**ICS3U0 – Summative Assignment**

**worth 15% of final mark**

This final project will give you an opportunity to demonstrate an understanding of the programming concepts learned throughout the course.

Assessment of this programming project takes into considerations both the process and the product. The program must be done individually, a group of two MAY be considered in some situations. Your choice of program must be approved.

The following are examples of some programming problems:

* Game ie Wheel of Fortune, Hangman, Mine Sweeper, 3D Tic Tac Toe, Bingo, etc.
* Maintain Database in a file of your favourite sport, celebrity or some other approved area of interest. Your program should let you enter a name (or part of a name) and allow the user list all the players’ names, list all the information on one player, given the last name, list all the information on one player, given a player’s unique code, add the data of a new player, delete the data of a retired player, edit the information of a player.

**Program Must Demonstrate**

* Use the console or applet
* be graphics based
* be user friendly and have help screens to display rules and objectives
* Use a variety of programming control structures including sequential, decision and repetition.
* Effective and efficient use of different variables (Boolean, int, double, string, char, arrays)
* Allow for user input
* Use modular programming (using methods)
* Proper Documentation throughout the code (i.e. good use of white space, pre-conditions and post-conditions, commenting structures – if statements, loops, etc)

**Due Dates**

1. Problem Definition and Proposal **\_\_\_\_May 18\_\_\_\_\_**

2. Problem Analysis and Design **\_\_\_May 25\_\_\_\_\_**

**Code will be completed with all functionality by June 13 at the start of class so testing can begin**

3. Testing and Implementation **\_\_Begin date: June 13, end date June 15\_\_\_\_\_\_\_\_\_\_\_\_**

4. Final Due Date **\_\_June 17\_\_\_\_\_\_\_\_\_**

1. **Problem Definition and Proposal**

You must complete the problem solving phase before going onto the computer. As a proposal, it must describe what your program will do, be typed and follow the format below:

* + Program Name
  + Provide a reason why you chose to create this project
  + Describe the program
  + Include a checklist of everything that the program will do
  + A timeline of when sections of code will be completed

**If your program will use APPLETS, you will now take a few class periods to review the applets provided as samples on the out drive.**

1. **Problem Analysis and Design**

Once the initial proposal has been approved, you will then do a thorough analysis of your program, by hand, **not on the computer**.

* + Screen Images
    - Outline what each screen will look like
    - What will each screen do? (IE get user input for menu, game play screen etc)
  + Structure and Components of Program
    - Design and list major structure and components of program by using diagrams, flow charts, pseudocode, etc
    - This section of the report must include how the applet will be designed, the types of methods needed and what each method will do.

**Testing and Implementation**

Once your program is completed to your best ability, you will then ask 2 peers in the class to play your game and evaluate your program. Ask the two peers for written feedback on the following two items and include this in your package that you hand in.

* Two things they really appreciate about the game.
* Two concerns/suggestions they have to help improve the game.
* What changes have you made to your code based on feedback?
* What tests did you do to make sure it works in all cases?

**Final Submission:**

On the final due date, the following must be submitted.

* Proposal
* Updated timeline of when components of program were completed
* Program Analysis
* All program files required to run the program
* A list of tests you performed and details about the changes you made as you went along.
* The feedback from two peers

**Warning:** ALL code must be written by the people submitting the project. Any “BORROWED” code found on the internet, or from classmates will be considered plagiarism and given a grade of 0 unless cited and used appropriately, additional consequences may also be considered. Any code not written by you must be cited. If unsure consult the teacher.

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| Name: | | Level | | | | |
| 4 | 3 | 2 | 1 | R |
| **Problem Definition and Proposal** | Program is well explained with some details provided to clearly indicate the scope of the program. The program is of the students own design. The timeline is appropriate. |  |  |  |  |  |
| **Problem Analysis and Design** Screen Images | Screen images are well laid out, colourful, and demonstrate a good use of planning skills. The screen images clearly indicate what each screen will contribute to the program. Input and output is indicated clearly. |  |  |  |  |  |
| **Problem Analysis and Design** Structure and Components of Program | Structure and components of program are clearly explained demonstrating knowledge and understanding of course content and how it applies to a larger program. Applies knowledge of course content to final program design in a clear manner. Report demonstrates an understanding of how the skills learned in the course are transferred to new contexts. |  |  |  |  |  |
| **In Class coding** | Student makes progress on final program each day in class. Progress will be measured by frequent interviews on progress as well as classroom observation. |  |  |  |  |  |
| **Testing and Implementation** | Students program has all key features by deadline. Program is tested by at least two other students and feedback from testing is used to improve the program prior to the final deadline. Student can explain the test cases needed to demonstrate that their program is efficient, effective, and runs without crashing in all cases. |  |  |  |  |  |
| **Final Program** | Program is well written using coding conventions from the course. The code is clear and easy to read. Final report includes all necessary details and is expressed and organized in a clear manner. The timeline was followed and adjusted as needed. |  |  |  |  |  |

Overall:

Comments: