

Criterion E: Evaluation

Meeting the success criteria

After the product was handed over to the client, I asked him to verify all the success criteria defined in Criterion A. (Refer to Appendix B for the Evaluation Interview with the client):

- 1) The application is protected by a username and password, and different types of users i.e., the receptionist and the director are directed to different interfaces after logging in.
 - ☒ Met: A login page is displayed every time the application is opened and automatically detects type of user according to credentials. It's a "smoothly functioning feature"¹.
- 2) A data entry form to add, update, or delete a patient's basic information
 - ☒ Met: The registration page uses SQL queries, and allows the user to perform all these functions and has made the task easier and faster for the client and his receptionist.
- 3) The receptionist can enter daily visits and services availed by OPD and indoor patients.
 - ☒ Met: The visit entry page and service slip page were designed for this purpose and a function automatically allots a visit id to the patient and the program uses it to store services availed by him/her. The client appreciated that the charges don't need to be added by the user and are assigned automatically.
- 4) The receptionist can view room occupancy and allot an available room to an indoor patient
 - ☒ Met: The check-in and check-out pages allow the receptionist to view vacant and occupied rooms along with the details of the patient occupying them. These pages also allow the allotment of an available room and checking out a patient. The client found this extremely useful as it saves the receptionist's time.
- 5) The receptionist can search for a specific patient to view all of his/her previous visits and the details of the visits.
 - ☒ Met: A search bar on the patient history page allows the user to view all visit records by just entering the patient id and hitting the enter key. This also saves a lot of time according to the client.

¹Appendix B (Final Interview with Client) xx

6) The receptionist can view basic patient information every time a patient is selected so that she can verify it with the patient in case the wrong patient has been selected.

☒ Met: On every page, a function was created to display the patient information in text fields after the patient was selected. This functionality was extremely helpful to the client.

7) Perform calculations automatically to calculate the expenses of a patient

☒ Met: Different functions were created in the bill generation class to calculate individual and total charges. According to the client, the calculations were always accurate and thus this functionality is reliable.

8) Ability to print and save bills for a patient including all of his/her expenses

☒ Met: Libraries were imported to write the file writing and print functions in order to save or print the receipt. These functions worked perfectly on the client's system as compatible .txt files were created, and the client's printer could be used to print the bill.

9) Allows the admin/director to edit the doctor's fee, organizational discount and service fee.

☒ Met: Different pages for doctors, organizations, and services were created so that their details could be accessed from the database and updated whenever needed. The relational database allowed the other tables to access the updated details and thus the receptionist didn't have to remember the individual charges according to the client.

10) The admin can view monthly and yearly payment records

☒ Met: A payments page was created to display the payments sorted by month or year as requested by the admin and a function to display the sum of payments was also created. The well-organized nature of records was appreciated by the client.

11) The program has graphical features and easy-to-navigate user interface

☒ Met: Buttons, dropdown lists, check boxes and well-structured tables were added to the UI for easy data entry. Icons, and a permanent side bar added to the navigability and simplicity of the software. The client found the interface to be intuitive and easy to use.

Thus, all the success criteria were met and the product fulfilled the client's expectations which implies that I was successful in creating a useful product.

Further Improvements

While the client was extremely satisfied with the final product, he had some suggestions for future development¹ which are listed below:

More Portals

New portals could be created for the pharmacist, lab technician and doctors. Currently, the pharmacy and the lab generates their own bills but adding portals for the lab and pharmacy in the product could allow all finances to be maintained together and a doctors portal could allow the doctors to add medicines, services and lab tests recommended to the patients that can be viewed on the other portals.

Employee Records and Expenses

Records for the employee's monthly salaries could be added to the admin's portal. This can be accomplished by adding a new 'Employee' table to the database while also adding an 'Expenses' table to allow the admin to enter additional expenses like electricity bill which can be used to calculate total profits.

Data Validation

The client suggested that the data entered by the receptionist could be formatted so that invalid formats are not accepted to prevent erroneous entries. For example, all phone numbers should be exactly 10 digits.

Automatic Monthly Records and Excel Integration

While the option to generate monthly payment records is available, the client would like to have the database generate payment records on the last date of the month automatically which can be saved into an MS Excel file. This can be done by using the event scheduler in MySQL and using the Apache POI library in Java.

Appointments and E-Mail Notifications

The hospital has recently started taking appointments to reserve time slots. To integrate this into the application, a new field for time slot can also be added to the 'visit' table. Additionally, after importing some libraries, a function can be created to send email notifications to patients about their appointments.

Word Count: 339