Group Report – Game Jam Project

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What Game Jam event was undertaken?

This project was created as part of a solo game jam. The goal was to design and build a complete, playable game within a short timeframe while responding clearly to a given theme.

What were the rules, themes, or limitations of the chosen jam?

The theme of the game jam was “Gambling.” The biggest limitation was time, which meant all design and development decisions had to be made quickly. The jam prioritised creativity, clear theme interpretation, and a finished prototype over technical polish.

One practical limitation was the lack of suitable casino-themed environment assets, particularly HDRI skyboxes. This influenced how the game’s setting was ultimately designed.

How did you intend to address these?

Instead of creating a traditional casino game, gambling was interpreted through risk, reward, and player choice. The aim was to make the player feel like they were gambling through their movement and decisions, rather than through cards or slot machines.

When a casino themed HDRI couldn’t be found, the setting was shifted to a floating universe. This worked in the game’s favour, as the open space increased tension and made mistakes feel more costly. Falling off the track became a clear and meaningful consequence, reinforcing the gambling theme.

What tools or resources were used?

The game was built entirely in Unreal Engine, using Blueprint visual scripting and built-in tools. Development focused on using simple assets and materials so that more time could be spent on gameplay mechanics and level design.

Game Development

What engine was used?

Unreal Engine was used for the entire project. Its physics system made it well suited for a rolling ball game, and Blueprint scripting allowed mechanics to be implemented quickly without slowing down the development process.

Audio Development

Audio was kept simple due to time constraints. Rather than aiming for complex sound design, the focus was on basic feedback to support player actions.

- **Software used:** Chiptone was used to create some sounds
- **Resources used:** Simple sound effects for interaction and feedback

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Asset Development

Most assets were created directly inside Unreal Engine using basic geometry and materials.

- **Software used:** Unreal Engine
- **Resources used:**
    - Spline-based tracks to create smooth paths
    - Casino-style red checker pattern carpet materials
    - Dirty glass materials for tube sections
    - Poker chip models for collectibles

Using splines allowed tracks to be adjusted and iterated on quickly, which was especially useful during testing and balancing.

Additional Tools or Resources

No external tools were used beyond Unreal Engine. This helped keep the workflow straightforward and manageable within the limited game jam timeframe.

What is the final game prototype?

The final prototype is a physics-based rolling ball game set in a floating, cosmic environment. The player rolls through a series of connected tracks, platforms, elevators, and tubes while collecting poker chips and racing against a 200 second timer.

All paths eventually lead toward a large Plinko board near the end of the level, where chance plays a final role in how many chips the player can collect before finishing the game.

What is the concept?

The core idea behind the game is to translate gambling into a physical experience. Instead of placing bets, the player gambles with speed, positioning, and route choices. Taking a risky shortcut or using a speed boost can lead to big rewards or complete failure.

The floating setting supports this idea by constantly reminding the player of the consequences of a bad decision.

What are the core mechanics?

- Physics-based rolling movement
- Poker chip collection
- Speed boosts

- Elevators and moving platforms
- Checkpoints throughout the level
- A countdown timer
- Tube sections that transport the player
- A final Plinko board sequence

What is the core loop?

The player rolls through the level, collects chips, and decides whether to take safe or risky paths while managing the time limit. Progress is saved at checkpoints, but running out of time results in failure. This loop continues until the player reaches the Plinko board and completes the level.

What systems are at work?

Several systems work together to support the experience:

- A physics system that controls movement and momentum based on torque
- A checkpoint system that balances challenge and fairness
- A timer system that adds pressure
- A spline system that defines the tracks
- A collectible system that rewards exploration and risk

How was the game developed?

What roles were allocated?

Because this was a solo game jam, all roles were handled by one person. This included game design, level design, gameplay programming, and visual direction.

How were roles allocated?

Roles were prioritised based on what would most impact the final experience. Core gameplay and level design came first, while more time-consuming elements like detailed audio and custom assets were kept minimal.

What timeline was established for development?

The development process followed a loose timeline, starting with basic movement and mechanics, then building the level structure, and finally adding visual theming, better UI design and balancing tweaks.

How was this timeline established?

The timeline was based on previous experience with similar projects and a realistic assessment of what could be achieved within the game jam timeframe.

How was this timeline achieved?

The timeline was mostly achieved by keeping the scope under control and making practical decisions when time became limited. Features that were not essential were simplified or removed.

If not, what was not achieved and why?

More advanced audio design and visual polish were not fully explored due to time constraints. These were intentionally deprioritised to ensure the game was finished and playable.

What could be done to address this in the future?

With more development time, the game could benefit from improved sound design, additional visual effects, and more variation in chance based mechanics, particularly in the Plinko section. I would've liked to add more mini game-like parts with the plinko board.