TP1 Update: Hi, I don't have any updates from TP0!

TP2 Update: No design updates from TP1!

TP3 Update: Organized code. Improved inquiry buttons. Improved user experience by now stating which mode the clicker is in. Overall worked on user experiences and sorted out bugs, also by incorporating peer feedback/review comments from lecture.

Project Description

- I want to recreate the classic game Minesweeper (extremely cool new name TBD). After creating the basic game, I want to implement features that would make it more algorithmically complex and challenging to create and play (such as implementing AI help or the ability to play against the computer). Also I want to make the game pretty and unique to me in terms of design.

Similar Projects

- This is highly inspired by the original Minesweeper. I want to make it so that the user can play with the original rules and mechanics if they so choose. However, I want to make my game unique in the UI, as well as add features that make it more complex and thus more fun to play for experienced users.

Structural Plan

- I think the best way to implement this would be by drawing a grid, as in the classic game, in a similar manner as we drew the grid for Tetris.
- I was considering creating two classes, one for Mine objects and one for Safe objects. I would keep track of variables that mark boxes as uncovered or not, or if a flag was placed there.
- I believe this code could all be stored in one file, but I would need to create organized and helpful variable names and comments.
- I want to split up each major portion of this code into a group of functions separated by comments, and can organized within that as well. For example:

```
# >>>>>>>>>>>>>>>>>>>>>>
# >>>>>>>>>>>>>>>>>>>>>>
# MAIN PAGE
# >>>>>>>>>>>>>>>>>>>>>>
# >>>>>>>>>>>>>>>>>>>>>>
```

and then:

```
# —----------
# GRID FUNCTIONS
# —----------
```

Algorithmic Plan

- I will be creating two classes, one for Mine objects and one for Safe objects. I would keep track of variables that mark boxes as uncovered or not, or if a flag was placed there.
- I can keep track of what state boxes are in/what images they display (or just a blank rectangle) based on the object variables. In each box, I need to keep track of how many Mine objects are in the boxes immediately surrounding a clicked box, and need to chek whether the box clicked was a Mine object.
- Keeping track of all of the objects, with randomized placement, in an organized manner will be extremely challenging. Also, changing the images displayed in each box based on the state of the object in the box will be difficult. Overall,

trying to figure out OOP with the other challenging stuff we did in class will be the most difficult aspect of this project, or at least I think it will be.

Timeline Plan

- Before Thanksgiving, I want to have created the functions for the grid, which should fully draw out. For now, I will commit this. I also want to select a colour scheme for the project and figure out what I want to do to make it more cute (cat theme? :0)
- I want a working title page and a button that navigates to the main game by the end of break. Also, I want there to be two buttons that open popups about the game and how it was made. It should just be functional for now; I will add the beauty and text later.
- By the end of Tuesday the 28th, I want the title page design to be fully done and functional.
- By the end of Thursday the 30th, the classes should be created. I also want a function created by then to randomly place them within the grid. I also want a function to display how many Mine objects are in the boxes immediately surrounding a box, and for different states of the objects to link to different images (covered/uncovered/flagged).
- By the end of Saturday the 2nd (the day before my birthday :0!), I want the mouse clicking to work to change the state of the game. Clicking space should switch whether we are uncovering or flagging. Add all of the final details (such as keeping count of how many mines are left and time and high scores). At this point the game should fully function as classic Minesweeper.
- By the end of Monday the 4th the AI aspect should be implemented. I am not quite sure what exactly this entails right now.
- The README and video demo should be due by the end of Tuesday, December 5th, and TP3 should be submitted shortly after that.

Version Control Plan

- I intend to upload my code to Github as I work on it. This way I can safely save files and work from different devices if necessary. Also, I can create a README. This is where it will be updated:

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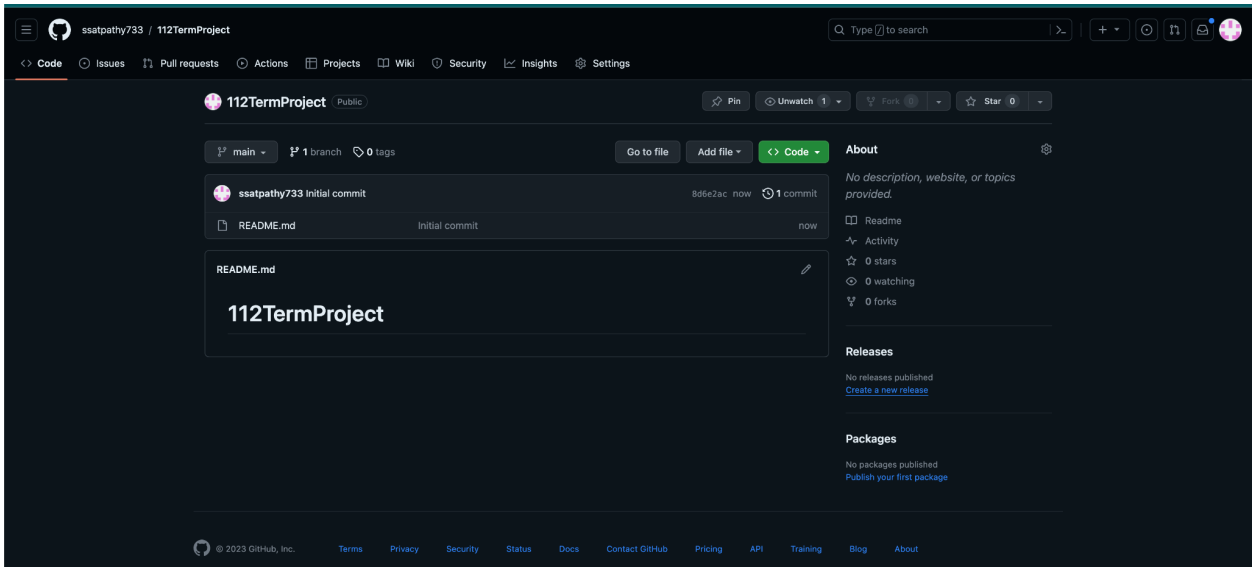

Module List

- I don’t intend to use any modules outside of what we used in class.