

Criterion A: Planning

The Scenario

As the son of a working dentist, I often hear complaints from my mother about struggling to manage data pertaining to the large volume of patients that visit her dental office. Currently, she keeps her data using the dental program Dentrrix. However, this software does not have all of the functionality that needs, lacking the necessary templates for her to input all of the desired details on her patients, specifically information regarding their restorative procedures such as the teeth numbers to be serviced, composite material and adhesive to be used, the type of restoration to be performed, as well as information on any follow-up procedures. Without a convenient system to store all of this information digitally, my mother misses the opportunity to record this vital data and as such has a lot of trouble mentally keeping track of this information. This information is critical towards my mother and her dental office's treatment of patients. As a result, she has accepted my offer to develop a program that would have the templates needed for her to store this data and have it be easily accessible in a user-friendly manner. Evidence of this interaction can be found in the appendix. For developing this project to solve my client's issue, my advisor will be my computer science teacher.

Word Count: 215

Proposed Program

In order to solve this problem, I propose creating a GUI program for the purpose of managing the data on patients' restorative procedures. The programming language to be used will be Java due to it being the language taught by the school's computer science program. The best software for creating this GUI program is Eclipse and the WindowBuilder add-on due to it having a convenient and easy to use design tab for creating the GUI itself as well as the ability to develop code in the source tab in order to add functionality to the graphical elements. The GUI will primarily consist of buttons, tables, text fields, radio buttons, and combo boxes allowing for the efficient addition, deletion, modification, and display of patients and their specific data including their name, date of birth, restorative procedures to be done, the teeth that need to be serviced, and composite material and adhesive to be used. Additionally, the program will allow for the client to search for patients by name in order to quickly access their information. Finally, the program should save all data inputted into it through writing it to a file and then read the data from this file upon the reopening of the program. Overall, the program will be an extremely efficient and useful tool for my client to manage information on her clients.

Word Count: 224

Success Criteria

- The program should allow the client to add patients and have their data added to the program
- The program should be able to retain data between uses of the program by saving to an external file and reading it upon opening the program
- The program should allow the client to delete unwanted patients and have their data completely erased
- The program should allow the client to search for patients by name
- The program should allow the client to edit patient data such as name, date-of-birth, restorative procedure to be performed, material to be used, etc.
- The program should display patient data to the user in a table that updates to changes such as additions, deletions, and edits
- Patients should be assorted in alphabetical order based on their last names
- Error messages should appear if the users attempts to input invalid data into a text field or attempt to finish editing a patient's data without providing all of the necessary information on them