**The Scenario:**

My client, Ms. Celina Zaccack, helps organize tutoring appointments between her tutors and tutees (Appendix A). My client would like to have software that would help streamline this management process (Appendix A). Further, my client requests a system that tracks the abilities of tutors and the academic needs of tutees and would be able to suggest potential tutors for each tutee (Appendix A). In addition, the client would like the software to help streamline the process of setting up appointments by providing a meeting time, location, and sending details to each necessary recipient (Appendix A). Currently, my client is scheduling tutoring appointments and contacting users manually, this process could be easily streamlined to reduce my client’s workload and allow them to focus on tutoring rather than managerial work (Appendix A). My client is also manually tracking the number of hours completed by each tutor through a spreadsheet (Appendix A). This system can lead to inaccuracies and errors. My client mentioned the possibility of a system that automatically told her the number of hours completed by each tutor within a given timeframe (Appendix A). This solution could be implemented by automatically logging hours after a completed session. Later, tutors and program coordinators can go back and edit tutoring hours if necessary. My client raised concerns about a lack of usability and lack of information available for her tutees (Appendix A). My client would further like a search system with filters for date of availability, subject, and other factors to help tutees feel more informed (Appendix A). I am being guided by my IB Computer Science SL teacher, Mr. Willmore whose technical abilities and extensive experience will help guide me during the process.

Words: 281

**The Proposed Product:**

A tutor management system would be the best solution to my client’s problem as it would eliminate repetitive and automatable tasks done manually by my client. In addition, it would help streamline the appointment booking process and would spread awareness to tutees about available tutors. The product would be a GUI that provides the client, in this case, Ms. Celina Zaccack, the ability to manage her tutoring infrastructure from her computer. After opening the program, Ms. Zaccack would have the ability to add and remove tutors, specifying their skill sets, availability, previous classes taken, and any additional notes. Next, Ms. Zaccack would be able to search tutors based on their inputted characteristics in order to find appointments for prospective tutees. After scheduling an appointment, the necessary hours will be added to the tutor’s running total in order to be given the necessary credit. Additionally, both tutor and tutee contact information can be stored and made available to the necessary users after an appointment has been scheduled. There will be a regular user interface apart from the management interface that allows regular users to browse the database of tutors and potential dates for tutoring, but not change any information. All information will be stored on various files such as JSON or other formats and be loaded into the program appropriately. This project will be using the programming language Java for its object-oriented programming style and simple multi-platform support. Words: 237

**Success Criteria:**

| Criteria Number | Description |
| --- | --- |
| 1 | The program will allow the user to add a tutor to a predefined list of tutors |
| 2 | The program will allow the user to remove a tutor from a predefined list of tutors |
| 3 | The program will allow the user to specify the classes each tutor has taken from a predefined list |
| 4 | The program will allow the user to add, edit, and remove classes from the predefined list of classes |
| 5 | The program will allow the user to specify the skills each tutor is proficient in from a predefined list |
| 6 | The program will allow the user to add, edit, and remove skills to and from the predefined skill list |
| 7 | The program will allow the user to specify the times each tutor is available |
| 8 | The program will allow the user to add any additional notes for each tutor through a text box |
| 9 | The program will allow the user to search and filter lists of tutors by characteristics of availability, skills, prior classes, and proficiency |
| 10 | The program will allow the user to view the overall hours that a tutor has tutored for |
| 11 | The program will add to a tutor’s overall hours automatically after each appointment is completed |

| 12 | The program will allow the user to edit a tutor’s overall hour count as needed |
| --- | --- |
| 13 | The program will allow the user to specify contact information for each tutor |
| 14 | The program will allow the user to add, remove, and edit profiles for each tutee from a list of tutees |
| 15 | The program will allow the user to specify the classes that each tutee needs help in from a predefined list |
| 16 | The program will allow the user to add any additional notes for each tutee |
| 17 | The program will allow the user to specify the times each tutee is available |
| 18 | The program will allow the user to specify contact information for each tutee |
| 19 | The program will allow the user to schedule a tutoring session between a tutor and a tutee |
| 20 | Scheduled tutoring sessions will make contact information available |
| 21 | The program will present a GUI to the user prompting the user to log into the program using a username and password to gain access to authenticated actions |
| 22 | The client’s functions will not be available to unauthenticated users |
| 23 | Upon startup, the program will read previously stored data from an input data file |
| 24 | Tutor lists and information are saved to an external data file upon exit |
| 25 | Tutee lists and information are saved to an external data file upon exit |
| 26 | Tutoring hours and appointments are saved to an external data file upon exit |
| 27 | Unauthenticated users will be able to browse tutors by characteristics of availability, skills, prior classes, and proficiency |
| 28 | Unauthenticated users will be able to browse tutees by characteristics of availability and classes they need help in |
| 29 | Unauthenticated users will not be able to edit, add, or remove tutors |
| 30 | Unauthenticated users will not be able to edit, add, or remove tutees |
| 31 | Unauthenticated users will not be able to edit, add, or remove tutoring sessions |
| 32 | Unauthenticated users will not be able to view or edit tutoring hours |
| 33 | The program will exit cleanly when the user selects to exit |

**Appendix A:**

Date of Initial Client Meeting: October 30, 2023

Me: Thank you for meeting with me. I am very excited to be working with you. Tell me about the work that you have been doing for your tutoring program recently.

Ms. Celina Zaccack: Certainly. I’ve been helping manage creating appointments between different tutors and their tutees. It’s a lot to manage trying to figure out who is available when and which tutors can tutor which tutees. On top of that, I have to make sure I keep track of how many hours each tutor has tutored in order to give them credit. Even more, I have to find contact information once I’ve scheduled appointments and I have different contact information written in so many different places. It’s a mess.

Me: Do you think I could develop an application for you to address those problems?

Ms. Celina Zaccack: Yes! That would be perfect. I would love a system that tracked all the information about my tutors and tutees in the same location. It would also be super helpful if the number of hours each tutor tutored was automatically logged for me. Another problem I had was that some of my tutees weren’t sure about what services were available. Do you think you could help with that?

Me: Certainly. I could make a system that would allow you to input different needs, characteristics, and availabilities of tutors and tutees in order to help schedule tutoring sessions between them. On top of that, I could streamline the setup process by providing you with contact information once an appointment is made. Finally, much of this information could be made available to your tutees and tutors as needed to allow them to search for themselves to see what services you make available!

Ms. Celina Zaccack: That would be a great solution that would address so many of my issues! How would the system look like though?

Me: It would be a graphical user interface (GUI) with menus, buttons, text, inputs, and more. It would be super easy to use for both you and any potential tutors and tutees.

Ms. Celina Zaccack: That is so exciting. I would love to be able to manage and edit every piece of information. Although I love things being automated, I would still like to be able to make edits and take control where necessary in case things go wrong or need to be changed quickly.

Me: Of course, that can be made possible. I would make it so the software would streamline the process as much as possible for you, but doesn’t take total control. You would still be able to add, edit, and remove every aspect of the data to ensure it works exactly how you want it.

Ms. Celina Zaccack: That would be perfect! Finally, how would it look for people who aren’t me? I don’t want it to be too confusing or for them to have access to features they shouldn’t have

Me: I would ensure that you have a secure login that protects many of the management features and private information. All other users would only be able to view information that is public -- not edit.

Ms. Celina Zaccack: That is perfect! I am so excited about this solution. It is going to make my life so much easier

Me: I agree. Thank you for choosing to work with me.