MagentaRainBoots -- David Apterman, Jesse Sit, Henry Zheng
APCS2 pd3
HW44 -- Orienting Your Up Goer
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Final Project Proposal

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(Vegetative Terrestrial Life Forms Combating Undead Hominid Crusaders)

Plants vs. Zombies coded in Java and displayed via Processing.

Features:

- Different types (classes) of plants for the user to use
- Different types (classes) of zombies for the user to fight
- Mouse input in GUI working with behind the scenes Java
- Graphics for plants/zombies/falling bits of sun/etc
- Levels with increasing difficulty

Implementation:

Zombies will be generated and placed into an "incoming" ArrayList, then removed and added to a "on_field" ArrayList when it is time for them to appear on the screen.

The "on_field" ArrayList will use MergeSort to determine which zombie takes damage from the firing plants, prioritizing zombies in front (the one with lower xcor). Once a zombie has taken enough damage it will be removed from the screen, removed from the "on_field" ArrayList, and added to the "deceased" ArrayList.

Deceased ArrayList will be used as the baseline template for each following level, with additional zombies being added depending on difficulty and level number.

Plants will be added by having user drag them to location on the screen -> correlating the x and y of the placed plant to a relegated area that corresponds to a position in an array for plants in that row.

Plants will deal/take damage. Plants can be bought at the cost of sun points, which the user can collect by clicking suns that will move down the screen at random intervals.

Minimum Viable Product

- User will be able to pick up at least one sun.
- User will be able to place at one plant on one row.
- One zombie will spawn at the end of the row and head towards the plant.
- Both zombies and plants disappear after taking lethal damage.