**Group 3-Who Wants to Be a Millionaire- Report**

Group Members:

* Zoe Lawton- 6306448
* Luke Scarrett- 6306137
* Dimitri Constantinou- 6313666
* George Bowen - 6299593
* Richard Banbrook - 6301507

Motivation:

The 5 of us came to the agreement of re-creating the popular TV game show, Who Wants to Be a Millionaire, as we wanted to be able to use a variety of skills learnt on the Economic Analysis with Matrices course. We wanted our project to not only incorporate high levels of coding but also be fun, hence why we decided to do a game. All of us had basic knowledge to the background of ‘Who Wants to Be a Millionaire,’ therefore creating the concept and adding extra features was something we were all eager to do.

Methodology:

In order to ensure that the finished project was going to be of a high standard we distributed different roles to everyone. This would ensure that we were organised and efficient in our working. The main roles consisted of making the Graphical User Interface (GUI) for the game, the lifelines such as Fifty-Fifty, Phone a Friend, Ask the Audience and the option to cash-out. Once we had figured out the basics behind the game we then went on to add extra features to make our project that much better. For example these extras consisted of music, the email option, the money stages and the restart button etc.

Result:

At the end of the project we believe we have produced an excellent piece of work that demonstrates our knowledge gained from the module as well as our research into more advanced Matlab techniques. Our Who Want to Be a Millionaire game closely follows exactly how the TV game show functions and looks like and we could not be more pleased with how it has turned out. Below states in more detail the coding behind our project.

What the code does:

In order to create, Who Wants to Be a Millionaire, on Matlab we had to use a GUI. The code, Millionaire\_GUI.m, once told to run, launches the game. The contestant has to answer 15 multiple choice questions correctly to win a hypothetical £1 million. During the game, the player has 3 lifelines, just like the TV game show, and can “Cash Out” and leave the game with their winnings intact at any time. The player also has the ability to email himself or herself what winnings they either have at that time or left the game with.

How it works:

We have created a GUI interface with several textboxes that show the questions and possible answers. In addition we have many pushbuttons, connecting one question to another, as well as being the basis for the lifelines. (For exact detail see the Interface\_Detail.m script). Moreover, we have created a database of questions, split into 15 categories, where one is picked at random for each question. During the game, there are musical effects that are played: at the start, when the player reaches £1000, £32,000 and £1million, as well as when a lifeline is played. There is a clear money stage list on the right-hand side of the interface to allow the user to know how much money they are playing for on each question. Finally, we have added the option of getting your score emailed to you at the end of the game adding a new dimension to the game.

How to run it:

To run the code, you need to open our Zip folder, and open the Millionaire\_GUI.m script. From there, make sure all of the files are in the workspace. Click run, and the GUI interface will appear. From there, follow the on screen instructions and enjoy the game!

Problems during process:

* The process wasn’t easy, and we have had many minor setbacks along the way. By far the hardest thing was creating the GUI and the corresponding code.
* Further along the line, creating the lifelines was another challenge.
* Finally, the major issue that we had was the random generation of questions. The same questions kept appearing, making the game predictable. However, we altered the code and fixed the problem, making full use of our large database of questions.
* One potential problem could be the email facility. We have had problems due to Yahoo deactivating the account, stopping the email function from working. Hopefully this has been rectified.

Mark Split:

We would like the marks to be split fairly and equally across the group, as we have all worked well and contributed.

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| Name of Student | Percentage of Mark |
| Dimitri Constantinou | 20 |
| George Bowen | 20 |
| Luke Scarrett | 20 |
| Richard Banbrook | 20 |
| Zoe Lawton | 20 |