# SDD HSC Assessment 1 - Major Project Part 1
# Defining & Understanding the Problem

**Due Date:** Term 4 Week 9 Thursday 3pm
**Weighting:** 10%

The first stage of designing and developing a software system is defining and understanding the problem. In this assessment, you will define your project and plan how you will solve the problem it will address. You will start the design process by understanding the project through systems modelling tools. It is vital to ensure that throughout the course of the project and this assessment that the views of the user are taken into full consideration. Please ensure that you consult the Course Specifications Document for all submissions.

## Syllabus Outcomes:

H1.1 explains the interrelationship between hardware and software
H1.2 differentiates between various methods used to construct software solutions
H1.3 describes how the major components of a computer system store and manipulate data
H3.1 identifies and evaluates legal, social and ethical issues in a number of contexts
H3.2 constructs software solutions that address legal, social and ethical issues
H4.1 identifies needs to which software solutions are appropriate
H4.2 applies appropriate development methods to solve software problems
H4.3 applies a modular approach to implement well structured software solutions and evaluates their effectiveness
H5.1 applies project management techniques to maximise the productivity of the software development
H5.2 creates and justifies the need for the various types of documentation required for a software solution
H5.3 selects and applies appropriate software to facilitate the design and development of software solutions
H6.1 assesses the skills required in the software development cycle
H6.2 communicates the processes involved in a software solution to an inexperienced user
H6.3 uses and describes a collaborative approach during the software development cycle
H6.4 develops and evaluates effective user interfaces, in consultation with appropriate people

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| Defining and understanding the problem<br>• identification of the problem<br>• generation of ideas<br>• communication with others involved in the proposed system<br>• draft interface design<br>• representing the system using diagrams<br>• selection of appropriate data structures<br>• applying project management techniques<br>• consideration of all social and ethical issues | • define the problem and investigate alternative approaches to a software solution<br>• evaluate the ideas for practical implementation<br>• select an appropriate solution<br>• produce an initial Gantt chart<br>• use a logbook to document the progress of their project<br>• document the software solution |
| Whole project issues<br>• project management techniques<br>• social and ethical issues<br>• feedback from users at regular intervals | • manage the project effectively<br>• communicate effectively with potential users |

# Marking Scheme

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| Identifying the Problem | The needs of the client, including functionality requirements and compatibility & performance issues, as well as the boundaries of the solution. This should clearly describe your project and be presented as a project pitch | /3 |
| Development Approach | The approach you will take to develop the system | /2 |
| Quality Assurance | The protocols you will meet to ensure the quality of your project | /2 |
| Social & Ethical Issues | All social and ethical issues you have identified at this point | /2 |
| User Feedback | All user communication so far | /2 |
| Gantt Chart | Initial Gantt chart indicating the finish times of each stage of the SDC | /2 |
| Log Book | At least two entries each week | /3 |
| Reflection | Self evaluation of the project so far | /3 |
| Project Website | Website(s) for your project | /1 |
| | **Subtotal** | **/20** |
| IPO Diagrams | IPO diagrams for the top level functions of the system from the user's perspective | /3 |
| Context Diagram | Level 0 DFD | /1 |
| Data Flow Diagrams | Level 1 DFD only, consistent with the rest of the documentation | /2 |
| Storyboards | Storyboards highlighting the initial interface designs in consultation with the user | /3 |
| Structure Charts | Structure charts for the top level of the system, consistent with the rest of the documentation | /3 |
| System Flowcharts | System flowchart highlighting the general procedure of the system | /3 |
| Data Dictionary | Data dictionary containing the most important pieces of information the system will process | /2 |
| Test Data & Expected Output | General test data that the system will be able to handle at the end of the project, including the expected output (may not be exact) | /3 |
| | **Systems Documentation** | **/20** |
| | **Total Marks** | **/40** |