Final Year Project Log Book

# Czar Ian Echavez

# Zombie Epidemic Universe Simulation

# Computer Science BSc

# Academic Year 2017-201

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| **Date** | **Week Num** | **Task (Phase Name)** | **Task Information (Sub phase name)** | **Comments** | **Result of activity** | **Status of activity** | **Future Notes** |
| 29/09/2017 | 0 | Other | Project Initiation Document | Project Initiation document has been submitted for review |  | Finalised |  |
| 04/10/2017 | 1 | Background research | Looking at existing research papers on zombie mathematics | found a good starting point for the formulas the simulation can be based on |  | In Progress | source: http://mysite.science.uottawa.ca/rsmith43/Zombies.pdf |
| 05/10/2017 | 1 | Background research | "" |  |  | Completed |  |
| 06/10/2017 | 1 | Background research | Different parameters which could be used in the simulation |  |  | In Progress |  |
| 07/10/2017 | 1 | Background research | "" |  | refining the formula and brainstorming possible parameters for the simulation | Completed | Separate classes of removed zombies from destroyed zombies, because some corpses cannot be reanimated if destroyed. As well as figure out how to make the zombies decay. |
| 09/10/2017 | 2 | Background research | Different type of zombies in media | 2 types of zombies, slow and fast; speed and durability of zombies as parameters |  | In Progress |  |
| 10/10/2017 | 2 | Background research | "" |  | 2 more parameters that can be implemented | Completed |  |
| 11/10/2017 | 2 | Background research | Other factors in the simulation - the transmission parameter |  |  | In Progress |  |
| 12/10/2017 | 2 | Background research | "" |  |  | Completed |  |
| 12/10/2017 | 2 | Background research | Other factors in the simulation - natural death rate parameter |  |  | In Progress |  |
| 13/10/2017 | 2 | Background research | "" | Useful website, data.worldbank.com which has data about countries |  | Completed | CSV file format for the data |
| 13/10/2017 | 2 | Other | Meeting with Atta Badii, project supervisor | Talking about ideas for the design stage | Starting to think of UML designs, colour schemes, especially for colour blind users | Completed |  |
| 14/10/2017 | 2 | Background research | Zombie conversion ratio |  |  | In Progress |  |
| 16/10/2017 | 3 | Background research | "" |  |  | Completed |  |
| 18/10/2017 | 3 | Background research | Researching other development environments and programming languages | Choosing to use C++ in a Visual Studio 2017 IDE | Chosen a programming language and an IDE to create the project in | Completed | Research SDL and SFML |
| 19/10/2017 | 3 | Background research | Research of SFML, SDL and DirectX | I already have experience with SDL, SFML seems easier to integrate with other libraries. DirectX looks like hell |  | Completed | Possibly going to end up with SDL, since no other graphics libraries may be used |
| 21/10/2017 | 3 | Background research | Researching how to statically link the SDL libraries | Static linking ensures that the release build i.e. end application does not have too many libraries, because they'd be embedded in the executable | Improves quality of life for end user | Completed | apply to the application straight away and don’t change until te end of the project |
| 22/10/2017 | 3 | Project development | Initiating the project by creating the Visual Studio project and linking all SDL files | Set up the project so that the release file only needs one dll | set up the project | Completed |  |
| 23/10/2017 | 4 | Research analysis (parsing research) | Turning the notes into a document in the project documentation | A lot of notes to parse through |  | In Progress | continue parsing the extra parameters that can be included in the project |
| 25/10/2017 | 4 | Research analysis (parsing research) | "" |  |  | Completed | Create use cases |
| 26/10/2017 | 4 | Project development | Get the simulation to make a window |  |  | Completed | Make the simulator to have resizable windows |
| 27/10/2017 | 4 | Project documentation | Setting up the project documentation and completing the project abstract |  |  | Completed |  |
| 29/10/2017 | 4 | Project development | Restarting with JavaFX and Java language | Too many libraries to handle with SDL and C++, since GUI development requires multiple libraries with many dependencies |  | In Progress |  |
| 02/11/2017 | 5 | Project development | Returning to C++ And VS |  |  | Completed |  |
| 03/11/2017 | 5 | Project development | Cleaning up code to set up ImGui |  |  | Completed |  |
| 07/11/2017 | 6 | Project development | Testing ImGui components to see what can be added to the project |  |  | In Progress |  |
| 14/11/2017 | 7 | Project development | Fixing minor problems which cause UX annoyances |  |  | Completed |  |
| 21/11/2017 | 8 | Project development | Adding project files to github repository to help keep track of the changes in the project |  |  | Completed |  |
| 24/11/2017 | 8 | Project development | Setting up textures so that a map is displayed |  |  | Completed |  |
| 27/11/2017 | 9 | Project development | Implementation of a zoom function | A break in ImGui exists where the menu bar does not work if the user begins with their mouse on the app window |  | In Progress |  |
| 29/11/2017 | 9 | Project development | Implementation of frame limiting |  |  | In Progress |  |
| 01/12/2017 | 10 | Other | Took a break for a few days | I need a rest |  |  |  |
| 04/12/2017 | 11 | Project development | Attempt at fixing and therefore improving the zoom function |  |  | In Progress |  |
| 07/12/2017 | 11 | Project development | Fixed the menu bar problem by removing a line: SDL\_GetCurrentDisplayMode |  |  | Completed |  |
| 08/12/2017 | 11 | Project development | Setting up the program to be able to parse data | country data which will be used to load the country data |  | Completed |  |
| 09/12/2017 | 11 | Project development | Successfully able to load external data | removed zoom and pan because it broke, oops |  | In Progress |  |
| 11/12/2017 | 12 | Project development | Created an image which is now the default map. Countries are now identifiable via mouse click |  |  | Completed |  |
| 12/12/2017 | 12 | Project development | Rethinking how there should be a separate program to create scenarios; Sub project started for the scenario creator |  |  | In Progress |  |
| 13/12/2017 | 12 | Project development | Panning and zooming reimplemented |  |  | In Progress |  |
| 14/12/2017 | 12 | Project development | Continued work on scenario creator |  |  | In Progress |  |
| 20/12/2017 | 13 | Other | Taking the week off, holiday and rest |  |  |  |  |
| 04/01/2017 | 15 | Project development | Resuming with work | Worked on GUI inputs and outputs, user experience and interface work |  |  |  |
| 08/01/2017 | 16 | Project development | Standardising the scenario file types |  |  | In Progress |  |
| 11/01/2017 | 16 | Project development | Changing some data types to unsigned long long to be able to handle huge numbers because of population | Added some opengl libraries to the dependencies file so that I can work on the project on other computers, especially the labs which don't seem to have the windows sdk installed |  | Completed |  |
| 11/01/2017 | 16 | Project documentation | Feedback form for supervisor |  |  | Completed |  |
| 13/01/2017 | 16 | Project development | Implementation of data saving | Can now save scenarios | some user friendlyness fixes, i.e. auto linking of countries, input validations etc | In Progress |  |
| 14/01/2017 | 16 | Project development | Mini test of previous additions |  |  | In Progress |  |
| 15/01/2017 | 17 | Project development | Working on loading scenario data |  |  | In Progress |  |
| 16/01/2018 | 17 | Project development | Progress on loadScenario function |  |  | In Progress |  |
| 18/01/2018 | 17 | Project development | loadScenario function finished |  |  | Completed | Make this function be usable in the simulator as well |
| 13/02/2018 | 21 | Project development | Finished Scenario Creator |  |  | Completed |  |
| 14/03/2018 | 25 | Project documentation | starting to create project poster |  |  | In Progress |  |
| 24/03/2018 | 26 | Project documentation | Poster completed and submitted |  |  | Completed |  |
| 26/03/2018 | 26 | Project documentation | Creation of the project report | Most headings set out |  | In Progress |  |
| 26/03/2018 | 27 | Other | Added MIT License to the project on GitHub |  |  | Completed |  |
| 27/03/2018 | 27 | Input and output testing | Created a release build of the incomplete system for other people to check currently working systems |  |  | Completed |  |
| 29/03/2018 | 27 | Project documentation |  |  |  | In Progress |  |
| 30/03/2018 | 27 | Project development | minor adjustments to Scenario Creator and Main simulator |  |  | Completed |  |
| 31/03/2018 | 27 | Project documentation | Progress on report | Halfway done with the report |  | In Progress |  |
| 05/04/2018 | 28 | Project documentation | Progress on report |  |  | In Progress |  |
| 05/04/2018 | 28 | Project documentation | Progress on simulator | Most inputs are set up |  | In Progress |  |
| 06/04/2018 | 28 | Project development | Explaining extra tools used in documentation |  |  | Completed |  |
| 09/04/2018 | 29 | Project documentation | Progress on report |  |  | In Progress |  |
| 09/04/2018 | 29 | Project documentation | Progress on simulator |  |  | In Progress |  |
| 10/04/2018 | 29 | Project development | Simulator allows users to switch between scenarios in the simulation |  |  | Completed |  |
| 10/04/2018 | 29 | Project development | Users can choose which country the infection spreads from |  |  | Completed |  |
| 11/04/2018 | 29 | Project development | More simulation settings |  |  | In Progress |  |
| 13/04/2018 | 29 | Project development | Minor tweaks in Scenario creator to reflect changes in main simulator |  |  | Completed |  |
| 13/04/2018 | 29 | Project development | Sliders not used to input instead of typing values in |  |  | Completed |  |
| 13/04/2018 | 29 | Project documentation | Progress on report |  |  | In Progress |  |
| 17/04/2018 | 30 | Project development | Simulator can now run epidemic simulations, but not zombies yet |  |  | In Progress |  |
| 17/04/2018 | 30 | Other | Setting up presentation for the presentation and demonstration of the project | Noticed that this was late and also accidentally sent the wrong file to blackboard |  | Completed |  |
| 18/04/2018 | 30 | Final demonstration/presentation | Demonstrate the project to a panel | It went well, presentation shown to panel is different to the blackboard version |  | Completed |  |
| 19/04/2018 | 30 | Project documentation | Finishing the report |  |  | In Progress |  |
| 20/04/2018 | 30 | Other | This is the last entry on the log book, if you want a complete version of every single commit, check out this project on blackboard | Note: Anything commited after 20/02/2018 is no longer part of the submitted document and is me working on improving the project outside of this |  | Completed |  |