**Criteria A: Planning**

**Client:** Mrs. X

**Defining the Problem**

**Client** Mrs. X is the Head of English Department at the International School; She wants to find a method to help her students of primary, middle and high school level to learn their vocabulary in a more efficient way as the English teachers in the department are complaining that the students are weak in vocabulary and don’t spend much time on improving their vocabulary skills.   
  
Since English is not the student’s native language they are facing this issue, so she approached to my Computer Science teacher and discussed this problem with her. She described what she wanted to have a IT Solution with a friendly interface, because it would make them learn their vocabulary in a more efficient and joyful way - *Referring to Appendix for interview.*  
After she talked about her problem, my Computer Science teacher discussed this idea with me and I thought it was a good material for my Internal Assessment for Computer Science. I then contacted my **Advisor** Mr. X and he suggested that we make a “**Hangman**” game to solve her problem and this idea was approved by my Computer Science teacher. In order to analyze this issue further I decided to meet with Mrs. X and shared this idea with her, so I conducted an interview to further understand the details for the solution.

(**Appendix**  - Consultation with Mrs. X)

**Rationale of the Solution**

I think effective java program helps me to solve Mrs X’s problem. It’s possible to create

Different levels (Easy, Medium, Hard) for students depending on their educational level (Primary, Middle, High school). Teachers will be able to prepare students in advance for their vocabulary tests, in an enjoyable way and able to test their skills accordingly.

The Teachers from different levels have prepared a list of vocabulary words for students in advance for me to use.   
  
I decided to code in Java by using “Eclipse Neon 3”. Java script is Easy language to use, runs on lots of devices and Easily ported to Windows Universal App (the windows app store for desktop and their mobile devices).

According with these requirements, I decided to make my program in Java because of:

* I’m learning it at school
* Has a Platform independence & programs written in one platform can run across mobiles, desktops, embedded systems etc.
* It is free, object-oriented and functions with a high cross-functionality
* It is quite distributed where it can offer multimedia and also supports multithreading.
* With the help of “Eclipse Neon 3” IDE, process of writing program more easily with its GUI (Graphical User Interface) making it user friendly for both teachers and students. It also has it’s features like being fully and easily customizable, Junit integration and built in applications

**Success Criteria**

* Different difficulty levels will be implemented with 5 stages to complete per level.
* Program should provide a friendly interface for teachers and students.
* Audio on each button clicked should be implemented.
* Rules of the game will be correctly implemented in the game.
* Game interface shows a basic and clear representation of the game’s layout.
* Hints for each word in every difficulty should be implemented.
* Hangman stick figure to be executed so that it would be easier for students to know whether they are on the right track followed up with a pop-up to show whether they win or lose.
* Can be used on multiple operating systems.

**Words: 442**