HSC Software Design and Development 2017
Assessment Task 4

YEAR	HSC		
UNIT TITLE	Defining, Understanding, Planning and Designing		
DATE GIVEN:	Term 1 Week 2	**DATE DUE:**	Term 2 Week 9 Thursday Period 2
WEIGHTING	35%	**TOTAL MARK**	/ 60
TYPE OF TASK	Completed Project		
OUTCOMES TO BE ASSESSED:	H 3.2 constructs software solutions that address legal, social and ethical issues H 4.2 applies appropriate development methods to solve software solutions H 5.1 applies project management techniques to maximise the productivity of the software development H 5.2 creates and justifies the need for the various types of documentation required for a software solution H 5. 3 selects and applies appropriate software to facilitate the design and development of software solutions H 6.4 develops effective user interfaces in consultation with appropriate people		
DESCRIPTION OF THE TASK	Major Project Part B. Creation of a software application and relevant documentation		
SPECIAL REQUIREMENTS FOR THE TASK	N/A		
METHOD OF SUBMISSION	As discussed with teacher		

Please refer to the Assessment Handbook for all policies regarding submission of Assessment Tasks

Assessment Criteria

You are going to continue working on your software solution. You may do this either individually or in small groups of no more than 4. In determining which option you choose, make sure you carefully refer to all parts of the task description and the marking criteria. You do not necessarily need to select the same option as Assessment Task 2.

Some time will be allocated during class to work on the project. Presentation is NOT part of the marking criteria, however, the work should be word processed or neatly hand written.

Choose EITHER Option 1 OR Option 2

Option 1 - Major Project Part B Completed Individually
Section 1
1. Continue your logbook showing the development of your project throughout all stages. You may choose to complete all documentation for this task within the logbook or you may choose to keep the work separate.
2. Program development techniques - Describe the major program development techniques: flags, stubs and debugging output statements.
3. Software debugging tools - Outline the software debugging tools : use of breakpoints, resetting variable contents, program traces and single line stepping.

Section 2
1. Develop your software application making sure you use good design principles. Your program must have the following minimum standards:
   - At least 4 interfaces - one of which must be the splash screen designed in Assessment Task 2
   - An online help or tutorial as part of the program (NOT on the internet)
   - A menu (either a series of buttons or a drop down menu)
   - A variety of navigational elements
   - Either option (radio) buttons or checkboxes

Section 3
1. Create the necessary program documentation for you software application. This should include the following:
   - User manual containing : description of the software application and who it is for, how to use the application including screen captures from your software application, FAQs
2. Design a software evaluation form containing a variety of question types. The questions should be worded with a minimum of technical jargon. eg Instead of asking "Does the screen follow good screen design principles?" you would ask a series of questions like "The colours go well together Y/N, How well do the graphics suit the content 1 - very well to 5 - not at all". You should include:
   - Ease of use of the program
   - Interface design
   - Content
   - Suggestions for improvements
3. Using this form, have your software application evaluated by at least 2 people.
4. Based on the evaluations discuss any modifications or changes you would make to your software application if you were going to market it. Also include a discussion of the improvements, enhancements or additional features you would include if you had more time or greater programming skills.

Use the attached marking criteria for additional information and to maximise your marks.

Option 2 - Major Project Part B Completed Collaboratively (Groups of 2, 3 or 4)

Section 1

1. Continue your logbook showing the development of your project throughout all stages. You may choose to complete all documentation for this task within the logbook or you may choose to keep the work separate. All members of the group must have access to the logbook. Students must make individual entries each time they complete work for this task.
2. Program development techniques - Describe the major program development techniques: flags, stubs and debugging output statements.
3. Software debugging tools - Outline the software debugging tools : use of breakpoints, resetting variable contents, program traces and single line stepping.
4. Describe how you could (or did) use one of the development techniques and one of the debugging tools in the development of your software application.

Section 2

1. Develop your software application making sure you use good design principles. Your program must have the following minimum standards:
   - At least 4 interfaces - one of which must be the splash screen designed in Assessment Task 2
   - An online help or tutorial as part of the program (NOT on the internet)
   - A menu (either a series of buttons or a drop down menu)
   - A variety of navigational elements
   - Either option (radio) buttons or checkboxes
   - Data read from or written to a file or database

Section 3

1. Create the necessary program documentation for you software application. This should include the following:
   - User manual containing : description of the software application and who it is for, how to use the application including screen captures from your software application, FAQs
   - An iTunes / App Store / Google Play listing for you software solution
2. Design a software evaluation form containing a variety of question types. The questions should be worded with a minimum of technical jargon. eg Instead of asking "Does the screen follow good screen design principles?" you would ask a series of questions like "The colours go well together Y/N, How well do the graphics suit the content 1 - very well to 5 - not at all". You should include:
   - Ease of use of the program
   - Interface design
   - Content
   - Suggestions for improvements
   - Suitability of the online help / tutorial
5. Using this form, have your software application evaluated by at least 4 people who are not members of your group.
6. Based on the evaluations discuss any modifications or changes you would make to your software application if you were going to market it. Also include a discussion of the improvements, enhancements or additional features you would include if you had more time or greater programming skills.

Use the attached marking criteria for additional information and to maximise your marks.

Option 1 Individual	
Section 1	
Demonstrates an extensive understanding of software design and development • logbook contains all requirements and work has been recorded on a regular basis throughout Part B • excellent description of all three program development techniques • clearly sketches out the main features of all four debugging tools	13 - 15
Demonstrates a thorough understanding of software design and development • logbook contains most requirements and work has been recorded on a regular basis throughout Part B • clear description of all three program development techniques • sketches out the main features of all four debugging tools	9- 12
Demonstrates a sound understanding of software design and development • logbook contains work that has been recorded on a regular basis • clear description of at least two program development techniques • sketches out the main features of at least two debugging tools	6 - 8
Demonstrates a basic understanding of software design and development • logbook contains work that has been recorded on a regular basis • includes a description of some program development techniques • lists some features of debugging tools	3 - 5
Demonstrates an elementary understanding of software design and development • attempts a logbook • shows some understanding of a program development technique or debugging tools	1 - 2

Section 2	
Software Application demonstrates an extensive understanding of Software Design and Development • contains all minimum standards • demonstrates extensive understanding of good design principles • shows extensive understanding of screen elements, layout and prompts • screens are consistent in design and use • works without crashing • excellent understanding of navigation • is user friendly	24 - 30
Software Application demonstrates a thorough understanding of Software Design and Development • contains all minimum standards • demonstrates clear understanding of good design principles • shows clear understanding of screen elements, layout and prompts • screens are mostly consistent in design and use • works without crashing • very good understanding of navigation • is user friendly	16 - 23
Software Application demonstrates a sound understanding of Software Design and Development • contains most minimum standards • demonstrates some understanding of good design principles • shows an understanding of screen elements, layout and prompts • demonstrates some understanding of navigation	10 - 15
Software Application demonstrates a basic understanding of Software Design and Development • contains some minimum standards • shows an understanding of screen elements, layout and prompts	5 - 9
Software Application demonstrates an elementary understanding of Software Design and Development • shows limited understanding of screen elements, layout and prompts	1 - 4

Section 3	

User Manual
    • shows extensive understanding of design
    • contains all specified elements
Listing
    • shows extensive understanding of design
    • is suited to the purpose
Software Evaluation form
    • shows extensive understanding of design
    • contains a variety of question types worded appropriately
    • comprehensively covers all areas
    • is completed by at least 2 people
Evaluation Discussion
    • extensively discusses modifications or changes based on the evaluations
    • extensively discusses improvements, enhancements or features based on more time or greater programming skills
	13 -15

User Manual
    • shows thorough understanding of design
    • contains all specified elements
Listing
    • shows thorough understanding of design
    • is suited to the purpose
Software Evaluation form
    • shows thorough understanding of design
    • contains a variety of question types mostly worded appropriately
    • covers all areas
    • is completed by at least 2 people
Evaluation Discussion
    • discusses modifications or changes based on the evaluations
    • discusses improvements, enhancements or features based on more time or greater programming skills
	9 - 12

User Manual
    • shows sound understanding of design
    • contains all specified elements
Listing
    • shows sound understanding of design
    • is mostly suited to the purpose
Software Evaluation form
    • shows sound understanding of design
    • contains at least 2 question types mostly worded appropriately
    • covers most areas
    • is completed by at least 2 people
Evaluation Discussion
    • outlines modifications or changes based on the evaluations
    • outlines improvements, enhancements or features based on more time or greater programming skills
	6 - 8

User Manual
    • contains most specified elements
Listing
    • demonstrates some understanding of the purpose
Software Evaluation form
    • contains at 2 question types
    • covers some areas
    • is completed by 2 people
	3 - 5

User Manual
    • attempts a User Manual OR
Listing
    • attempts a listing OR
Software Evaluation form
    • attempts an evaluation form
	1 - 2

Option 2 Collaborative	
Section 1	
Demonstrates an extensive understanding of software design and development • logbook contains all requirements and work has been recorded on a regular basis by all group members throughout Part B • excellent description of all three program development techniques • clearly sketches out the main features of all four debugging tools • excellent description of a development technique and a debugging tool used	13 - 15
Demonstrates a thorough understanding of software design and development • logbook contains most requirements and work has been recorded on a regular basis throughout Part B • clear description of all three program development techniques • sketches out the main features of all four debugging tools • clear description of a development technique and a debugging tool used	9- 12
Demonstrates a sound understanding of software design and development • logbook contains work that has been recorded on a regular basis • clear description of at least two program development techniques • sketches out the main features of at least two debugging tools • description of a development technique OR a debugging tool used	6 - 8
Demonstrates a basic understanding of software design and development • logbook contains work that has been recorded on a regular basis • includes a description of some program development techniques • lists some features of debugging tools	3 - 5
Demonstrates an elementary understanding of software design and development • attempts a logbook • shows some understanding of a program development technique or debugging tools	1 - 2

Section 2	
Software Application demonstrates an extensive understanding of Software Design and Development • contains all minimum standards • demonstrates extensive understanding of good design principles • shows extensive understanding of screen elements, layout and prompts • screens are consistent in design and use • works without crashing • excellent understanding of navigation • is user friendly	24 - 30
Software Application demonstrates a thorough understanding of Software Design and Development • contains all minimum standards • demonstrates clear understanding of good design principles • shows clear understanding of screen elements, layout and prompts • screens are mostly consistent in design and use • works without crashing • very good understanding of navigation • is user friendly	16 - 23
Software Application demonstrates a sound understanding of Software Design and Development • contains most minimum standards • demonstrates some understanding of good design principles • shows an understanding of screen elements, layout and prompts • demonstrates some understanding of navigation	10 - 15
Software Application demonstrates a basic understanding of Software Design and Development • contains some minimum standards • shows an understanding of screen elements, layout and prompts	5 - 9
Software Application demonstrates an elementary understanding of Software Design and Development • shows limited understanding of screen elements, layout and prompts	1 - 4

Section 3	

User Manual
   •   shows extensive understanding of design
   •   contains all specified elements
Software Evaluation form
   •   shows extensive understanding of design
   •   contains a variety of question types worded appropriately
   •   comprehensively covers all areas
   •   is completed by at least 2 people
Evaluation Discussion
   •   extensively discusses modifications or changes based on the evaluations
   •   extensively discusses improvements, enhancements or features based on more time or greater programming skills
	13 -15

User Manual
   •   shows thorough understanding of design
   •   contains all specified elements
Software Evaluation form
   •   shows thorough understanding of design
   •   contains a variety of question types mostly worded appropriately
   •   covers all areas
   •   is completed by at least 2 people
Evaluation Discussion
   •   discusses modifications or changes based on the evaluations
   •   discusses improvements, enhancements or features based on more time or greater programming skills
	9 - 12

User Manual
   •   shows sound understanding of design
   •   contains all specified elements
Software Evaluation form
   •   shows sound understanding of design
   •   contains at least 2 question types mostly worded appropriately
   •   covers most areas
   •   is completed by at least 2 people
Evaluation Discussion
   •   outlines modifications or changes based on the evaluations
   •   outlines improvements, enhancements or features based on more time or greater programming skills
	6 - 8

User Manual
   •   contains most specified elements
Software Evaluation form
   •   contains at 2 question types
   •   covers some areas
   •   is completed by 2 people
	3 - 5

User Manual
   •   attempts a User Manual OR
Software Evaluation form
   •   attempts an evaluation form
	1 - 2

Comments :

Mark :	/ 60