UGAHacks Project

Project Information

Project Title: UGAHacks-Web_game

Team Members: Samuel Storey

Tier Level: Beginner

Project Description: A website that hosts a canvas html element. Using that element the game chip's adventure was made. It is a simple 2-d platformer with mud and lava as obstacles or helpers.

Friday

Welcome to UGAHacks __ ! We're excited that you're participating and revving up for an amazing weekend! Today will be short, but we advise you to settle on a project and create a plan to guide you! Already have something in mind? Now's a great time to get started!

Goals:

- ☐ Design the initial website and the container for the canvas
- ☐ Make a hello world with the canvas element in javascript

Progress:
The initial layout and color scheme for the website was laid out and designed. Then it was implemented using visual studio code. The js file connected to the node server and was able to run the hello world on the canvas element

Challenges:
1. Challenge 1: Learning canvas elements that can be used to make shapes to shape into hello world
   - Solution (if found): It was difficult but I need to be able to make shapes and containers in javascript in order to do my project.

2. Challenge 2: I also tried to move certain elements using arrows in canvas using javascript.
   - Solution (if found): I linked them up using we3schools site about javascript elements.

Learning:
I learned how to set up canvas elements in javascript and certain commands I can use to manipulate elements in the website environment using javascript. It was incredibly important to the type of game I want to make to use user input and seeing how to do that on canvas was important

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Saturday

Saturday is the longest day of the Hackathon! The bulk of your project will get done within today, so set your goals wisely!

Goals:

- ☐ Set my player up to be able to move a rolling object that has gravity act upon it
- ☐ Set up objects that interact with the rolling object differently depending on type
- ☐ Combine graphics.

Progress:
I accomplished m goals. I created mud, lava, platforms, and rock, as well as a goal. These interact together to form a playable game the user can interact with. I implemented a hold jump that increases in height the longer you hold. Then added designs for the' rock' and roll theme for this years hackathon.

Challenges:
1. Challenge 1: Finding how the collision will effect each object and keeping track of the math for radius and object borders
   - Solution (if found): I used ai to help figure the best collision mathematics in order to better have a way to track which sides are being interacted with oneach object.
2. Challenge 2: A way to continue motion after button press so the movements seem more fluid and applying gravity

- Solution (if found): Keeping track of how fast the ball is going and how button presses effect it. I used velocity to keep track of the x and y axis and how different forces change that like distance traveled.

Learning:
I better understand javascript in the way we can maniluplate data. This can be with canvas and the key presses or with the timer. Both are examples that can be used in a wide variety of applications. I learned more in depth the canvas element as well as other html elements that can be used to help my understanding of the subjects

AI Usage (if any): Collision calculations

Tool used:Gemini
Purpose: To determine the best mathematical formula for collisions of objects for canvas
How it contributed to learning: I got to be better immersed in the actual elements and data manipulation than complex mathematical equations. I could take hours just doing basic math and if I get it wrong that is a significant chunk of time. I believe AI use was justified for me to better learn from this event.

Sunday

Submissions are due at 8AM today!! Fit in your final touches for the project and make sure to check the submission checklist below to ensure you're ready for judging!

Goals:

- ☐ Make 5 levels

Progress:
I made 5 new levels of the game in order to demonstrate my understanding more thoroughly of html elements and canva manipulation

Challenges:

1. Challenge 1: Finding small errors in code that needs to be fixed
   - Solution (if found): I found multiple errors in my code while manipulating the differing objects and how I could get them to interact. I fixed most of these fast but the one that stuck with me was the lack of array for my evil and mud objects. This means i needed to make array elements and sub arrays for the element.

Learning:
I learned how better to use coordinates and website design. This allowed my a successful hackathon this year as I learned a lot about javascript and website design.

Submission Checklist

Make sure to submit on the UGAHacks __ Devpost at 8AM on Sunday!

- ☑ Project Github Repo
- ☑ Readme file (summary of project log)
- ☑ Completed Project Log as PDF
- ☑ Live Project Site (optional)