Planning

Defining the Problem

My client, **Mr Najjar** (Upper-Level Science Lab Manager of Beacon Academy), had spoken to me about the frequent clashes when teachers requested to use the facility (Appendix 1). Mr Najjar would regularly and manually draw a timetable on a whiteboard, filling in the necessary information for each booking (Appendix 2). This was incredibly tedious and increased the chances of mistakes and misunderstanding. Teachers also struggled to gain access to a clear timetable in order to plan for their lessons.

Mr Najjar needed assistance in organising the science lab timetable based on teacher requests, and I thought this would be a great fit for my internal assessment. After approval from my Computer Science teacher, I set up an interview with Mr Najjar to devise a plan for my proposed solution and analyse the problem further (Appendix 4).

Rationale for Proposed Solution

I first proposed to develop an interactive Java program, where the admin would be able to effectively create and delete reservation slots within a timetable scheduling system. The timetable scheduler would be visually designed in accordance with the school timetable (Appendix 3), preventing issues with teachers. Additionally, the program will hold all teacher contact information, where if any changes are made, they can be contacted appropriately.

Afterwards, this was agreed on with the client after consultation (Appendix 4). A Java program was deemed viable and most appropriate, as the client had a windows computer. Java is the chosen programming language because of its versatility and extensive libraries, and is the language I am most familiar with. All teacher and subject data will be stored on a local database, where SQL will be utilized, as it is a universally acceptable tool used to query, modify and access a database.

Although Google Calendar could be a practical solution to the issue at hand, teacher and subject information will be stored in a database and directly accessed in the timetable interface. This means that the client will not have to manually type the details for each reservation slot, making this more time-efficient.

Science Lab Timetable Scheduler is an interactive Java program that allows the client to manage a timetable reservation holding teacher and subject information. It is unique because:

1. Stores all teacher and subject data within the school.
2. The client can quickly select the desired subject, teacher and year level instead of manually typing or writing.
3. Focused on the task at hand, being the only Java program specifically tailored to the client's needs.

Therefore, it has been agreed with the client (Appendix 4) and will be considered successful if it fulfils the success criteria.

Success Criteria:

1. An interactive timetable interface, modelled after the school timetable
2. Creation of timetable reservation slots with notes
3. Deletion of timetable reservation slots
4. Save the current reservations as a local file, and open an existing file
5. Print the reservation timetable
6. Add and delete teacher information
7. Add and delete subject information
8. Login page for security

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