**Planning Report**

**-The Game of Life**

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**Summary**

This subject of this project is about the Game of Life. This game is designed to simulate cell reproduction. It takes place in a 2-demensional rectangular world, and the basic unit of this world is a small square of equal size. Each square is inhabited by a living or dead cell in the eight adjacent squares. On the one hand, if there are too many living cells in the adjacent square, this cell will die at the next moment due to lack of resources; On the other hand, if there are too few living cells around, this cell will die because of being too lonely. Only when the number of surrounding cells is appropriate, the cells in this square can continue to survive. If the original cell in the square has died, when the number of surrounding cells is appropriate, the dead cell will “resurrect”.

1. Read the initial state of the world from an existing file. After calculation, the final state of the world will be stored into another file. The format of files will a txt.
2. User can decide two model. One will start to calculate the next generation only after the user presses the button. Another will keep evolving until the program is terminated.
3. To give an better experience and straightforward visual perception. Each evaluation step will be displayed by visualization of the Game graphic.

In short, there are three main parts of the whole program:

1. algorithm

2.read initial state of world from existing files and store the final state into files.

3.Visualise the Game graphically and display the animations of each evolution steps.

**Schedule**

1. 2021.4.10

Implement the basic algorithm of the game of life. It can generate random world with many alive or dead cells. Then it will keeps evolving until it is terminated.