A facility to help A Level Biology students revise key definitions

Criterion A

<u>Identifying the Problem</u>

Adviser: Mrs xx – Computing teacher

The client, xx, is currently studying for her AS and A level exams in biology, among other subjects. For this subject, she has to learn the definitions of a number of complex biological terms. This is a particularly important part of the course, as this terminology is necessary for answering biology questions throughout the syllabus. For the student, testing the required knowledge on these can be particularly confusing due to the sheer amount.

Currently she uses the slow process of taking notes from the textbook about each definition, and usually has to find someone else with knowledge of the subject (or relying on the textbook itself) to be able to test her knowledge on this part of the course

This is insufficient, as it means that xx often cannot test her knowledge properly if no one is there to help her. This becomes a much greater problem if she is left to revise on her own when she is under time pressure – the night before an internal exam, for example. It follows then, that something is required to allow her to revise these elements of the course on her own.

xx has consulted with myself and asked whether I would be able to design a computer program for her in order to help her revise independently this program could be used both as a database of information as well as to be used to test her knowledge through a 'quiz' function. She specified that it contained comprehensive, concise information but also be user friendly and simple.

257 words

<u>Rationale</u>

I decided to create this Revision Aid as a dedicated program using a programming language, as opposed to a database such as MS Access, because the program will require a great deal of interactivity. Although a database would be a better store of information, a program created through use of programming language allows for a more flexible and useful 'quiz' function – which is the main function of the program. The store of information within the program is its secondary function, and it's the program's ability to question the user and score them or correct them on their answer which is its main use.

I chose to use java for the reason that I am familiar with its usage and the abstraction based approach which it facilitates for solving problems. It also allows an interactive, user-based approach within the final product – much more so than a database would – but also allows the information itself to be accessed separately. Java is also much more accessible for the user, being transferable across many platforms and free (compared to the expense of MS Access).

180 words

Criteria for Success

- To be able to test the user on key definitions for biology A-level with individual questions.
- To be able to provide a score at the end of each quiz for the user.
- To be able to correct incorrect answers.
- To be able to vary the length of each quiz.
- To be able to provide corrections to wrong answers.
- To be able to hold revision information for a pre-decided area of the A level Biology course.
- To be able to print this information.