

Gravity

Group 10

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4. Graphical user interface

4.1 User interface overview

The main functionality for the user is divided in two parts. When starting the game the first part shown is the main menu. From the main menu the player can choose to see help, start single or multi player game, view high score, select player controls settings menu or to quit the game. When starting the game first a map choice menu appears. Also in multi player mode after selecting the map to play at, an option to choose how many lives each player should have will appear.

From the controls settings menu there are options to choose which function should be mapped to a key on the keyboard.

The in game view shows the players view of the game world, fuel, remaining lives, number of missiles etc. In multi player mode, the screen is split with one view for each player.

From the pause menu, there are only two choices: resume game and end game.

From the map choice menu you select which map to play from.

The high score screen shows a list of the players which have achieved the highest score in single player mode.

The help screen shows help for the game which explains the game play and the available options.

4.2 The GUI elements and functional requirements associated with them

All text highlighted in red shall be selectable menu items.

Main Menu

Functional requirements

- Quick Start Help
- Exit Game



Pause Menu



High Score Menu



Help Menu



Map Choice Menu

Functional requirements

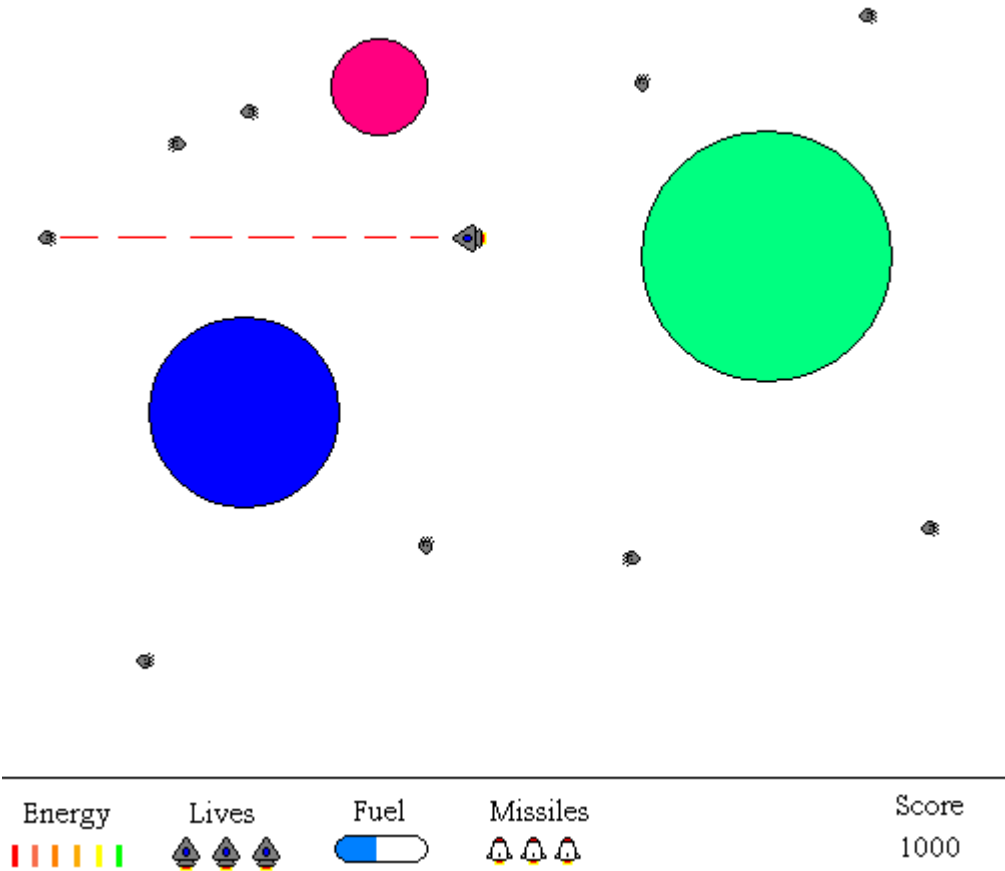
- Map Choice



In-Game Single Player Screen

Functional requirements

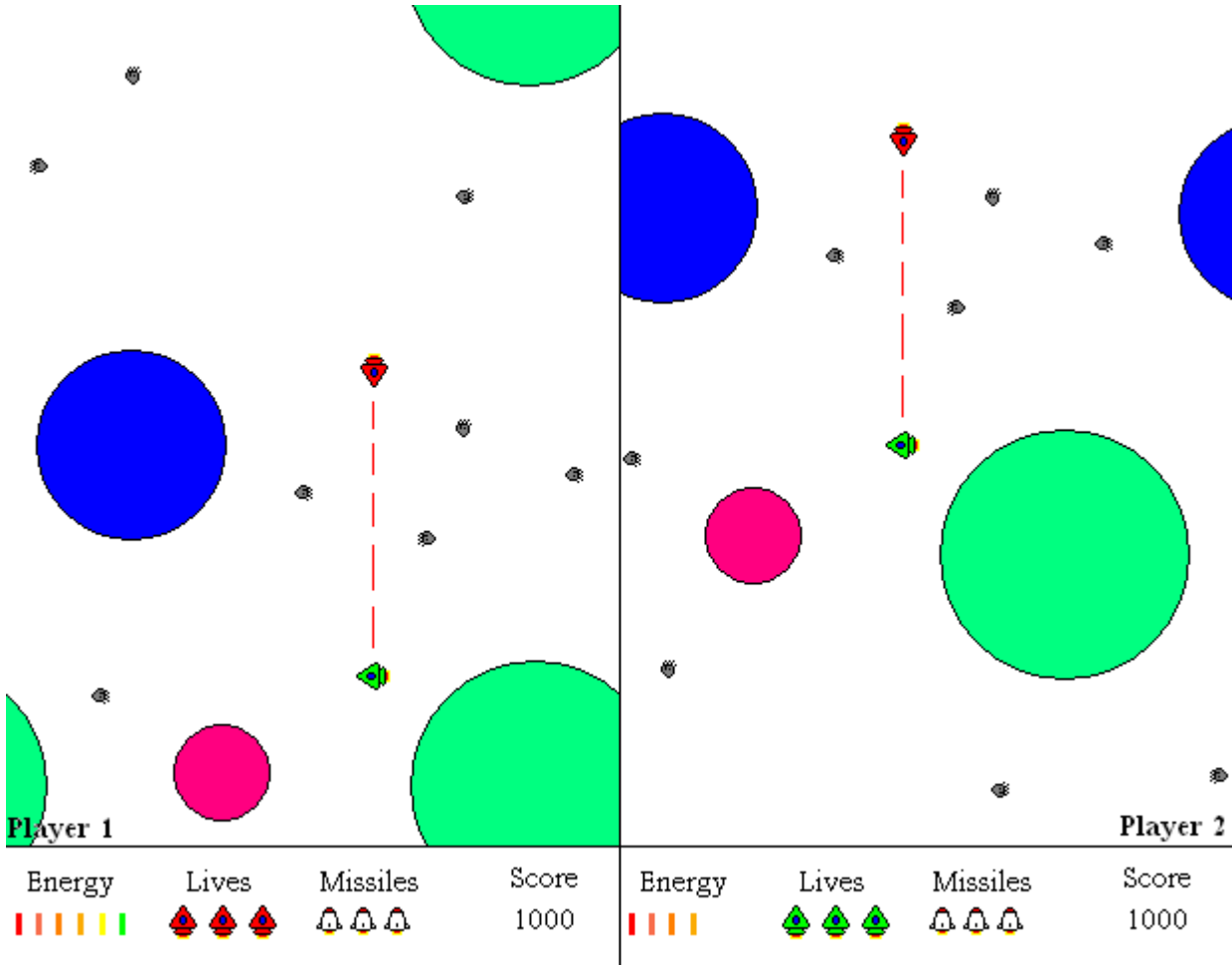
- Fuel Restriction
- Planets
- Asteroids
- Items
- World Boundary Wrapping
- Players World View
- Game Play Info
- Single/Multi Player Scoring
- Ship Lives



In-Game Multi Player Screen

Functional requirements

- Planets
- Asteroids
- Items
- World boundary wrapping
- Players world view
- Game play info
- Single/multi player scoring
- Ship lives



4.3 Names of controls, methods/procedures and triggers for each screen

Main Menu

Triggered by:

- a) Starting the game application;
- b) A game session's ending (after viewing the “High Score” screen);
- c) Return from any of the sub-menus;

Controls

- *Single Player*: Triggers a game state transition to the “map choice” menu.
- *Multi Player*: Triggers a game state transition to the “map choice” menu.
- *High Score*: Triggers a game state transition to the “high score” menu.
- *Game Controls*: Triggers a game state transition to the “game controls” menu.
- *Quit Game*: Triggers a game application exit/end.

Pause Menu

Triggered by: Invoking the “Pause” control by pressing the appropriate key during a game session.

Controls

- *Resume Game*: The game session continues.
- *End Game*: The game session ends.

High Score Menu

Triggered by:

- a) Invoking the “High Score” control in the main menu;
- b) A game session's ending;

Controls

- *Continue*:
 - a) *If this menu is triggered from the main menu*: Triggers a game state transition to the “main” menu;
 - b) *If this menu is triggered as a result of a finished game session*: Triggers a game state transition to the “main” menu;

Help Menu

Triggered by:

- a) Invoking the “Help” control in the “Main” menu;
- b) Invoking the “Help” control by pressing the appropriate key during a game session;

Controls

- *Return*: Returns to the game state from which it was triggered.

Map Choice

Triggered by:

- a) Invoking the “Single Player” control in the “Main” menu;
- b) Invoking the “Multi Player” control in the “Main” menu;

Fields

- *Map*: Defines the map that the game session is to be played on.

Controls

- *Start*: Initiates a new game session and performs a game state transition to that session.

Game Controls Menu

Triggered by: Invoking the “Game Controls” control in the “Main” menu.

Fields

- *Turn Left*: Defines the game control to use for turning the ship left.
- *Turn Right*: Defines the game control to use for turning the ship right.
- *Thrust*: Defines the game control to use to thrust the ship.
- *Fire Missile*: Defines the game control to use to fire a missile.
- *Fire Laser*: Defines the game control to use to fire a laser.

Controls

- *Save*: Saves the set game controls and performs a game state transition to the “Main” menu.
- *Cancel*: Cancels any changes made to the game controls and performs a game state transition to the “Main” menu.

Single Player Game Screen

Triggered by: Invoking the “Start Game” control in the “Map Choice” menu.

Controls

- *Pause*: Triggers a game state transition to the “Pause” menu.

Multi Player Game Screen

Triggered by: Selecting start game from the multi player game rule choice screen.

Controls

- *Pause*: Triggers a game state transition to the “Pause” menu.