Game Design Document

Mazer Lazer

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Allyson Nied

Kelly Simmons

Melody Fakih

Zack Weathersby

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MART 581D

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Concept

- Mazer Lazer is a top down 2D racing maze game set against the backdrop of outer space. Two players race against each other through a maze, collecting and using power ups to alter the maze as they race to be the first one to exit.

- We were inspired by old fashioned arcade games such as Pac Man, as well as games like Mario Kart 64 and NickToons Racing. It is a fast paced game that changes every 20 seconds to make the player constantly adapt to their surroundings and modify their strategies in order to find the fastest way out.

Genre

- Action arcade

- Racing

- Maze Chase

- Strategy

Target Audience

- While our target audience is casual gamers from age 8 and up, the constantly changing nature of the maze and the strategy elements may also attract more serious gamers.

- At its core this game is meant for anyone looking to have fun and escape from their day while playing with a friend.

Flow Summary

- Two players start in the middle of the maze without any power ups.

- The music starts and the race begins by the players picking a route and starting to move.

- Player is navigating maze when the first change in the structure occurs after 15 seconds, signified by 3 beeps immediately followed by the changes in the maze.

- All walls besides the outer maze walls will be subject to change, potentially losing a wall and opening up for traversal.

- Power ups, as well as a black hole that will transport you to a random spot in the maze, will also move places around the maze.

- You adjust your strategy based on how you are affected by these changes, then continue trying to get out of the maze.

- The wall changes will occur every 15 seconds throughout the game.

- Player who exits the maze first wins.

- When the game is over, a tally that pops up to show how many times the blue player has won and how many times the red player has won so you can play multiple times and know who has the most wins.

Look and Feel
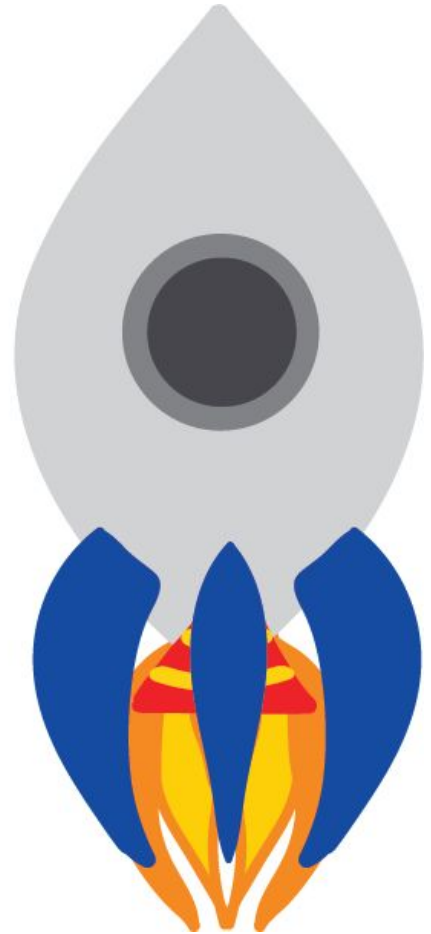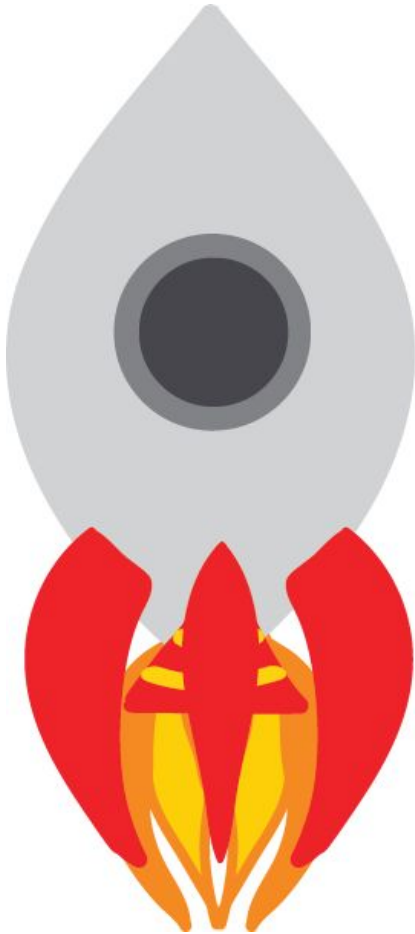
These are the spaceship designs that we came up with. We are going for a

not very detailed but clean and geometric look.

- The maze will look similar to the one above, but our walls are going to all be connected to prevent you from proceeding in certain directions.

- We're not using an 8 bit style, but the top down 2d style is similar to that in pac man, as well as a neon color scheme.

- Outer space background, and space and sci fi aesthetic.

Gameplay

- Two player game

- Players use keyboard to navigate through the maze, one uses the arrow keys to move and spacebar to fire power ups, while the other uses the WASD keys to move and the shift key to fire.

- Players start with no added powers, and collect power ups to help them progress through the maze faster.

- The power ups will be:

    - A **bomb** that will allow the player to break through a wall.

    - A **building wall power** that will let the player lay down a wall behind them to block the other players from following.

    - A **time shift** that when it is passed over will slow down the opponent's movement speed and increases your speed for a few seconds without having to activate the power up yourself.

● Players adapt to the changing course by learning how to utilize their surroundings to their advantage.

Challenge Structure

● The main challenge immediately given to the players is to navigate the maze as quickly as possible to be the first one to exit.
● There are power ups that will help the players achieve this goal of being first out the maze, distributed throughout the maze that the players can pick up.

Puzzle Structure

● Players begin in the center of the maze
● Randomly generated maze
● Every 15 seconds the walls of the maze change
● There is only one exit to the maze, and the location of it changes every 15 seconds with the wall changes.

Diegetic Objectives

- Exit the maze before your opponent

- Use power ups to your advantage

- Strategize your next move based on your current position and the
  oncoming changes.

Mechanics

- Red player moves using up, left, right, and down arrows and use
  spacebar to use power ups

- Blue player moves using WASD for moving and shift key for using a
  power up

- Player can only hold one power up on them at a time. If you pass
  over another power up while currently holding one, you will not collect
  that item. Once you use your power up, you can collect a new one.

- Every 15 seconds, any wall besides the outer maze walls can
  randomly change positions.

- One black hole will be present that if you go into it you will teleport to a random location on the maze.

Movement

Action	Key
Fly forward (Player 1)	W
Fly left (Player 1)	A
Fly down (Player 1)	S
Fly right (Player 1)	D
Use power-up (Player 1)	Left Shift
Fly forward (Player 2)	Up arrow
Fly down (Player 2)	Down arrow
Fly left (Player 2)	Left arrow
Fly right (Player 2)	Right arrow
Use power-up (Player 2)	Spacebar
Main menu	ESC

Objects

- Power ups:
    - Building walls - you can use it to build a wall to obstruct your opponents path.
        - An incomplete circle with a plus sign in the missing section. With a white glow around the circle.
    - Bomb- glowing orb that you can use to destroy any wall other than the outer maze walls.
        - Grey orb with futuristic blue lines branching out towards the blue circle in the center. The bomb is surrounded by a white glow.
    - Time shift- an hourglass looking object that you can use to slow down the pace of your opponents rocket.
        - Orange tilted hourglass with yellow stroke and a white glow
- Players
    - The players are represented by rocket ships
- Black Hole

- There is a black hole that will move around the maze every 15 seconds, and if the player enters the black hole they will be transported to another part of the maze.
  - Purple spiral with a faint white glow at the center.

Actions

- You can move your rocketship left, right, up and down to navigate the maze.
- Once you get a powerup you can implement it to improve your chances of making it through the maze quicker.
- You can turn around at any time.
- You can choose to go into the black hole on the chance that it might move you closer to the exit.

UI flow

- When the game launches, the player is given a menu to select Play, Help, and Audio.
- The rockets are located in the middle of the maze.

- Depending on the power up you have, player one's power will show up as an icon to the right of the timer, and player two's power will show up to the left of the timer.

- A timer is displayed at the middle top of the screen.

- When one player exits the maze, and box pops up that says Player ___ wins, with a tally of both players wins so far and a play again option.

Game Options

- In the menu options, the user can edit their sound preferences.

Replay

- This game has endless replay capabilities. The experience will be different each time because the maze shifts are randomized.

- There is a Play Again option immediately following the end of the game.

- There is a tally that pops up to say how many times each player has one to encourage competition.

Control Schema

Our game will be simple and easy to learn controls for anyone to pick up immediately.

Action	Key
Fly forward (Blue player)	W
Fly left (Blue player)	A
Fly down (Blue player)	S
Fly right (Blue player)	D
Use power-up (Blue player)	Left Shift
Fly forward (Red player)	Up arrow
Fly down (Red player)	Down arrow
Fly left (Red player)	Left arrow
Fly right (Red player)	Right arrow
Use power-up (Red player)	Spacebar

Audio Components

- Soft techno music plays in the background when the game starts and each action has a space sound effect. All of the sounds together are supposed to add interest to the music and the game.

Music

- Upbeat techno music playing in the background.

Sound Effects

- Wall shift sound

- Power-up collection sound

- 3 second countdown beeper to when the maze shifts

- Bombing a wall sound

- Slow down power up sound

- Noise when you enter black hole

- When you try to use a power up when you don't have any it makes an empty gun sound

Hardware

- As we intend for this game to be distributed via a website the player visits to play the game, the only requirements for to play the game will be access to a computer (that can run java and flash) and access to the internet.

Software Specs

- Unity's 2D platform
- WebGL requires java to run

Save Structure

- There is a scoreboard at the end of each game that saves and shows your previous scores compared to your opponent.

Game Areas

- There will only be one area, which is the maze. However, the maze structure will be changing every 15 seconds.

Characters

- Players take the form of rocket ships.

Character Animations

- The characters remain the same except for flipping right, left, up, and down based on the direction the player is heading.
- The fire tail that comes out of the engine are animated to look like flames moving.

Character Design

- Player one will have a grey rocketship with a red tail and player two will have a grey rocketship with a blue tail.
- The players glow when they pick up a power up

Player Training

- User learns controls and how the game is played inside of the main

  menu -> help option

Interface

- Top down view of maze

- Timer centered at top of screen

- Player power-ups on top left and right for red player and blue player

  respectively

Visual System + Theme

- Game will be a top down view of the entire maze

- The HUD will display the timer and power-ups

- Main Menu

  - Options include; quit, play, instructions, or audio options

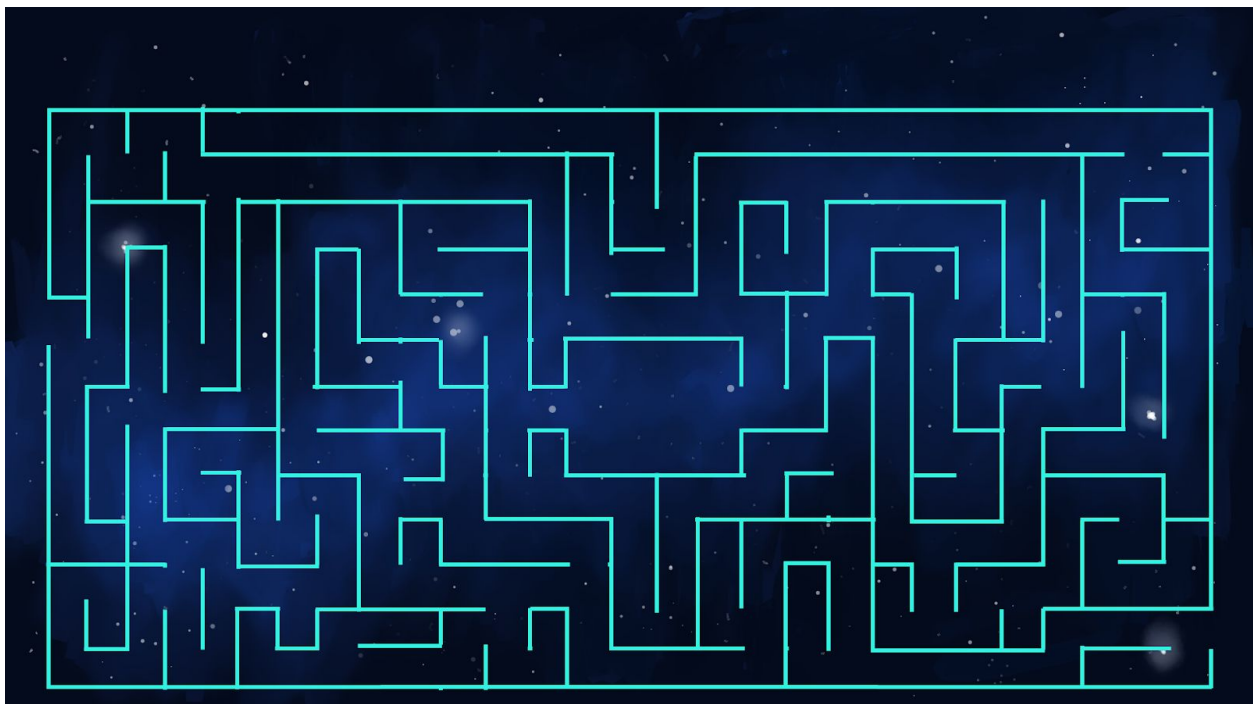- The theme of our game will be an outer space theme.

Game Art
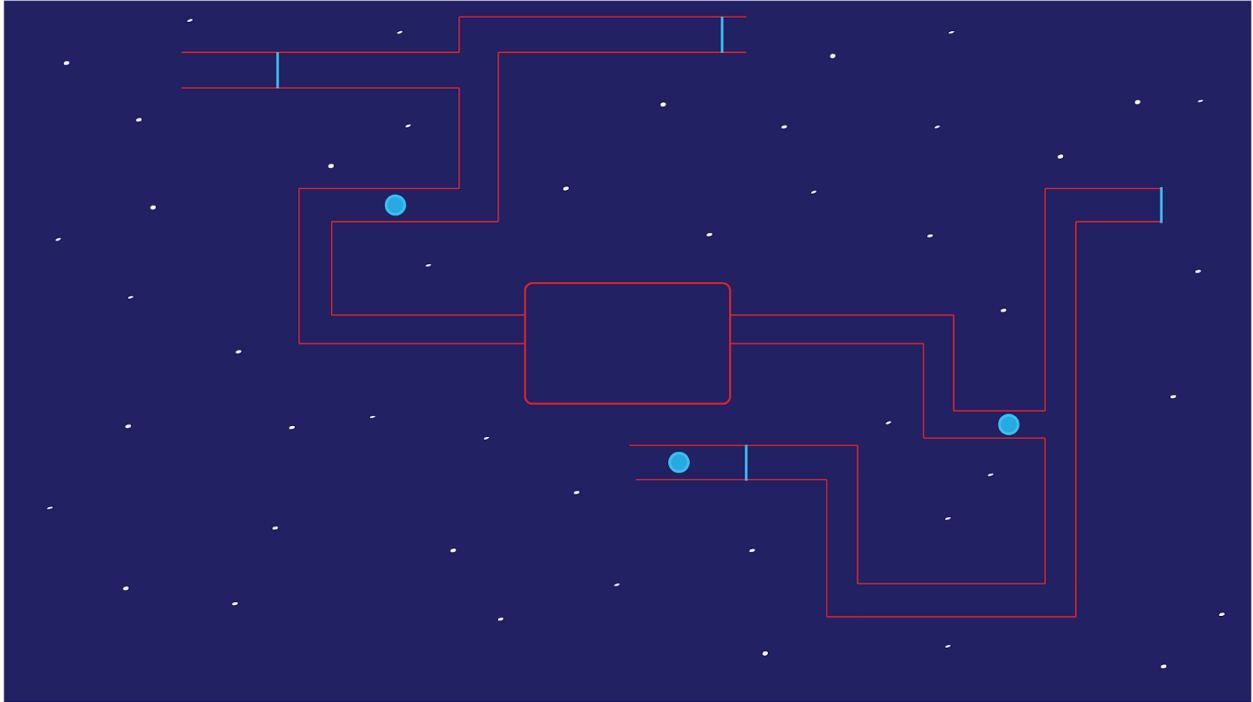
This is our concept art although the walls will be thicker and the power ups will be more complex and the background will have more space themed objects in it.

Another piece of concept art of what the backdrop that the maze is set against might look like.

Platform

- Unity 2D

- WebGL