

Criterion A: Planning

Defining the Problem:

The Client, Mr. Muhammed Abdullah, owns a local cafe in Amman, Jordan. He currently has different types of coffee on the menu. Muhammed serves his coffee to local customers and has approximately seven employees working for him.

Presently, the owner and employees keep track of orders placed using pen and paper and the manager has to manually compute the performance, sales and revenue of the company. Additionally, Mr. Muhammed's receipt system stopped working. To combat this, Mr. Muhammed writes a receipt for every order which is considerably time-consuming. He takes into account the ID of the customer, Product Name, Price, Quantity, Total and order date. This all adds to the large volume of work Mr. Muhammed and his fellow employees have to commit to.

As discussed in the interview, the method the client Mr. Muhammed is utilizing is inadequate and ineffective because of the upsurge in customers. Occasionally, the owner Mr. Muhammed or the employees would have to work overtime to organise the orders placed and review the cafe's performance, sales and revenue. This can stress and overwhelm the business and the staff working there.

Since the company is local and located in a low economically developed country, Mr. Muhammed is unable to afford or purchase advanced IT managing software therefore, he inquired me to develop a suitable software that creates all the output needed and handles all calculations automatically and efficiently. I got the responses to my inquiries by communicating through emails as the owner lives in a different country (Can be seen in Appendix A & B).

Rationale for the Proposed System:

After discussing with Mr Muhammed about the possible solutions to create a functional application that could aid Mr Muhammed in serving his customers. We evaluated several solutions like using visual studio, C#, python etc... and concluded that using NetBeans IDE is the most appropriate. NetBeans is an IDE that allows users to program in Java and it is an open software free for all programmers to use. We both believe that this is the most optimal solution for creating a user-friendly and aesthetically pleasing interface. Java enables me to use OOPs, which will further aid me in creating a fulfilling software for Muhammed therefore, we agreed to use java. Additionally, as discussed in the interview (Appendix B) TIBCO Jaspersoft Studio will be used to create a receipt automatically for every order.

We both agreed (Appendix B) that MySQL is a sufficient database to store data because it is a relational database which uses a tabular structure (columns and rows) and provides high data security as well as multi-platform support. I plan to link the MySQL database to java through Java Database Connectivity (JDBC) which is an API for Java. The software will be able to add, edit and remove orders in the database. Also, the software can remove, update and add user

accounts, which can be operated if an employee decides to resign, the owner recruits new employees, or when customers make an account.

Word Count: 501

Success Criteria:

1) Function:

- A. Connect the program to MySQL database and use the information within the database for the program.
- B. Allows the customers to place reviews and generate an average of all reviews.
- C. The total number of orders placed each month can be computed automatically and an appropriate bar chart will be created.
- D. The cashier can place orders for coffee and checkout items for the customers.
- E. The program allows the admin (client) to add new employees/customers, as well as delete and edit the records through a form with specific fields.
- F. The program allows the admin to search for a user's Email, retrieve all the information and identify his role.
- G. Graphs will be generated based on the orders placed each month.
- H. Validation of data (passwords, user login, register).
- I. There will be a points/ reward system, the more the customer orders, the more points the customer gets and can eventually redeem the points to get a discount.

2) Aesthetics:

- A. The software design will follow a theme colour of green, dark green and white.
- B. There will be numerous button designs, with the button being white and the text on the button being black.
- C. There will be multiple menus, one menu for the customer, one menu for the admin and one menu for the employee. Each menu has a specific design for the user type.
- D. There will be big, bold headings on each page of the software program.
- E. Icons will be used to flourish the design of the software.

3) User-Friendliness:

- A. The software will be easy to use with two, or three features that provides a familiar user interface.
- B. The software will have icons and buttons to help the user navigate his way through the software.
- C. The software will have basic colours to aid people who may be colour-blind.
- D. The software will have return/exit pages when the user is lost.

4) Integration:

- A. NetBeans IDE will be integrated with TIBCO jaspersoft studio to print a pdf document/report (receipt).
- B. The receipt will use data from the MySQL database to generate the texts, date, customer ID for whoever placed the order.