Final Project User Documentation

Introduction:

Hello! This is the documentation for my ENAE380 final project. It consists of two files, FinalProject.py and screenshotter.py.

This project was intended to simulate the growth of a plant's roots through the ground. The roots act like real plant roots, growing towards the highest nutrient density in the soil.

User Manual:

FinalProject.py contains all of the actual code. Screenshotter.py is an accessory file that is explained in more detail below.

The main method contains a single command, creating an instance of the Display class.

Upon running, the user will be prompted asking them how big of a root grid they would like.

- **IMPORTANT - SIZES ABOVE 70x70 DO NOT WORK**

- After this the program will begin running
    - To iterate the grid manually press the spacebar.
        - After the initial window opens, you can use screenshotter.py to auto iterate
            - **IMPORTANT - This script was originally made to help me collate all of the iterations into a gif. As such, the program will screenshot each step and save it to your desktop. If you do not want screenshots, comment out lines 18 and 19.**
            - If you want the screenshots saved, edit the file path string on line 18.
            - To set how many iterations it will go through, edit the range of the for loop on line 32
            - When I was working on this VSCode wouldn't let me run two python scripts side by side, and so I would run FinalProject.py, and then use the Run and Debug feature on screenshotter.py and it would work.
        - Once the given amount of iterations are complete, the window will remain open. From this point, you can use the spacebar to manually iterate.