

# Alpha Game System

The **Alpha Game System** is a Java-based game menu system that allows users to select and play a variety of games such as **Snake**, **Minesweeper**, **Tetris**, and **Sudoku**. This system features a customizable game menu, smooth transitions, and immersive background music.

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## □ Features

- □ Customizable game menu with multiple game options.
  - □ Background music that plays while the menu is displayed.
  - □ Smooth transitions between different game screens.
  - □ Play different games: **Snake**, **Minesweeper**, **Tetris**, and **Sudoku**.
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## □ Installation

To get started with the **Alpha Game System**, follow these steps:

1. **Clone the repository(source code):**

```
git clone https://github.com/adityacyan/Javagamesys.git
```

2. **Navigate to the project directory:**

```
cd alpha-game-system
```

3. **Open the project in IntelliJ IDEA** or your preferred Java IDE.

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## □ Usage

1. **Run the AlphaGameScreen class** to start the game menu:

```
javac src/AlphaGameScreen.java  
java src/AlphaGameScreen
```

2. **Use the arrow keys** to navigate the menu and press **Enter** to select a game.

3. **Enjoy** playing the selected game!

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## □ Dependencies

- Java Development Kit (JDK) 8 or higher
  - IntelliJ IDEA or any other Java IDE
  - `javax.swing` for GUI components
  - `javax.sound.sampled` for background music
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## □ Project Structure

```
└─ Javagamesys/  
  └─ Javagamesys.iml  
  └─ README.md  
  └─ src  
    └─ AlphaGameScreen.java  
    └─ GameOverScreen.java  
    └─ Minesweeper.java  
    └─ SnakeGame.java  
    └─ SudokuGame.java  
    └─ Tetris  
    └─ assets
```

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## □ Contributing

Contributions are welcome! Please fork the repository and submit a pull request.

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## □ Made with Contributions

### Team Contributions

Here is a breakdown of the contributions made by each team member to the **Alpha Game System** project:

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### □ Aditya Raj (2347012)

#### Feature Additions:

- Designed and implemented the **menu home screen**.
- Integrated **sound effects** for the menu system.

- Created a reusable **"Game Over" screen** component.
- Developed the complete **Snake game**, including:
  - **Food logic**
  - **Game panel mechanics**
  - Core gameplay logic ensuring fluid controls and real-time updates.

### Documentation:

- Authored the initial version of the **README.md** and provided ongoing updates (Nov 3).

### Maintenance and Improvements:

- Fixed bugs across various game screens for a seamless user experience.
  - Optimized the project by removing unused assets, including redundant `.mp3` files.
  - Took the lead in **repository management**, merging branches and ensuring smooth integration (Nov 24–26).
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## □ Pratyay Majumder (2346019)

### Feature Additions:

- Developed the **Minesweeper game**, complete with:
  - Randomized grid generation.
  - Gameplay mechanics like flag placement and mine reveal (Nov 20).
- Added **sound effects** to improve user feedback during gameplay (Nov 25).

### Documentation:

- Contributed to and updated sections of the **README.md**, providing a clear guide for users (Nov 20, Nov 25).

### UI/UX Enhancements:

- Enhanced the **first page** for a more intuitive and user-friendly experience (Nov 25).

### Collaboration:

- Reviewed pull requests and merged updates to maintain the integrity of the main branch.
  - Worked closely with **HarshMartinTopno** to integrate the **Tetris background music** into the game.
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## □ Harsh Martin Topno (2306187)

### Game Development:

- Designed and developed the **Tetris game**, including:
  - Core gameplay logic with falling blocks and line-clearing mechanics.
  - A polished and intuitive user interface (Nov 24).

### Sound Integration:

- Added **background music** to elevate the immersive experience of the Tetris gameplay (Nov 25).

### Code Integration:

- Integrated the **Tetris package** into the main application, accessible via the **AlphaGameScreen** (Nov 24).

### Bug Fixes and Updates:

- Improved the functionality of the **AlphaGameScreen** with minor but impactful updates (Nov 24).

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## Anshumaan Gangwar (2306207)

### Game Development:

- Successfully completed the **Sudoku game**, integrating:
  - Puzzle generation and solving logic.
  - Seamless integration into the main game menu (Nov 25).

### UI/UX Enhancements:

- Updated the **main menu** to include options for all newly developed games (Nov 25).

### Collaboration:

- Merged local changes with the **master branch** and participated actively in reviewing pull requests to ensure code quality and consistency (Nov 25).

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## Development Timeline

Here's a detailed timeline of the major milestones achieved in the **Alpha Game System** development process:

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**November 3–6, 2024**

**Contributor:** Adityacyan

- Designed the **menu home screen** and **Game Over UI**.
- Began development on the **Snake game**, including **food logic**.

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**November 20, 2024**

**Contributor:** PratyayforDS

- Released the first version of the **Minesweeper game**.
  - Contributed to the **README.md** documentation.
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**November 24, 2024**

**Contributors:** Adityacyan, Harsh Martin Topno

- **Adityacyan:** Finalized **Snake game** mechanics and addressed bugs.
  - **Harsh Martin Topno:** Developed **Tetris** and integrated into the **AlphaGameScreen**.
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**November 25, 2024**

**Contributors:** PratyayforDS, Harsh Martin Topno, Anshumaan Gangwar

- **PratyayforDS:** Added sound effects to **Minesweeper**, updated **README.md**, and enhanced **UI**.
  - **Harsh Martin Topno:** Integrated **Tetris background music** and polished **UI**.
  - **Anshumaan Gangwar:** Completed **Sudoku game** and updated **main menu**.
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**November 26, 2024**

**Contributor:** Adityacyan

- Finalized **menu sound integration** and completed bug fixes.
  - Managed **repository updates** for project optimization.
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