

>> TP3: Updates to design doc

I added in a powerup feature that would add bonus points to the current score being constantly updated at the top of the screen. Depending on how many obstacles were jumped over prior to reaching every 300 points (not including birds), a total of that number x 5 will be added to the current score. I also added goats to the mountain terrain rather than having cacti, which are also found on the desert terrain.

>> TP2: Updates to design doc

The mountain generation algorithm I am currently using is different from the one used previously in TP1. The mountain generation has not yet been implemented into the main file so the blue button does not yet work, but running 'mountain_terrigen.py' will demonstrate how I intend for the rocky terrain to function. The values do still need to be normalized, however, so that the points do not run too far off the app window.

algorithm source: [Midpoint Displacement in one dimension](#)

>> TP1: Updates to design doc

One part of my project I am planning on changing from my original plan for the time being is using a flat 2D map on the start screen rather than having a globe that could turn. I realized that making something that could rotate is probably a bit difficult without the use of 3D graphics, or I would most likely have to draw out different "slices" of the globe and have to somehow knit them all together to make one continuous rotation when dragging it using the mouse. However, if I have time towards the end of the project, then ideally I would like to keep working on this feature as I think it would greatly enhance the UI of the game..

>> TP0: Project proposal

1. **Project description:** The name of my TP is "Dino Dash", and it is a version of the no internet dino game, but with various terrains that can be chosen. The rules of the game will be pretty similar to the original version, as there will be different barriers for the dino to jump over and the game will end when the dino runs into a barrier. The dino's actions will be controlled by a space bar (to jump) and the up/down arrows (to jump or duck down). The starting screen of the game will be a globe, where the user can choose a location (desert, ocean, forest, etc.) for the dino to run.
2. **Similar projects:** This game is based off of the no internet dino game, in which a dino runs across a flat terrain and jumps over cacti or ducks under vultures when they appear. In my version, one of the terrain options will resemble the flat desert, but the main difference is that there will be several various terrains that can be chosen for the game to run in, such as mountains, an ocean, or the North Pole. It will also have a score counter like the original version, and the rules for how the game ends will be the same. One previous version of the dino game that I found in the 112 TP gallery was made by Anishka Bompelli in the Spring 2022 semester, and her game was called "The Dinosaur Game 2.0". Her project incorporated an enemy algorithm as well as added coins on the terrain that would contribute to a score that would be displayed once the game ended. Similar to her game, I plan on using the midpoint displacement theorem to randomly generate a continuous mountainous terrain, but I do not plan on using the enemy algorithm so that vultures would fly downwards and attack the dino. I will likely just keep the vultures working similarly to how they do in the regular chrome game— they will either fly at a lower height so that the dino can jump over it, or at a higher elevation so that the dino can just run underneath it. In addition, my dino will be customized to each landscape; it will run on deserts/mountains, but will appear like it is snowboarding or surfing on ice/water.
3. **Structural Plan:** I plan to organize my code through various classes, such as a dino class and terrain class so that their respective functions will be stored separately. Information such as score, terrain barriers, and dino position will be tracked in the model, while the graphics (terrain, image of the dino, barriers) will be visualized through view. Controllers incorporated in the game

will include functions we learned in class such as keyPressed and timerFired that will continuously update the model.

4. **Algorithmic Plan:** The hardest part of my project to complete will most likely be terrain generation. I'm still trying to figure out how to implement this part using graphics that I create through 112 graphics, but as far as the mountainous terrain is concerned, I will likely use the midpoint displacement algorithm to create the rocky landscape. All of the terrains will be generated randomly and infinitely, with barriers randomly placed along the way and possibly some background features (like clouds). In addition, I will need to store the location of the dino, as well as get it to run following the pattern of the different terrains.
5. **Timeline Plan:**
 - a. By the TP1 deadline (Sun, 11/20), I will have the basic functions and classes outlined for my code and have a solid idea of the components of the game that I'm sure I can complete by the TP3 deadline. I also plan to have code that can produce a visual of at least a flat desert terrain and the starting position of the dino, as well as to have compiled a list of all the barriers/features unique to each terrain. I will have the simple controller methods (like keyPressed, timerFired) added as well. After this point, I will start incorporating the midpoint displacement algorithm to produce a rocky terrain.
 - b. By the weekend of Thanksgiving break (Sat, 11/26), I hope to have completed at least the game working for the desert and mountain terrains. These two locations will be able to be chosen on the globe in the starting window, and all the features for these two landscapes will be properly implemented. For example, for the mountain terrain, there will be clouds in the background, trees for the dino to jump over, and vultures for the dino to avoid.
 - c. By the TP2 deadline (Weds, 11/30), I hope to have hit MVP and have a functioning game for at least two or three of the different terrains as well as completed the start/game over windows so that different landscapes can be chosen and the game can be restarted when the space/up arrow are clicked.
 - d. By the TP3 deadline (Weds, 12/07), I hope to have a fully functioning game with at least 5 terrains completed. The game will have a light/dark mode and a high score tracker as well.
6. **Version Control Plan:**
 - a. I am planning on backing up my files into a Google Drive folder and organizing them based on the stage of the project I am in. A screenshot of the folder is below.

My Drive > 15-112

Last modified

Folders

TP3 Code (Weds, 12/07)

TP2 Code (Weds, 11/30)

TP1 Code (Sun, 11/20)

TP0 (Mon, 11/14)

Files

TP0 Project Proposal

My Drive > 15-112 > TP1 Code (Sun, 11/20)

Last modified

Folders

TP1_code

7. **Module List:** None. For now, I'm not planning on utilizing any external modules in my project.