Geometric Planning

Scope

I want to create an online game that people would enjoy playing in their free time. Users should be able to play on all common devices: desktop, mobile or tablet. The game will have a customisable character with some default values and ones that can be selected on the customisation page.

Button mapping will be available to the user so they can choose their own controls.

The user will be able to pause the game if they need to and pick up right where they left off .

There should be a variety of obstacles for the player to tackle to keep their focus on the game.

Then use these obstacles to make obstacle course for the user to have to clear.

The mechanics for the game should be simple to learn so the barrier of entry is as small as possible and the accessibility as high as possible.

Strategy

From the criteria, based on the scope above, I have come up with the following strategies to fulfil them:

1. **The game needs to be able to play on mobile and desktop (Responsive Design):**
   The game will be the full width of the browser and elements dimension will be defined by percentages of the full browser

   Controls for the game will need to have an equivalent for touch input devices.

2. **Customisable Characters:**
   Users will be able to choose the colour of their character as well as the character laser colour. Use JS to set the colour of the player based off the CSS property of the selected choice.

3. **User Selected Controls:**
   Set up a script that replaces the default key controls with the user inputted keys.

   Control key mapping will be committed to the browsers memory so returning players will have their preferences pre set.

4. **Variety of different obstacles**

The three obstacles then have unique mechanics:

Circles explode when hit by the player's laser, Triangles reflect the players lasers and Rectangles (Squares) are used to jump over gaps in the floor. All cause the player to crash if hit.

5. **Obstacle Courses**
   Create maps of obstacles so the player can jump up on to different platforms

Scoreboard: (Discarded)

After completion of a run, a screen would appear to provide a leader board of the users past runs allowing them to set their nickname.

Leader board would be committed to the browsers memory so returning players will see their previous scores.

Below is the priority matrix for the points above rating their importance against their viability.

Opportunity / Problem	Importance	Viability / Feasibility
1. Responsive Design	5	5
2. Customisable Characters	3	5
3. User Selected Controls	3	4
4. Varity of different obstacles	4	5
5. Obstacle Courses	5	3
Total	20	22

Structure

The site will have a full width single page design which will change what is displayed on the page based on what buttons the user has pressed. This is achieved by toggling a display class onto the selected section of the page.

When landing on the game site, the user will see the main menu. It will have links to all the other sections of the page which can be toggled through by returning to the main menu and clicking another link.

The player score will be at the top in the middle in between the pause and mute buttons.

The game will be a side scroller with the main character of the game staying on the same x axis and only moves on the y axis. All other elements will move towards the main character from right to left.

The default controls for the game will be as follows:

“Spacebar” or “Click on right side of Browser” = Jump

(Later Changed to ‘’W’’)

“S” or “Click on left side of Browser” = Shoot

(Later Changed to ‘’D’’)

“M” or “Click on Mute button” = Mute

“P” or “Click on Pause button” = Pause

Family Tree

Though all the “pages” (sections) are going to be in one file their family tree will be as follows