ICS3U – FINAL PROJECT  
STEP 2 – ANALYSIS AND DESIGN

**APPLICATION SUB PROGRAMS**

1. List the various subprograms that you will create in your project. (Event Procedures, General sub procedures, and Functions)

* Overall event procedure to stop music on home screen when any button is clicked.
* Sub procedure that determines if every answer is right. Enables button to move onto the next level.
* Sub procedure that beings user back to home screen if the score is not perfect
* Event procedure to have a form load with a 3,2,1 counter to signal the game is starting.
* Sub procedure to add the amount of right answers to the final score
* Sub procedure to add the score to the file
* Sub procedure to read and add the scores to the leader boards.
* Sub procedure to randomize the questions for each level
* Function to go through every questions and determine which ones are wrong and right.

1. Outline the purpose of each of the functions & procedures you mentioned from the previous point.

* Question 2 answered above.

1. Remember that you are NOT writing computer code during this phase.

**DEVELOPMENT PLAN**

Create a basic daily calendar outline and the functions and procedures will be created and a time-line for completion. List when you would like particular portions of your application complete.

*SAMPLE*

*June 3 – complete part 2*

*June 4 – hand in completed part 2*

*June 5 – start designing the main interface and learn how to make a countdown timer*

*June 6 – Make the high scores form and the instructions form. Add music to the main form*

*June 7 – On level one of the form start plotting where things will go, repeat for all 5 levels. Eg. (textbox for answers and labels for randomized questions*

*June 10 – make a sub procedure that will randomize the questions for level one.*

*June 11 – make sub procedure for randomizing questions for lvl 2, lvl 3, lvl 4, lvl 5*

*June 12- Make a function that check the answers and determines if the user gets them all right.*

*June 13 – test project to see if all components are working properly. Include a text file and a read and output scores to the leaderboard page.*

*June 14- final debugging. Make interface user friendly and make it look nice.*

**PROBLEM SOLVING TOOLS**

1. Complete a minimum of 2 of the following 3 problem solving tools.
   1. Create an IPO chart for one of your function or procedures (general or event)
   2. Create a Flowchart for one of your function or procedures (general or event).
   3. Outline an Algorithm for one of your function or procedures (general or event).

b. Flowchart attached (on Microsoft Publisher)

c. Algorithm for adding the number of right answers to the final score if the user gets all the answers right then they get a score of ten added on. If the user gets anything wrong on any of the levels the number of right gets added on to their final score and the game ends.

a. User will input all of their answers under the time limit.

b. User will click check answers once done.

c. Computer will compare values of the answer given by user and what the answer should be. Repeated for all ten questions.

d. For every right answer the counter is added to by one point.

e. The computer will display the final score on the counter.

Submit this completed MS Word document on the D2L website to the drop box labelled “**Step 2 - Analysis and Design**” in the Final Project folder. This needs to be submitted, prior to moving on to Step 3.