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Project 2: Documentation

1. **Overall Theme/Impact**

* The web application takes inspiration from the classic game Pong and extends it by introducing audio visualizer effects.
* The application promotes active participation by the user by implementing additional gameplay elements and visual representation of audio currently being experienced.
* The application goes well beyond what was providing in class by implementing additions to our movement code to allow for bouncing when paddles are present.

1. **User Experience**

* Developed a unique twist on a classic game to promote a transfer of skills onto a new platform while providing additional instruction to assist in that process.
* A plethora of sliders, drop-downs, radios, and check boxes are used to manipulate game play and visual appearance based on user preferences.
* The program runs effectively with any combination of settings without errors.

1. **Media**

* All files passed appropriate validations.
* Drawing was managed within classes.js by creating classes that extended off of each other to allow for shared parameters and unique methods.

1. **Code**

* Code was efficiently divided into related files and effectively connected using ES6 modules to link required code.
* Methods were developed to allow for multi-facet functionality in an effort to repeat as little code as possible.

1. **Right**

* The reimplementation of paddle controls for vertically placed paddles.
* The movement and bounce functionality of the ball.
* The transferring of audio data into an aesthetically pleasing circular field.

1. **Wrong**

* If the ball hits the paddles correctly on their edge, there is a potential for them to travel through the paddle.
* I attempted to allow for the bouncing of the ball to be off the positions of the bar but unfortunately as I was unable to figure out how to comprehend angles into the direction the ball would bounce on impact based on the position of the bar being bounced off of it was scrapped.
* The website is poorly optimized for smaller screen sizes.
* The majority of the code ended up being within the canvas.js file rather than the main.js file and I was unable to effectively transfer the code into the main file.

1. **Future Features**

* Optimization for additional screen sizes.
* Ability for user to upload own song.
* Implementation of a scoring system.

1. **Resources**

* Beetle Juice Theme Audio:
  + <https://www.youtube.com/watch?v=HlGxcekfsho&list=WL&index=17&ab_channel=teamjonah100>
* Deacons of the Deep Audio
  + <https://www.youtube.com/watch?v=20XREf55X9E&list=PLCLeSTzz6trYB89ZYFswkVKoQWPZ6e7_1&index=10&ab_channel=Shirrako>
* Flying Theme Audio
  + <https://www.youtube.com/watch?v=2C4lFUpI_4U&list=WL&index=18&ab_channel=EnhanceyourLife>
* HTML Drop Downs
  + <https://www.w3schools.com/tags/tag_select.asp>

1. **Overall Grade**

* 95%
* The application goes well beyond what was originally displayed in class by creating an enhanced version of the classic game Pong. The web application introduces audio visualizer effects to the game by having the ball represent the waveform data of the current song along with introducing rotating bars around the ball that depict the frequency data of the song. Along with this the application allows for an increased degree of customizability with options to effect gameplay such as the ball’s and paddle’s speed, along with the paddles size and the number of paddles to be player with. Furthering this, the application allows for additional personalization through visual effects such as inverting, gray scaling, and tinting, as wells as effecting the quality of audio. However, the majority of the applications code exists within the canvas.js file rather that the main.js file and the audio controls for the play, pause, and progress bar are taken from a previous exercise rather than being remade to better fit within the project.