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ICS4U

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Description.

The program, Universal Business Portal, is a solution for businesses to:

- a. Keep track of their inventory
- b. Act as a POS (point of sale) terminal
- c. Keep track of employee profiles
- d. Keep track of financial transactions.

Instead of being run in a terminal, (which is undoubtedly easier), it will fully be run with a simple GUI for ease of use.

Inventory Tracking Module.

The inventory tracking system will display a window with a table of values to include:

- a. Name of the product
- b. Retail value
- c. Vendor value
- d. Item ID

This window will sync with POS and the Financial Transaction function but will only inform the user of the current company inventory.

POS Module.

The POS Module, while misleading, will NOT conduct transactions, but will only log them. The amount of items sold and monetary values will be synced to the Inventory Tracking System and the Financial Transaction Module. This aids the cashier by calculating the total cost of the items to include tax.

Financial Transaction Module

The Financial Transaction Module will be synced with the POS module to provide accurate information on the company's financial performance. Moreover, the module will also include salary information, income, and a calculated net income. This module will be password-protected to ensure that unauthorized employees do not tamper with sensitive information.

Employee Information Module

The employee information module will keep track of information to include:

- a. Name
- b. Salary
- c. Phone number
- d. Address

This module will be password protected and access must be gained through the Administrator Portal to hide confidential information.

Time Frame.

The general time frame of this project can be broken down into 4 steps, with completion dates listed in the table below. It should be noted that this should require working throughout the Christmas break to ensure completion. (Figure 1)

By: 6 December	January 8	16 January	17 January
Research	Development (contents subject to change)	Testing & Bug fixing	Publication

Figure 1

Furthermore, the development stage can be broken down into sub-tasks organized in an online spreadsheet. To see the current status of the project, the source code will be pushed to [GitHub](#). (Link subject to change. Whatever has the most contributions on my profile is probably the project)

Object-Oriented Code.

Classes will be used for database items and employee profiles. The database item class should look something like this:

```
class item:
    def __init__(self,itemName,stock,retailCost,vendorCost,itemID)
        self.itemName = itemName
        self.retailCost = retailCost
        self.vendorCost = vendorCost
        self.itemID = itemID
```

The POS module will take the itemID, and subtract the stock by the amount taken out, as well as add the transactional value (retailCost x amount) to a table in the financial module.

The employee profile class should look like the following:

```
class item:
    def __init__(self,employeeName,salary,phone,address)
        self.employeeName = employeeName
        self.salary = salary
        self.phone = phone
        self.address = address
```

The salary module will take the salary (quarterly) and add it to the expenditures. Of course, this value will be an estimation to provide the store owner with a general picture of expenditures. It should be noted that the windows and labels could be made into classes but it has not been researched enough to guarantee a class.

Minor Remarks.

button_Service

To reduce clutter, all button commands will be imported from the file 'button_service.py'

Administrator Portal

The Administrator Portal will be protected with a secondary password so unauthorized employees cannot view confidential information.

PySimpleGUI

PySimpleGUI requires an API key which is free for hobbyists. The user may require an account to be registered with PySimpleGUI to function. Any issues or instructions will be added to the 'README.MD' file.

Rough flowchart of the general codebase.

