**Background (client name and some details)**

Client: Glasgow Runners Club

Info: Glasgow Runners Club is a sporting club that holds finals for foot races. The races they hold are 400m, 800m, 1500m and 8 runners complete in each race. 2 finals are held by the club every year. To get to the finals, runners need to win races across several different clubs. Once the races have been run the club records the runners first name, last name and time taken to finish in seconds. The club is looking to expand this by recording and storing information such as slowest time, fastest time, ordered list of names – slowest to fastest and the ability to search for a time in each race and the number of times this was achieved.

The club currently uses a text-based system making recording additional results difficult and are looking to move over to a more modern system with administrators able to do the reporting.

**Initial user request (what the client wants)**

The client is looking for a software system to record the results of their races. This software is a trial program based on their last two recorded 400m final races. This should include first and last names of each competitor and the times taken to run their races (in seconds). They would also like to record and store the slowest time, fastest time, an ordered list of times from slowest to fastest and be able to search from a time in any given race and the number of times this was achieved. The software needs to be user friendly with a simple menu interface in which choices can be made based on what you need. Chosen results should be printed to a text file with a suitable message output to the user when using the software. They would also like the club’s name displayed in the program.

They would like the software to be robust, lightweight, and able to run on their already available hardware. The software must also include a password.

The client has supplied a piece of code produced by another developer and has asked that this be included in the software.

**List of user requirements (functional)**

The program must have a login page with a password for admins.

The program will need to take inputs from the user

The program must have a menu interface.

The program must display users choices once selected

The program must be able to read a text file

The program must be able to create a new text file

The program must be able to write to a text file

The program must read and display the information from a text file

The program must sort the information from a text file and print recorded times

The program must find and print the fastest time based on information from a text file

The program must find and print the slowest time based on information from a text file

The program must take user inputs and using that, search for a time in a given race and the number of times this was achieved and print the results.

The program must take user inputs and use that to count occurrences based on information from a text file

The program must be able to logout the user and exit the program

As client has paid for previous work to be done, they have supplied some worked on code to be integrated into our trial software.

**List of non-functional requirements**

Client would like to have club name displayed in the program

Client would like the software to be lightweight and robust

Client would like the software to be easy to use

**Constraints**

Time Scale: The development timescale starts on May 18th and needs to be completed by June 20th.

Budget: The budget for the entirety of the project is £10,000.

Hardware/Software: The software needs to be able to run on hardware already available by the club without having to upgrade.

**Recommendation**

I would recommend upgrading the hardware and software of the computers at Glasgow Runners Club. I would recommend a modern build made in the past 2-3 years included with the Windows 10 or 11 operating system. In this way you can assure your computer systems are going to receive continued support and updates while also keeping them secure.