**Criterion A: Planning**

**Defining the problem**

My client Mr. Meng owns a delicatessen in Zhejiang, China. He sells ready-to-eat products such as cooked pork and sausages. His work consists of buying fresh raw materials, selling food, hiring workers, calculating bills, etc. He does important work all by himself as he thinks others are not as reliable as himself.

Now, he notes down all the data (number of materials he stocks, profits of the sales, bills for each customer, expenses he should pay) on paper manually, so he needs to write down at least two to three pages every day. Also, he usually calculates the numbers twice with his calculator to ensure there’s no mistake. He needs to spend a lot of energy and time. However, there are 365 days a year, he takes about one thousand pages every year. It is really tedious for him to repeat the same work every day while he cannot make sure that there is no error in his calculation. He even cannot find the specific data of a day when he needs it.

Thus, Mr. Meng asked me to write a program that can make data tidier and have a more accurate result. He also asked me to show some charts of his daily profits and the turnover. His central requirement is to set a login system in order to protect the system. Nobody else can get access to it without password.

I think it is a good material for my Internal Assessment as he requires me to make a program. I would like to write software to help him. My computer science teacher Mr. Raut agreed to be my adviser on this product.

**Rationale for the proposed solution**

I think that combining MySQL database, Java and JavaScript in my program would be the best solution for Mr. Meng. JavaScript is used for front end web design, and Java is used as back end developer. I will also use database to store bills, profits, expenses of the deli.

For showing the interface, I would like to use JavaScript because when using the project, it would be in html format. Html format do not require the clients to install java compiler on their computers. As Mr. Meng needs to calculate and see the charts, JavaScript could also let him see them more clearly. Because in JavaScript, I can have more choices to make the interface look better, and the charts could be more vivid for my client to see his sales.

I decide to use MySQL database, Java and JavaScript for the following reasons because:

* I have learnt them for a long time.
* They can be run on different platforms.
* They are free for me to use.
* The complexity of the program can be done by them.
* End user can input the things they need.
* JavaScript can run on mobile phones, so my client can use the program more convenient.
* I can make a variety of charts by using JavaScript.
* Java is reliable and stable for coding.
* MySQL is really secure for storing data.
* I can import some libraries to make the program.

**Stating success criteria**

1. Program will let users to input data and do calculation (stock numbers, revenue, expenses).
2. Program will allow clients save time to calculate data.
3. Program will let clients see data in each column more clearly.
4. The design of the interface provides clients with more beautiful interface.
5. Program will provide charts to let clients see the data of profits more obviously.
6. Program will allow users to employ less people as it is really efficient.
7. Program can let users to make decisions of whether they should produce the goods or not from the charts.
8. Program can back up data and avoid losing important data.
9. Program can make data more secure (the system is safe for users).
10. Program will provide friendly interface for users.

**Words = 518**

**Appendix:** *Appendix\_First\_Interview.pdf*