# Custom Program Design Report

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1. Provide a summary of your program, maybe write up a paragraph or two to describe what does it do? What are some of the key features etc.

Customer menu and billing is the main concept of the project. Like one’s used at self-service kiosks, the system is customer focused allowing self-service with minimal human interaction apart from payment. To make it user friendly to those that are not IT-literate, a GUI is implemented for ease of access through the means of a friendly number selector. Additionally, customizability is a key objective with this project. It is a fluid system that allows changes to things menu items allowing users to have choices. The restaurant’s theme of this project is focused on western menus such as main dishes, burgers, sides, and drinks.

Main features are as follows:

* Easy implementation
* Customizability of menu items
* Efficient and Dynamic system
* Automatic receipt creation
* Receipt reading

The code is available on GitHub in this repo: [Custom-program](https://github.com/Oshiran/Custom-program)

1. Program Screenshots with its various menu

|  |  |
| --- | --- |
|  | **Start Menu and Display all options** |
|  | **Main Dish menu displaying all options, their corresponding price and the current amount**  **The picture shows a demonstration of the updating Current Amount** |
|  | **Demonstrate the burger menu with price**  **Also allows a prompt whether to edit or not** |
|  | **Also shows returns an error if you try editing a burger that you didn’t order**  **(In this case we picked to edit Fish Burger, but no fish burger was ordered)** |
|  | **If the burger exists, displays what can be edited with defaults being shown** |
|  | **Side Dish menu, with a dynamic current amount display as well** |
|  | **Drinks menu also showing the Soft drink submenu with an also dynamic current amount display** |
|  | **When order is finished, automatically creates sums all the orders and displays then a new unique receipt based on time and displays the name in the folder** |
|  | **Receipt Shown** |

1. List and describe main data types:

All data for each submenu is classed into their own respective struct and initialized to 0 beforehand (the exception being the customization amount which are all initialized 1 for each respective edit) Similarly, each price for each submenu is kept into an array.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field Name | Data Type | Subtype | Description | Example of value |
| MainDish | struct | ***Int*** amt1 to amt5 | Amount chosen  (Max 25, Min 0) | 25,25,25,0 |
| ***Float*** mdtotal | The total price of all amounts | 1600RM |
| Sides | struct | ***Int*** amt1 to amt5 | Amount chosen  (Max 25, Min 0) | 25,25,0,0 |
| ***Float*** sdtotal | The total price of all amounts | 1500RM |
| Drinks | Struct | ***Int*** amt1 to amt6 | Amount chosen  (Max 25, Min 0) | 0,0,0,0,0,0 |
| ***Float*** sdtotal | The total price of all amounts | 0 |
| Burger | Struct | ***Int*** BeefAmt, ChknAmt, FishAmt | Amount chosen  (Max 25, Min 0) | 0,25,0 |
| ***Int***  BEA1, BEA2, BEA3 | Beef Burger modification  (Patty, Cheese, Pickle)  (Max 0, Min 5) | 0,3,5 |
| ***Int*** CKE1, CKE2, CKE3 | Chicken Burger modification  (Patty, Cheese, Pickle)  (Max 0, Min 5) | 0,3,5 |
| ***Int*** FEA1, FEA2, FEA3 | Fish Burger modification  (Patty, Cheese, Pickle)  (Max 0, Min 5) | 1,3,5 |
| ***Float*** Btotal | The total price of all amounts | 1500RM |

1. Describe the main functions and procedures

|  |  |  |
| --- | --- | --- |
| Main Function | Parameter | Description |
| MaindishAmt | Main Dish struct & Main Dish Price [array] | User inputs amounts of each struct |
| BAmt | Burger struct & Burger Price [array] | User inputs amounts of each struct |
| SideDishAmt | Side Dish struct & Side Dish Price [array] | User inputs amounts of each struct |
| DrinkAmt | Drink struct & Drink Price [array] | User inputs amounts of each struct |
| MenuTotal | Main Dish, Burger, Side Dish & Drink struct | Finds the total by multiplying price into amount from each struct |
| Recipt | Main Dish, Burger, Side Dish & Drink struct | Prints a receipt using all struct amounts |
| Readtextfile | N/A | Takes in file name and displays |

**Subfunctions**

|  |  |  |
| --- | --- | --- |
| Subfunction | Parameter | Description |
| MdTotal | Main Dish struct & Main Dish Price [array] | Totals all the Main Dish price using amt and price |
| SdTotal | Side Dish struct & Side Dish Price [array] | Totals all the Side Dish price using amt and price |
| DTotal | Drink struct & Drink Price [array] | Totals all the Drinks price using amt and price |
| BTotal | Burger struct & Burger Price [array] | Totals all the Burger price using amt and price |
| MDCurrentDisp | Main Dish struct | Displays current amts of Main Dish |
| SDCurrentDisp | Side Dish struct | Displays current amts of Side Dish |
| DrinkCurrentDisp | Drink struct | Displays current amts of Drink |
| BCurrentDisp1 | Burger struct | Displays current amts of Burger |
| BCurrentDisp2 | Burger struct | Displays current amts of Burger modification |
| text | N/A | Displays Text |
| read\_integer\_in\_range | Prompt, min, max | Validation Check for integers |
| flush | N/A | Clears input buffer |

**Flowchart**

