Unity-Based Arcade Game

STARDUST STORM

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Video games have always been a fun and stress-relieving activity. We aim to design an arcade game machine that uses the game design software, Unity. The game will have three levels with an approximate 10 minutes per level.

The game can also be multiplayer. Multiplayer games allow players to interact with others while having fun. However, modern multiplayer video games are almost always played online which creates a need for physical interaction. An arcade game allows people to come together and enjoy while being challenged to perform in a stress-free environment.

Project Management:
A fully functioning Galaga-style arcade cabinet is presented. The physical components of the arcade game will be in a small cabinet. The cabinet will have a cord that is to be plugged into a wall outlet.

Components:
1x	Kamrui Mini PC
1x	Acer LED Monitor
2x	Joystick
1x	Speakers
1x	Arcade Cabinet
1x	Extension Cable

Design Objectives:
1. Build a working arcade machine.
   The peripherals include the monitor, joysticks, and speakers. A power strip will also be attached that will power the monitor and computer.

2. Develop the base arcade game.
   Developing the base game entails getting the game to a working state, and creating the menu, leaderboard, and levels to play. Models, movement, projectiles, collision, and map layout are all included.

3. Optimize game mechanics and features.
   The goal is to make the game as enjoyable as possible. Including the multiplayer functionality is a top priority. Adding 2 unique levels and a "Boss Fight" to finish the game will improve the game experience. We aim to create various enemy types and collectible power-ups for the players and the difficulty scaling.

Game Specifications:
Our target specifications are to have an arcade game that has
- Option to play a single player or multi-player.
- Feature a start menu and a scoreboard.

- Have 3 levels - The levels themselves will feature a moving background and 5 enemy formations with 3 different enemy types. The levels will take about 5 minutes to complete and each one will have a unique background.

Design concept:

We decided to go with the design that is closely related to Xevious which features more unpredictable and chaotic gameplay. We felt it would offer better visuals and more interesting gameplay, we wanted a game that was more dynamic and unpredictable compared to Galaga which is very flashy.

Map A playable entity will move through a map at a set speed running into enemies along the way and must clear them or avoid them to finish the level.

Hardware
- Cabinet Case
- 2 Input controllers (joystick 2 buttons)
- PC
- Monitor

Game
- Start Menu
  - 1 or 2-player options

- Leaderboard
  - 10 people on the board
  - 1 for solo
  - 1 for duo
  - Credits on page
  - Returns to start menu
  - Scoring
  - Enemies Killed
  - Lives remaining

- In Game
  - 3 levels
  - 5 formations (3 enemy types)

- 2 player
  - Different models (color palettes)

- Level
  - 5 minutes per level (set speed)
  - 3 different backgrounds