

Criterion A: Planning

The scenario

My client, Qari Abdul Rahman, runs a madrasa. A madrasa is a learning institute that teaches kids an Islamic religious book called the Quran. Many kids including my brother attend.

Presently, Mr. Abdul has no help running it and the student's information and other data are recorded by hand. These files are constantly at risk, and because of the ongoing pandemic records of covid-screening and student progress, which is given monthly, have become increasingly difficult to manage. Students have an agenda where the teacher records their daily progress and composes a progress report. Mr. Abdul is the only teacher in this madrasa and as it starts to gain popularity, he is in charge of being aware of the details of each individual. This has become a stressful process for him.

Furthermore, whenever records need to be accessed or updated, especially in emergencies, it is more stressful because all of it must be done manually.

Mr. Abdul is a family friend and because I was informed about this situation, I volunteered to write a GUI-based software for handling Mr. Abdul's records. My computer science teacher, Ms. Quan, is my advisor for this project.

To further analyze this issue, I emailed Mr. Abdul to learn about the specific functions of the program (Appendix I). I also consulted Ms. Quan about possible languages that were suitable and whether to make a desktop application or a web-based one (Appendix II).

Word Count: 236

The proposed product

The final goal of my program was to give Mr. Abdul a helping hand with student records, attendance and student progress. The program would help achieve this by maximizing efficiency and accessibility, especially in cases of emergency.

I decided to work with a programming language that I thought would best help me with achieving this goal. The language I chose was Java because I am both familiar with it and know a lot of syntax for it. It is also known to be platform-dependent and user-friendly. I chose to build a web-based application and not a desktop one because in cases of emergency when Mr. Abdul may not have the device with the application installed, the website would be instantly accessible on any other device whereas the application would not. I also avoided building a desktop application as compatibility could be an issue but this was not the case for a website as the internet allows it to be used on any device. To assist me in building the website itself, I used Vaadin which is a web application development platform for Java. It is also free and offers many component templates, which I could build off of. I refrained from using other platforms like AngularJS and ASP.NET because they involved the knowledge of other languages such as HTML and CSS.

Word Count: 222

Specific performance (success) criteria

1. For access to the website, the program will require the teacher to log in and enter their first and last name and password.
2. The program will allow the teacher to add the current day's attendances and completion of COVID screenings for all students.
3. The program will allow the teacher to view and edit their personal information.
4. The program will allow the teacher to edit and view student records, in categories of student information, parent/guardian information, emergency contacts and health information.
5. The program will allow the teacher to record daily student progress depending on the student's needs in their respective programs.
6. In case of data entry errors, the program automatically gives warning messages to the teacher via notification(s).
7. The program will generate a monthly progress report for each student.
8. The teacher will be able to add and delete students.

Word Count: 457