PDF Document for Project 9 Submission: Adi Lind & Amit Fishel

Tank Battle

1. introduction

The provided game appears to be a "Tank Battle" game, featuring two players competing in an arena with bullets, obstacles to hide behind, and score-tracking.
The game combines strategic positioning, precise timing, and skillful shooting mechanics.

2. Concept/Idea

Tank Battle is a 2D multiplayer game where two players control tanks in a tactical environment. Players take turns moving, aiming and shooting with the goal to score hits by shooting at each other. The first player to reach three hits wins. The game features an arena with obstacles that influence movement and bullet trajectories, enhancing strategic gameplay.

3. Architecture:

The game is built using five core components:

1. **Main.jack**: Sets up and runs the game loop.
    - Initializes the game environment
    - Creates and manages the main game instance
    - Handles program lifecycle
2. **Game.jack**: Implements the main game mechanics, including player turns, phases (move, shoot, switch), collision checks, and score tracking.
    - Uses Tank (Player 1 and Player 2)
    - Manages Arena and Bullet instances
    - Handles input, collision detection, and game state
    - Controls UI elements and game flow
    - Manages entry screen animation, instructions, and end game states
3. **Tank.jack**: Manages individual tank behavior, including movement, shooting, and health.
    - Controls tank movement and rotation
    - Manages tank health and bullet firing
    - Handles tank collision response
    - Maintains tank state and position memory
    - Implements tank drawing and animation
4. **Bullet.jack**: Represents bullets fired by tanks, handling their position, movement, and collisions.
    - Tracks individual bullet positions and states

- Manages bullet lifecycle and cleanup
- Handles bullet drawing and screen boundaries
- Implements bullet-tank collision detection

5. **Arena.jack**: Defines the game environment, including obstacles and boundaries.

    - Defines environmental constraints and obstacles (cover elements)
    - Implements collision detection for map elements
    - Handles arena rendering and visual effects

4. Motivation

Both of us share a passion for action and shooting games, and we were inspired to create something unique that others could genuinely enjoy. We wanted to develop a game that not only provides excitement and challenge but also connected to our reality in those days, tanks which protecting our nation have taken on a particularly significant meaning for us.

This project allowed us to dive into learning the Jack programming language in the best possible way—by building a fully interactive game from scratch. Through this process, we gained a profound understanding of the language while applying it to something meaningful and practical.

We also aimed to design a game that was more than a solo experience. By creating a multiplayer game. This reflects our belief that games can unite players, making it a shared and enjoyable experience.

5.Google Drive Link to our Video:

Video –
https://drive.google.com/file/d/1LoU-U6o0zd5V3-QNm4JVNrIpIf7LV4jh/view?usp=sharing

Project files -
https://drive.google.com/drive/folders/1eoiAtqB7xIHMOqS_BDggk2Zc1b-X-s6d?usp=sharing

6. Names and Emails:

Names:

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Enjoy the game and may the best win!