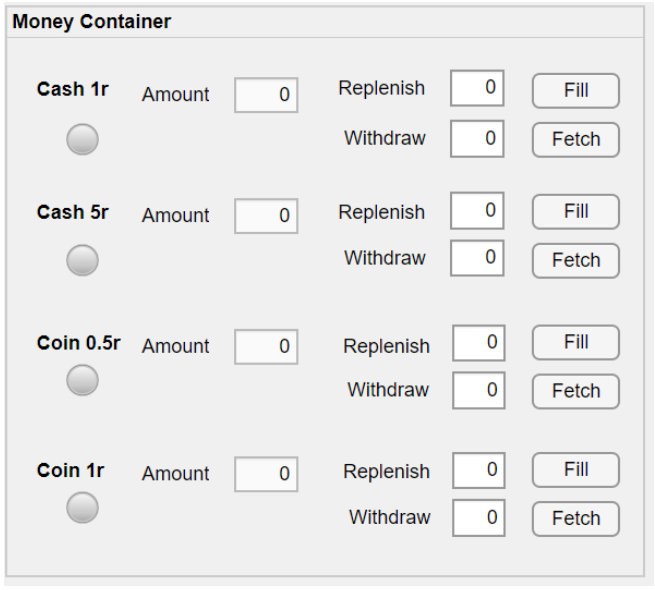
Cells

Cells part indicates the price and inventory of the products and the user can replenish or withdraw products by changing the text number and pushing “fill” or “fetch” button respectively.



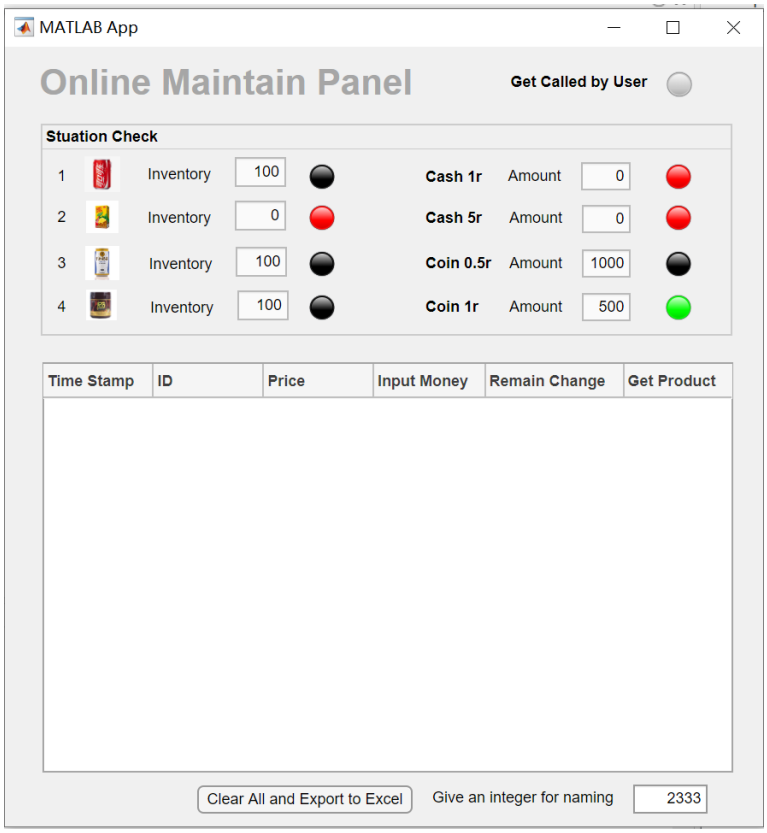
Money Container

Money Container part indicates the number of the money of corresponding value and the user can replenish or withdraw money by changing the text number and pushing “fill” or “fetch” button respectively.



User Interaction: Online Panel

The online panel includes 2 parts: Situation Check and Log, and a lamp that indicates there exists user call. The user cannot make any change to the inventory or the money container here, and he/she can only view situations and logs and export logs here.

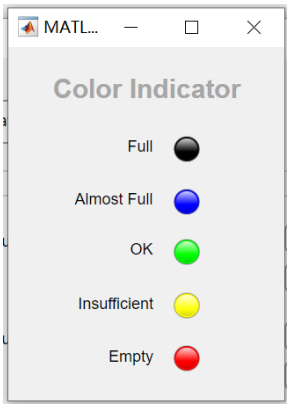


Situation Check

The lamps and texts indicate the inventory of products and the amount of money container. The lamp's color is given as followed, consistent with the offline maintain panel:

Cell:

- ✓ Amount == 100: Full, black
- ✓ 95 < amount < 100: Almost Full, blue
- ✓ 5 <= amount <= 95: OK, green
- ✓ 0 < amount < 5: Insufficient, yellow
- ✓ Amount == 0: Empty, red



Money Container:

- ✓ Amount == 1000: Full, black
- ✓ 950 < amount < 1000: Almost Full, blue
- ✓ 50 <= amount <= 950: OK, green
- ✓ 0 < amount < 50: Insufficient, yellow
- ✓ Amount == 0: Empty, red

Log

A record of the log includes a time stamp, which is in the form of MMDDHH(Min)(Min)SS, where M stands for month, D stands for day, H stands for hour, Min stands for minute, and S stands for seconds.

The maintainer can view the log here, which is updated with the buyers' purchases in real time. The maintainer can also push "Clear All and Export to Excel" button, and the name of the exported file can be set by the maintainer by inputting an integer for naming.