

DESIGN TEST

PART A

1. Create and write level logic for an endless runner game for the following approach:

a) Approach 1 - Runner game with random obstacle spawn mechanic with a simple combat system.

Feel free to add any power up/ pick up logic and their details in the game.

Ans:

1. **Game Concept:**

- a. The player controls a character that runs endlessly in a 3-lane track, typically a runner through several environments one after the other.
- b. Objects and obstacles spawn in the player's path to try to stop/kill it.
- c. Player has several power ups and pick-ups to boost performance or kill enemies coming the way.

2. **Game Elements:**


- a. **Player character:** The character is a someone who works in a coal mine. While mining, rocks shifted, due to which a huge boulder started rolling towards him that now chase him for his life.
- b. **Obstacles:** There are a variety of obstacles that spawn in the player's way randomly. Some require combat to overcome and some can be simply dodged by the defined controls(touch & swipe controls).

Dodge obstacles:

- a. **A pile of coal:** Pile of coal is present in the player's way to slow him down and it'll will eventually stop him if player collides with it several times.
- b. **Rails filled with coal:** Rails filled with coal are to be present in the way to make him stop at once. They are one shot kill basically.
- c. **Small tunnels:** Occasionally, there will be no more straight oath to run, instead there will be two small tunnels to slide through. Player swipes left/right to slide through the respective tunnel.

Combat obstacles:

- a. **Snakes:** There are snakes present in the mine which will spawn randomly into the way to hurt the player. The player must either dodge the snake, probability of which is very low as the snake will be moving along with the lane it spawned on or he can perform a kick action to tackle the snake.
- b. **Springtail bugs:** Spring tail bugs are found in the coal mine. They are called spring tail bugs because they jump using their tale. They move by jumping on the track horizontally. It will deal damage to player if he collides with it. Player can dodge the bug by either jumping over it or performing the kick action.

| | |
|---|---|
| <h3>Collembola</h3> <p>This bug is found crawling over mine timbers</p>  <p>Its common name is the Springtail. It lives near the entrance to the mine.</p> | |
| Name | Collembola or 'Springtail' |
| Habitat | Soil / vegetation debris |
| Diet | Collembola eat fungi |
| Special features & creepy facts | <p>They find their way using special senses, such as heat detection.</p> <p>They have a sort of tail that allows them to spring out of harm's way. This gives them the name Springtail.</p> |

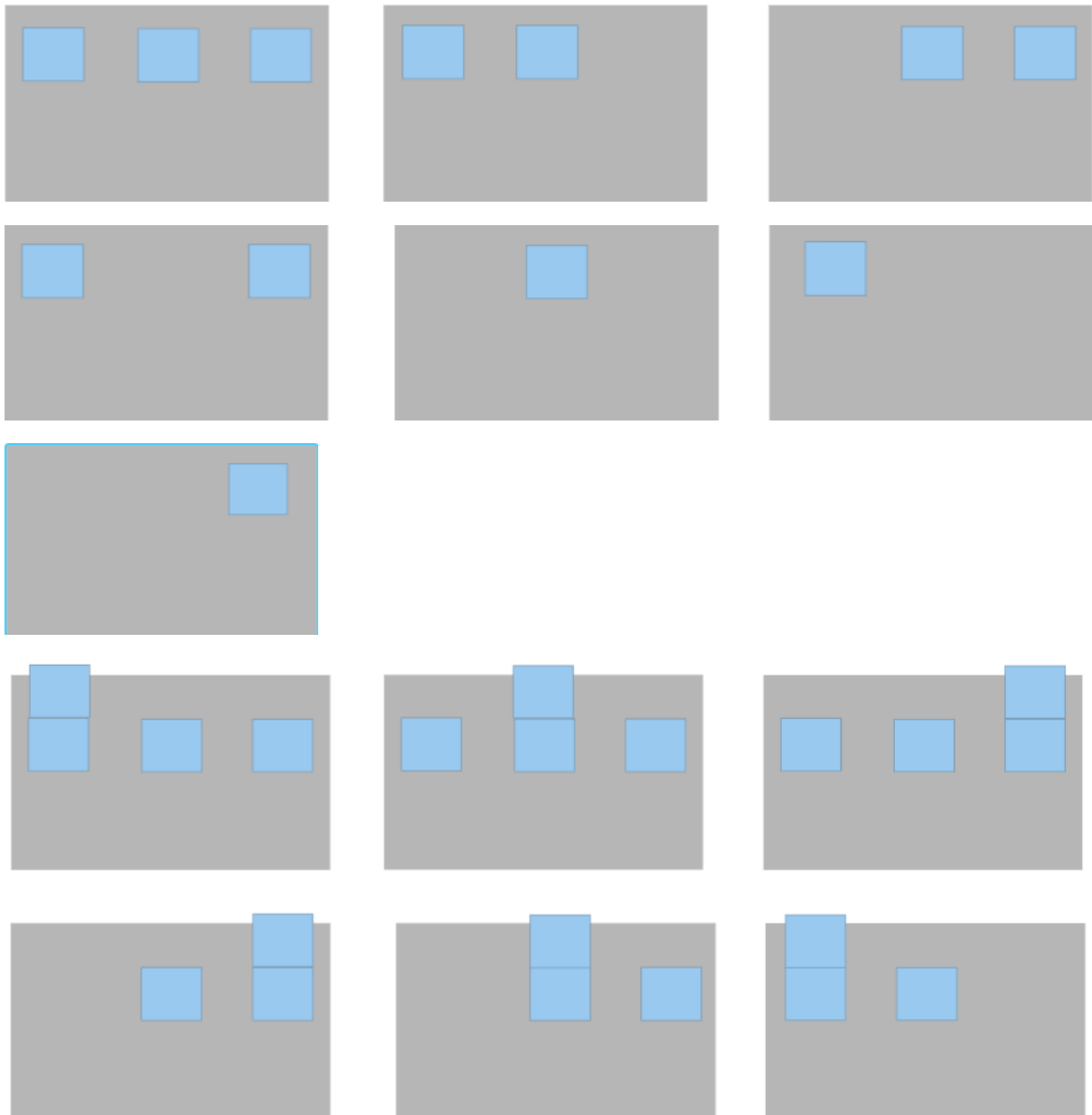
Possible Power ups:

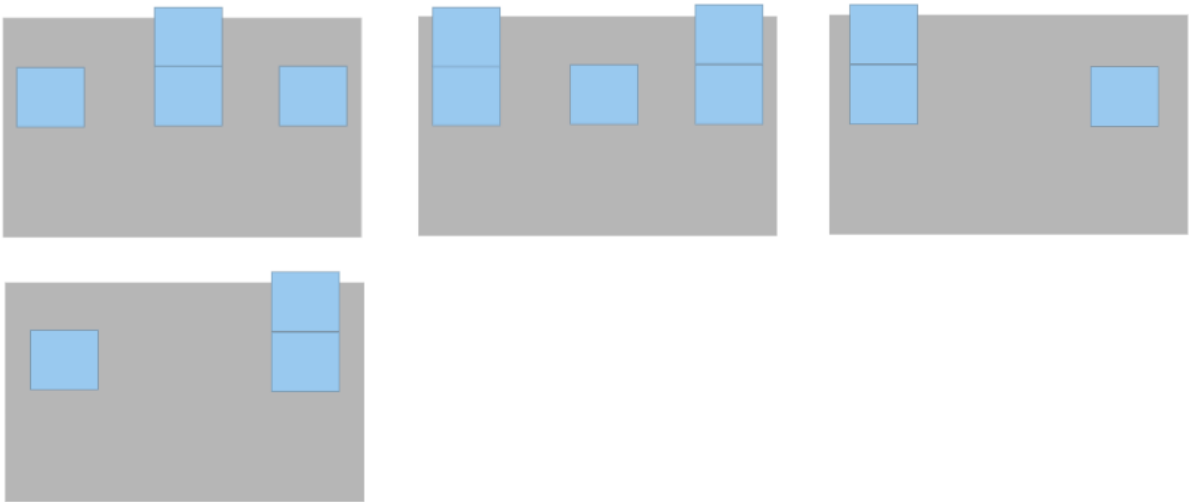
- a. **Give player a rail for 10-30 seconds:** When activated, a rail cart will be given to the player which cannot be damaged by "piles of coal", "snakes", and "springtail bugs".
- b. **The ability to throw rocks at enemies:** Player will throw rocks at enemies which can harm and eliminate them. Can last up to 20 seconds.
- c. **Magnet to attract collectible (ex: gems):** Exactly what it sounds like, attracts in-game primary currency like diamonds.
- d. **2x score multiplier:** Multiplies the score by 2.

LEVEL LOGIC:

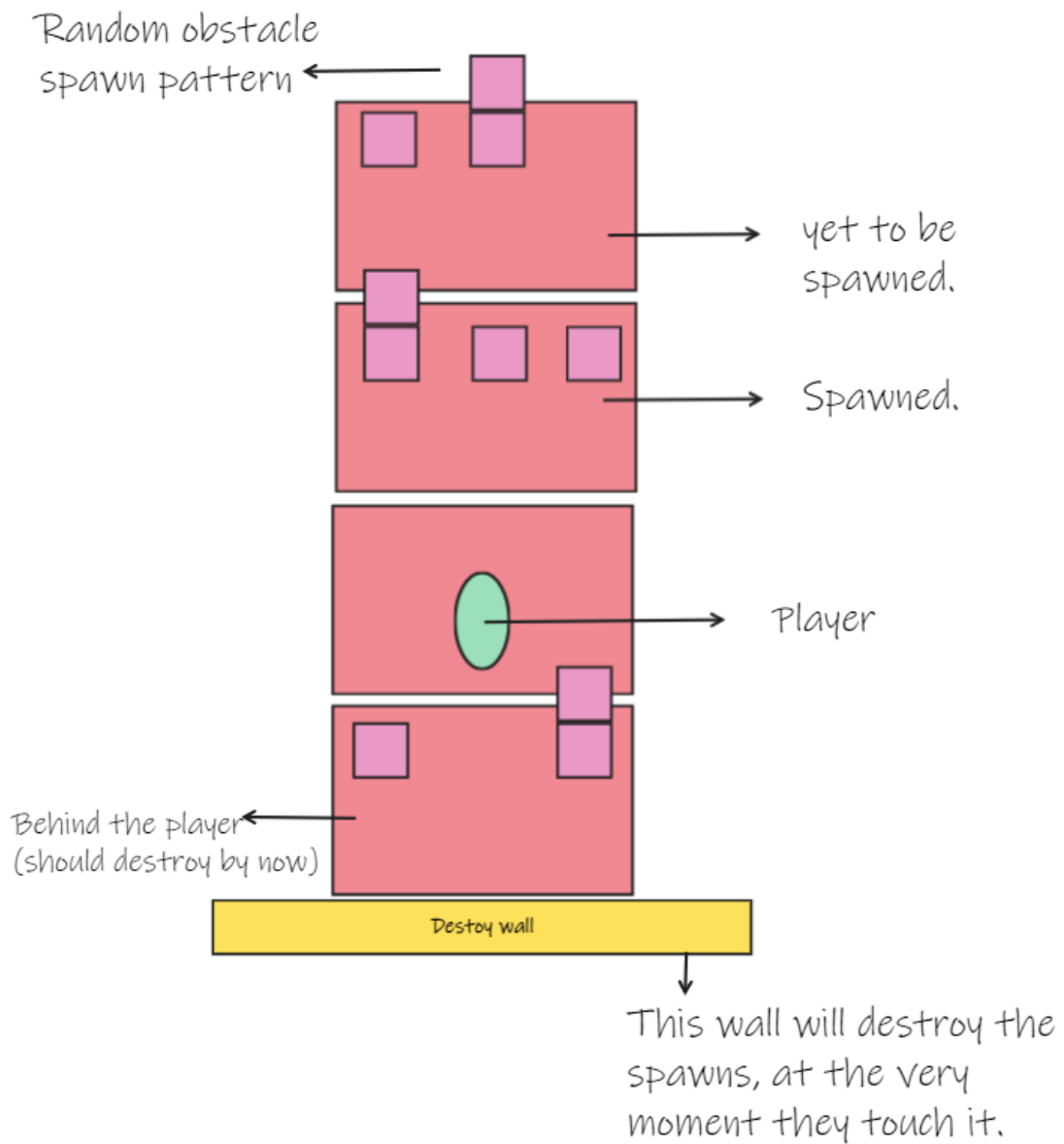
- Obstacles are spawned far from player sight so that it cannot see them spawning.
- Obstacles are spawned with a random pattern.
- As soon as the obstacle platforms goes behind the player, they touch an invisible wall(trigger) that will destroy obstacle platforms so that they are being destroyed right after use. Memory is not being occupied by them unnecessarily. Game will start to get laggy overtime if not done so.

Some of the object spawning patterns:





Visual representation of what it is going to look like:



SILLY SEATING SHOWDOWN

[GAME DESIGN DOCUMENT]

"Sit down and run."

INDEX

1. Short Pitch
2. Product Vision / Concept - Design Pillars
 - a. Unique Selling Points with Visual References
3. Core Mechanics
4. Key Gameplay Features
 - a. Interaction with Characters and World
 - b. Actions for Success
 - c. Clear Win/Fail Conditions
5. Core Loop & Main Player's Objectives
 - a. Short Term Objectives
 - b. Medium-Term Objectives
 - c. Long-Term Objectives
6. Special Items in the Level
7. Unlockable
8. Characters
9. Story
10. Theme
11. Progression
12. Gameplay
13. Game Mechanics
14. Items & Power-Ups
15. Losing
16. Level Design
17. Art Style
18. Music & Sounds
19. Technical Description
20. Marketing & Funding
21. Demographics
22. Platforms & Monetization
23. Localization

1. Short Pitch

"Step into the hilarious world of 'Silly Seating Showdown' where racing meets wild fun. Race on crazy chairs, like rocket-powered recliners and bubble bath beauties, through tracks filled with quirky challenges. Use funny power-ups to outsmart your opponents, whether you're racing alone or with friends. It's all about having a blast and aiming to reach the finish line with a big smile on your face. So, get ready for an unforgettable racing experience that's all about laughter and good times!"

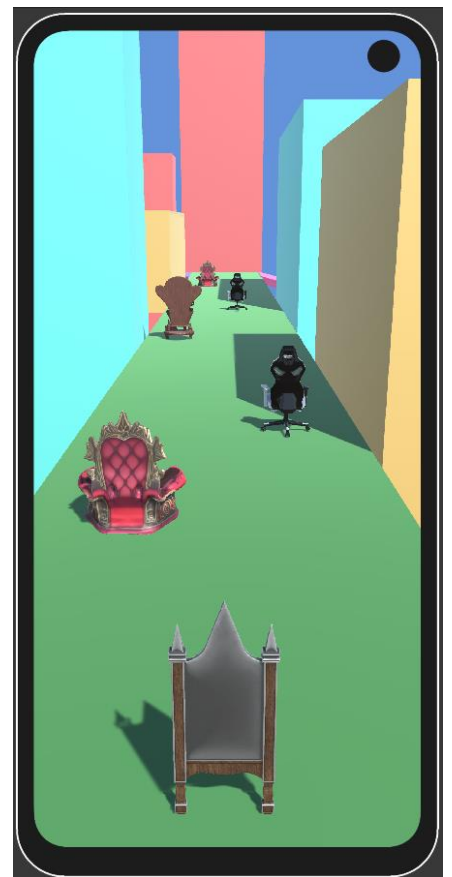
2. Product Vision / Concept - Design Pillars

a) Unique Selling:

Absurd Chairs: Players can race on unconventional chairs, like rocket-powered recliners, bubble bath chairs, wheelchairs, and wheelbarrow chairs.

Comical Power-Ups: Unleash mayhem with power-ups like the Cluck-A-Doodle-Do Cannon and Madness Rampart.

Hilarious Track Design: Silly tracks like chair marathon,



Genre: Hybrid Casual | Runner.

Target Audience: Casual Players mostly.

3. Core Mechanics

Players control their chairs with touch/swipe controls, racing to the finish line while utilizing comical power-ups.

- Tilt device left/right to move.
- Swipe up to jump.
- Swipe down to duck.
- Swipe left/right to turn.

4. Key Gameplay Features

a) Interaction with Characters and World:

- Players control the direction and abilities of their chairs through touch or tilt controls.
- Multiplayer modes enable friends to engage in chaotic and humorous races together.
- Interactive NPCs populate tracks, adding unpredictability and humour.

b) Actions for Success:

- Success in the game involves skilful chair handling, effective use of power-ups, and strategy to outsmart opponents.

c) Clear Win/Fail Conditions:

- Win by crossing the finish line first or lose when opponents cross the line before you.

5. Core Loop & Main Player's Objectives

Core Loop:



Main Objectives:

i. Short Term:

- Win races to unlock chairs, power-ups, and customization items.

ii. Medium-Term:

- Participate in themed events and power-up tournaments to earn special items and in-game currency.

iii. Long-Term:

- Climb the leaderboards and become the ultimate silly chair racing champion.

6. Special Items in the Level

Some of the special items in the levels include:

- Banana Peels that provide a temporary slippery-ness to the player it was thrown at.
- Giant rubber chickens that act as obstacles or projectiles.
- Oversized marshmallow clouds that offer a bouncy shortcut.

7. Unlockables

Unlockables in the game comprise:

- A vast variety of absurd chairs:
 - Throne
 - Bathtub
 - Funky chair
 - Medieval chair
 - Gaming Chair
 - Rocket powered recliner.
 - Upside down chair
 - Long chair with boots.
 - Harry potter broom
- Customization items (only visual):
 - Hats:
 - Big rubber ducky hat.
 - Crown
 - Joker hat
 - Police hat.
 - Balloon in hand.
 - Halo: A halo above the chair.
 - Bull horns: Horn on both side of the chair.
 - Trails:
 - Rainbow trail
 - Bubble trail
 - Rubber ducky trail.
 - Hangers:
 - Giant lollipops hanging from chair.
 - Giant underwear flag

8. Characters

The game features a roster of eccentric characters, each with their own quirky personality and humorous one-liners.

- Mad scientist
- Plumber
- Carpenter
- Dead body
- Cowboy
- Fat aunty

9. Story

"Silly Seating Showdown" is set in a whimsical world ruled by a *comically tyrannical regime* that has *banned* all forms of *transportation* except *chairs*. The player takes on the role of a rebellious character who aims to escape the regime's absurd restrictions. The storyline unfolds through witty dialogue and interactions with other eccentric characters, adding a satirical layer to the game's light-hearted narrative.

10. Theme

The theme is all about absurdity and laughter. It embraces the unexpected, with an array of outlandish chairs, exaggerated physics, and whimsical power-ups that create a world where unpredictability and fun is what you will find. The theme captures the essence of comical chaos and provides a unique and light-hearted gaming experience.

11. Progression

As players advance in the game, they participate in themed races and unlock additional chapters in the satirical storyline. Each chapter presents new and humorous challenges, leading to uproarious encounters and uncovering the mysteries of the comically tyrannical regime.

Player has a progression level that fills as the game is played over and over again. This bar has levels which are to be used to buy customizable items and powerups.

The progression in "Silly Seating Showdown" involves unlocking an ever-expanding roster of chairs, power-ups, and customization items by winning races and participating in themed events and tournaments.

The challenge lies in mastering the unique abilities of each chair, strategizing the use of power-ups, and navigating the whimsical tracks. The game's interactive NPCs and dynamic track hazards add layers of unpredictability, keeping the gameplay fresh and engaging.

The increasing difficulty of themed races and the competitive multiplayer modes ensure that players are continually challenged as they aim to climb the leaderboards and achieve the title of chair racing champion.

12. Gameplay

The gameplay of "Silly Seating Showdown" centres on fast-paced and comical chair races. Players must utilize their chosen chair's unique abilities and master the art of using power-ups to navigate tracks filled with obstacles and surprises. The game's interactive NPCs contribute to its unpredictable nature, and multiplayer modes provide the opportunity for friends to engage in hilarious races together. With engaging and laughter-filled gameplay, "Silly Seating Showdown" keeps players entertained and coming back for more.

13. Game Mechanics

- Players with their respective chairs gets spawned on the track and a timer of 3 seconds goes off.
- All the chairs start normally until they collect powerups and the chaos begins.
- Players must use swipe controls to avoid and overcome obstacles.
- As soon as a powerup is collected, players can touch the icon appeared to use it.
- Whoever reaches the finish line first wins.

14. Items & Power-Ups

"Silly Seating Showdown" features a delightful array of power-ups and boosts.

- Sabotage power-ups:
 - Banana peel: Can throw banana peel on the platform.
 - Butter Slide: Player will slide in random direction when thrown at.
 - Rocket: Opponent will go in air, blasts and get respawned.
 - Magnetizer: A device when activated, makes opponents attract towards each other.
 - Cushion throw: Player can throw cushions at opponents to slow them down.
 - Chains: Player can give chains to random player to slow them down for a while.
- Boosts:
 - Trampoline: Player can make a high jump once to jump over an obstacle or large gaps.
 - Rockets: Rockets attached to the player chair to give a boost.
 - Invincible Potion: Player won't get affected from opponents' powerups while activated.
 - Umbrella: Player fall on ground slowly after jumping.
 - Glider wings: Player fly for a small amount of time avoiding all obstacles and opponents' powerups.

15. Losing

In "Silly Seating Showdown," losing occurs when *one's opponents cross the finish line before them*. The comical nature of the game ensures that even in defeat, players find themselves laughing and motivated to improve their chair racing skills for the next race.

16. Level Design

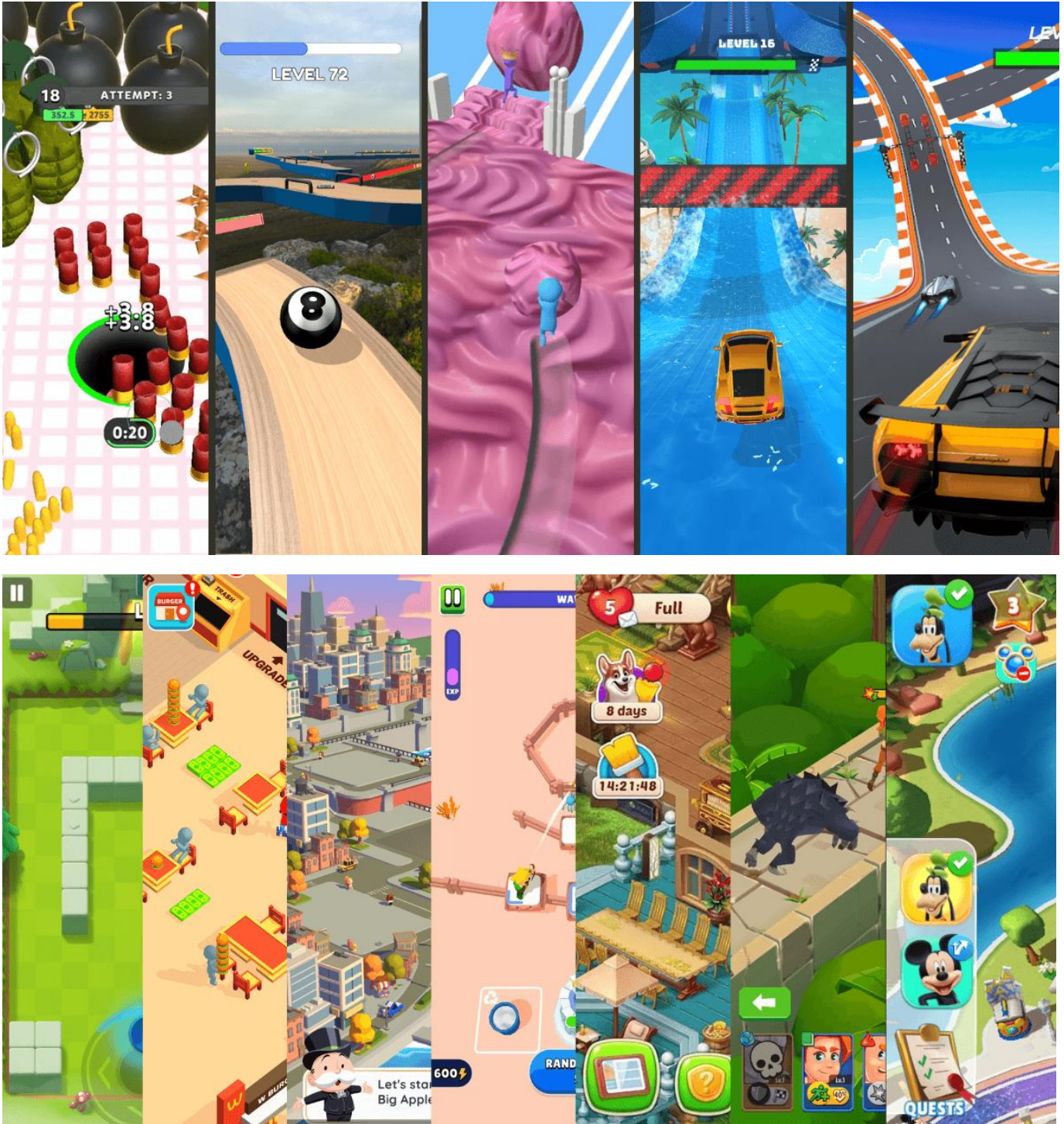
Level design in "Silly Seat Showdown" focuses on creating tracks that are both amusing and challenging. The tracks are designed to provide a balance of humour and strategic gameplay and the goal of level design is to ensure that every race is a memorable and laughter-filled experience. Some of the tracks are:

- Chair marathon
- Circus with all the crazy equipment.
- Parks ad rides.
- Water Slides



17. Art Style

The art style of "Silly Seating Showdown" is whimsical and colourful, reflecting the game's comical nature. Character designs are eccentric, and the chairs come to life with unique and exaggerated features. The tracks are a visual playground, with absurd obstacles and a vibrant colour palette that adds to the game's light-hearted atmosphere. The art style is a key element in creating a visually engaging and laughter-inducing gaming experience.



18. Music & Sounds

The music and sounds in "Silly Seated Showdown" should be designed to enhance the game's comedic atmosphere. Upbeat and whimsical tunes accompany races, providing a lively and entertaining backdrop.

Sound effects are exaggerated and humorous, with rubber chicken squawks, banana peel slips, and comical power-up sounds.

19. Technical Description

- Game Engine Options
 - Unity Engine
 - Godot
- Platforms, the game will be available on:
 - iOS
 - Android
- Project management tools.
 - JIRA
 - Perforce for storing code and assets.

20. Marketing & Funding

Promotional materials, including trailers, social media campaigns, and interactive demos, will highlight the laughter-filled gameplay and encourage players to experience the zany world of chair racing. Funding for the game's development will be obtained through a combination of crowdfunding and potential partnerships with publishers or investors who see the potential in a unique and entertaining gaming concept.

- Prototype the first level and launch a Kickstarter campaign where we show that level.
- Try to land a publishing deal.
- Is there any Government funding we can apply to?
- Create a press kit and send to gaming news websites.
- Start a YouTube Channel and post development diary videos.

21. Demographics

"Chair Chaos" targets a wide demographic of players, including casual gamers looking for light-hearted entertainment and dedicated gamers seeking a unique and strategic racing experience. The game's accessibility, intuitive controls, and humour make it appealing to players of all ages.

- Age: 12 to 50
- Sex: Everyone
- Audience: Casual players mostly

22. Platforms & Monetization

Initially: Free android app with in-game ads, and paid version without ads.

Free iOS with ads. Paid iOS version without ads.

In game purchases.

23. Localization

Initially English. Later update with: Hindi and other local languages.

~END OF DOCUMENTS~

Game Balancing Sheet - Top-Down Isometric Shooter

| Player characters | Levels | Health (Proportional) | Health (Linear) | Weapon | Damage | Fire rate (shots/s) | Movement Speed | DPS (Damage Per Second) |
|-------------------|---------|-----------------------|-----------------|-------------|--------|---------------------|----------------|-------------------------|
| Player-1 | L1-10 | 100 | 100 | Pistol | 15 | 1.5 | 5 | 22.5 |
| | L11-30 | 120 | 120 | | 20 | 1.75 | 5.2 | 35 |
| | L31-50 | 144 | 140 | | 25 | 2 | 5.4 | 50 |
| | L51-70 | 172.8 | 160 | | 30 | 2.25 | 5.6 | 67.5 |
| | L71-90 | 207.36 | 180 | | 35 | 2.5 | 5.8 | 87.5 |
| | L91-100 | 248.832 | 200 | | 40 | 2.75 | 6 | 110 |
| Player-2 | L1-10 | 120 | 120 | Shotgun | 25 | 1.25 | 4 | 31.25 |
| | L11-30 | 144 | 140 | | 30 | 1.5 | 4.2 | 45 |
| | L31-50 | 172.8 | 160 | | 35 | 1.75 | 4.4 | 61.25 |
| | L51-70 | 207.36 | 180 | | 40 | 2 | 4.6 | 80 |
| | L71-90 | 248.832 | 200 | | 45 | 2.25 | 4.8 | 101.25 |
| | L91-100 | 298.5984 | 220 | | 50 | 2.5 | 5 | 125 |
| Player-3 | L1-10 | 80 | 80 | Machine Gun | 10 | 7 | 6 | 70 |
| | L11-30 | 96 | 100 | | 15 | 7.5 | 6.2 | 112.5 |
| | L31-50 | 115.2 | 120 | | 20 | 8 | 6.4 | 160 |
| | L51-70 | 138.24 | 140 | | 25 | 8.5 | 6.6 | 212.5 |
| | L71-90 | 165.888 | 160 | | 30 | 9 | 6.8 | 270 |
| | L91-100 | 199.0656 | 180 | | 35 | 9.5 | 7 | 332.5 |

DPS: damage per second = damage*fire rate

Proportional scaling: base value*(1+%change)

| Player Progression and Rules | |
|------------------------------|---|
| Level Range | Details |
| Level 1 - 10 | Introduction to basic gameplay mechanics. Focus on Grunt enemies. |
| Level 11 - 30 | Introduction of Sniper enemies. Players unlock Player Character 2 at Lvl 3 |
| Level 31 - 60 | Introduction of Heavy enemies. Players unlock Grenade Launcher at Lvl 20. |
| Level 61 - 80 | Introduction of Runner enemies. Increased enemy spawn rates and complexity. |
| Level 81 - 100 | Introduction of Mage enemies. Significant increase in enemy variety and difficulty. |
| Power-Ups and Collectibles | |
| Types of Collectibles | Effect |
| Health Packs | Restore 20% health. |
| Ammo Crates | Refill ammo for the current weapon. |
| Speed Boost | Temporarily increase player movement speed. |
| Damage Boost | Temporarily increase player weapon damage. |

| Enemy Types | Levels | Health (Proportional) | Health (Linear) | Weapon | Damage Per Shot | Fire rate | Speed | DPS (Damage Per Second) |
|-------------|---------|--------------------------|--------------------|---|--------------------|-----------|-------|----------------------------------|
| 1. Grunt | L1-10 | 40 | 40 | Crashes itselt onto the player like a bull | 7.5 | N/A | 4.5 | N/A |
| | L11-30 | 44 | 50 | | 9 | | 5.5 | |
| | L31-50 | 48.4 | 60 | | 10.5 | | 6.5 | |
| | L51-70 | 53.24 | 70 | | 12 | | 7.5 | |
| | L71-90 | 58.564 | 80 | | 13.5 | | 8.5 | |
| | L91-100 | 64.4204 | 90 | | 15 | | 9.5 | |
| sniper | L1-10 | 30 | 30 | Sniper Rifle | 22.5 | 0.5 | N/A | 11.25 |
| | L11-30 | 33 | 35 | | 25 | 0.6 | | 15 |
| | L31-50 | 36.3 | 40 | | 27.5 | 0.8 | | 22 |
| | L51-70 | 39.93 | 45 | | 30 | 1 | | 30 |
| | L71-90 | 43.923 | 50 | | 32.5 | 1.1 | | 35.75 |
| | L91-100 | 48.3153 | 55 | | 35 | 1.2 | | 42 |
| 3. General | L1-10 | 100 | 100 | Missile Launcher | 14 | 0.8 | 2.2 | 11.2 |
| | L11-30 | 120 | 120 | | 16 | 0.9 | 2.5 | 14.4 |
| | L31-50 | 144 | 140 | | 18 | 1 | 2.8 | 18 |
| | L51-70 | 172.8 | 160 | | 20 | 1.1 | 3.1 | 22 |
| | L71-90 | 207.36 | 180 | | 22 | 1.2 | 3.4 | 26.4 |
| | L91-100 | 248.832 | 200 | | 24 | 1.3 | 3.7 | 31.2 |
| 4. Runner | L1-10 | 20 | 20 | Suicide Bombers | 8.5 | N/A | 9.5 | N/A |
| | L11-30 | 25 | 25 | | 10 | | 10.5 | |
| | L31-50 | 30 | 30 | | 11.5 | | 11.5 | |
| | L51-70 | 35 | 35 | | 13 | | 12.5 | |
| | L71-90 | 40 | 40 | | 14.5 | | 13.5 | |
| | L91-100 | 45 | 45 | | 16 | | 14.5 | |
| 5. Mage | L1-10 | 60 | 60 | Black Magic | 20 | 0.4 | 3.5 | 8 |
| | L11-30 | 70 | 70 | | 23 | | 3.8 | 9.2 |
| | L31-50 | 80 | 80 | | 25 | | 4.1 | 10 |
| | L51-70 | 90 | 90 | | 28 | | 4.4 | 11.2 |
| | L71-90 | 100 | 100 | | 30 | | 4.7 | 12 |
| | L91-100 | 110 | 110 | | 33 | | 5 | 13.2 |