Breakthrough v2

The round progress bar will exist and work, unlike v1, it will have a flag on the round end side of the bar; similar to Plants v Zombies. This will give players more confidence in wanting to complete the round as they can see how far away their goal is.

The leaderboard and username selection will continue to exist. Although I will make a new DB table for the leaderboard since this will be a different game and I want to keep the old table to the original intended game.

How the game starts/ends:
- Starts: User clicks anywhere on the game board to start a brief animation that will tell you: slide 1: what keys to use (WASD) and shows that the player can move off the edges, slide 2: what enemies there are and what their abilities are, slide 3: what power ups there are and how they work. Then the game (round 1) starts after the animation fades.
- Ends: Whenever you run out of lives. A player could play until infinity if they are good enough.

How does a player win?
- A player does not necessarily win in their own game environment, rather they win by having beaten scores on the leaderboard. There is only one winner at any time and that is the person in the #1 position on the leaderboard.
- To get a #1 position on the leaderboard, or any position, it is all about enemies defeated; how many enemies have shown up on the screen and flown past your player without hitting your player and then have gone off the other edge of the screen).
- Once the enemy is off the screen it is given a new start position and the object is reused.
- Thinking deeper about this:
  - If there will be enemies that move up/down and enemies that move left/right (based on the round) I should re-use the enemies between rounds and change a value like direction in their object properties so as to not use extra processing power and memory (in creating new objects all the darn time).

What are the control keys?
- W > move positively on the Y axis
- A > move negatively on the X axis
- S > move negatively on the Y axis
- D > move positively on the X axis
  - Holding (ex: W and A) will allow you to move diagonally.
  - Holding opposites (ex: W and S) will make you move nowhere.
- Last year for mobile I used click or touch event listeners for moving and that is the worst possible way to play that game so perhaps that will be included, I remember I had to use Pythagoras Theorem for that!

What happens when a player reaches the edge of the screen?
- The player will go through the edge and be mirrored on the opposing edge
- If I start at the center of the board (ex: 0, 0) and press 'S' and hold it down the player will go (0, -5), (0, -10).. etc until it passes through the edge and reappears at the opposing edge (the top of the game board) let's say were at (0, 25) now. If that makes sense.

What types of enemies are there?
- Boopa: just flies across the screen (it doesn't want to hit you as much as you don't want to hit it) (15px x 15px)
- Gunner: Shoots Boopa's (rather than bullets) in horizontal and vertical directions (no diagonal) (25px x 25px)

What happens when a player collides with an enemy?
- They lose one life and the game pauses
- A respawn screen appears that allows you to 'restart' the round whenever you would like.
- The enemies defeated count is altered in no way at any point, you 'restart' the round with the same progress you had as when you collided with an enemy.

What direction do the enemies travel?
- On any odd number round the enemies travel in at the player from the left and right sides
- On any even number round the enemies travel in at the player from the top and bottom sides

How to defeat enemies?
- Avoid them at all costs.

What kinds of power ups are there?
- One free life: A life is added to your life count.
- Rainbow: All enemies 'disappear' and you gain the progress from the enemies that - continue to fly through the screen.
- Trick: You slow down to half speed and good luck.

How does a player gain a powerup?
- They collide with it as it falls from the top of the gameboard, eventually it will fall off the bottom of the game board and will not be retrievable ever again (until there is a new one). They fall perfectly vertically.
- The type and timing of a powerup appearing is totally random.