Tank Project

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Game Manual

Introduction

This project implements a 2D Tank War game using Java, JavaFX, and Object-Oriented Design principles. The game features a player-controlled tank, enemy tanks with simple AI, missiles, explosions, walls, medpacks, and a grid-based world. The goal is to survive, eliminate all enemy tanks, and avoid collisions or incoming fire.

This brief manual describes how to start and run the game.

How to Start the Game

Prerequisites

To run the game, ensure the following are installed on your system:

- Java Development Kit (JDK) 17 or later

- JavaFX SDK (correct version for your OS)

- An IDE such as IntelliJ IDEA or VS Code, or the ability to run from terminal

Running the Game in an IDE

1. Open the project in IntelliJ IDEA.

2. Make sure the `javafx-sdk` library is added to the module path.

3. Open the file `TankGameApplication.java`.

4. Run the application using the IDE's run button.

Running from the Terminal

If running manually via terminal, use the following command (modify paths as needed):

```
java --module-path /path/to/javafx-sdk/lib
     --add-modules javafx.controls,javafx.fxml
     -cp out/production/TankProject
     TankGameApplication
```

Gameplay Overview

- Use the arrow keys to move the player's tank.

- Press the spacebar to fire missiles.

- Avoid walls, enemy missiles, and enemy tanks.

- Collect medpacks to restore full health.

- Destroy all enemy tanks to win the game.

End of Game

When the player wins or loses, a message will appear along with a `Restart` button. Clicking this button resets the game world and begins a new session.