Woodward Street
PO Box 654, Orange NSW 2800
P (02) 6362 3444
F (02) 6361 3616
www.orange-h.schools.nsw.edu.au

Orange High School

Honour the Past, Create the Future

Higher School Certificate Assessment Task Cover Sheet

Student Name:

Subject: Software Design and Development **Year:** 12 **Teacher:** Green

Assessment Task Number (As per Assessment Policy booklet): 3

Assessment Task Title: MAJOR PROJECT - Task Attached to Sheet.

Assessment Weighting: 25%

Date Distributed: Monday 26th October 2020 (Week 2, Term 4, 2020)

Date Due: Friday 23rd July 2021 (Week 2, Term 3, 2021)

All Higher School Certificate Assessment Tasks, other than in-class tasks, must be handed in at the library between 8.30am and 8.55am (before the first morning bell) on the due date. Zero marks if the Assessment Task is submitted late, unless an Illness/ Misadventure or application for extension form has been submitted.

Comments by Teacher:
Complete the research and task to specifications. Must be submitted on A4 paper, typed or written. Neat with cover sheet.

Assessment Criteria/Marking Rubric: Attached to Assessment Sheet.

Attach copy given to you when task was distributed.

Higher School Certificate Assessment Submission Receipt

Student's Name: **Student's Signature**

Assessment Task Title: *Major Project*

Subject Name: *Software Design and Development*

Class Teacher: *E Green*

Received in the Library by:

Date:

This form is located: www.orange-h.schools.nsw.edu.au and then to the assessment tab.

SDD HSC Major Project Assessment

It is a requirement of the Software Design and Development course that students use the Software Development Cycle to define, plan, design, implement, test, evaluate and maintain a software program using an ***object-orientated programming language*** as a major project.

Possible project suggestions –
Pick one;

- Create an *App* for a mobile device i.e. tablet or phone
- Utility Software
- Game Software i.e. battleship, 21, hangman, quiz etc.
- Educational Software i.e. text based translator, word cloud, definitions etc.
- Business software i.e. DVD rental system, voting system, customer information system

You must discuss with Miss Green your choice and get the 'ok' before starting your project

You may work on the construction of the project in groups, HOWEVER, individual projects and documentation must be individually handed in

Your final software package should then be submitted on a USB which will automatically run when inserted into a computer. All other documentation will need to be submitted on the due date in the library on **PAPER** via the traditional method.

You will be assessed on your ability to:

- Plan a project, using a project report to document the design, development, implementation, testing, evaluation and maintenance of the project.
- Design, develop and implement a software solution that is sufficiently complex to meet the NSW BOS requirements as discussed with Miss Green.

Requirements:

Phase 1 – *SOFTWARE DESIGN*

This is the preparation, planning and design phase of the project. You need to produce documentation that shows that you have completed the relevant requirements of this phase. Your Project Report should include the following:

1. Defining the Problem / Understanding the problem

a. Needs for the project
b. Objectives, i.e. what you hope to achieve
c. Boundaries of the system
d. Feasibility Study (including justification of programming language chosen).

2. Understanding the Problem / Designing the solution

a. Modelling the system, evidence of:
    i. System Algorithm (Pseudocode/Flowchart) with the high level logic/algorithm of the proposed system.
    ii. Structure Diagram to show the hierarchy of processes within the system
    iii. Input Process Output (IPO) diagram to describe the data entering and exiting a process and what happens to that data within the process.
    iv. Screen designs for user interface
    v. Concept prototypes used to evaluate the concept of the solution
    vi. Storyboards to describe the screens used in and how they interact with each other.
    vii. Data Dictionary with any important data and constants for the system

3. Planning and Design of a Solution

a. Gantt chart
b. Log book / Journal (may be included as an appendix to the project Report)
    i. Date and time
    ii. Tasks achieved
    iii. Difficulties encountered and solutions
    iv. Ideas and thoughts
    v. Reflection on progress
    vi. Upcoming tasks
    vii. Reference to resources used

Phase 2 –SOFTWARE DEVELOPMENT –

4. Implementing the Software Solution

a. Interface design
    i. Identification of data required
    ii. Design of help screens
    iii. Audience identification
    iv. Consistency in approach
b. Language syntax
c. Role of the CPU
d. Translation methods
e. Program development techniques
    i. The approach applied
    ii. Detection / Correction of errors
    iii. Debugging
f. Documentation
    i. User documentation
    ii. Technical, including source code
    iii. Hardware requirements

5. Testing and Evaluation

i. Comparison with original specification and objectives
ii. Test data
iii. Levels of testing
iv. Test results

6. Maintenance of software solution

v. Modification of code to meet changed requirements
vi. Documentation of changes

Assessment 3

HSC SDD Major Project Marking Criteria

Stage 1 – Defining the Problem / Understanding the Problem	***Limited*** **1**	***Satisfactory*** **2**	***Good*** **3**	***High*** **4**	***Outstanding*** **5**
Defining / Understanding the Problem (*Needs of the Project, Objectives, Boundaries of the System)*					
Feasibility Study (*and justification of programming language chosen)*					
				TOTAL	**/10**

Stage 2 – Planning and Designing the Solution	***Limited*** **1**	***Satisfactory*** **2**	***Good*** **3**	***High*** **4**	***Outstanding*** **5**
System Algorithm – Pseudocode/Flowchart (*with the high level logic/algorithm of the proposed system)*					
Structure Diagram (*showing the hierarchy of processes within the system*)					
Input, Process, Output (IPO) diagram (*Describing the data entering and exiting a process and what happens to that data within the process*)					
Storyboards (*describing the screens used in and how they interact with each other*)					
Data Dictionary *(any important data and constants for the system*)					
				TOTAL	**/25**

Stage 3 – Implementing the Software Solution	***Limited*** **1**	***Satisfactory*** **2**	***Good*** **3**	***High*** **4**	***Outstanding*** **5**
Interface Design (*Identification of data required, Design of help screens, Audience identification, Consistency in approach)*					
Language Syntax / Source Code					
Translation Methods					
Program Development Techniques (*The approach applied, detection/correction of errors, Debugging)*					

Stage 3 – Implementing the Software Solution	***Limited*** **1**	***Satisfactory*** **2**	***Good*** **3**	***High*** **4**	***Outstanding*** **5**
User Documentation					
Technical Documentation					
Hardware Requirements / Role of the CPU					
				TOTAL	**/35**

Stage 4 – Testing and Evaluation	***Limited*** **1**	***Satisfactory*** **2**	***Good*** **3**	***High*** **4**	***Outstanding*** **5**
Comparison with original specification and objectives					
Test Data					
Levels of Testing					
Test Results					
				TOTAL	**/20**

Stage 5 – Maintenance of Software Solution	***Limited*** **1**	***Satisfactory*** **2**	***Good*** **3**	***High*** **4**	***Outstanding*** **5**
Modification of code to meet changed requirements					
Documentation of changes					
				TOTAL	**/10**

Stage 1 = /10
Stage 2 = /25
Stage 3 = /35
Stage 4 = /20
Stage 5 = /10
TOTAL /100