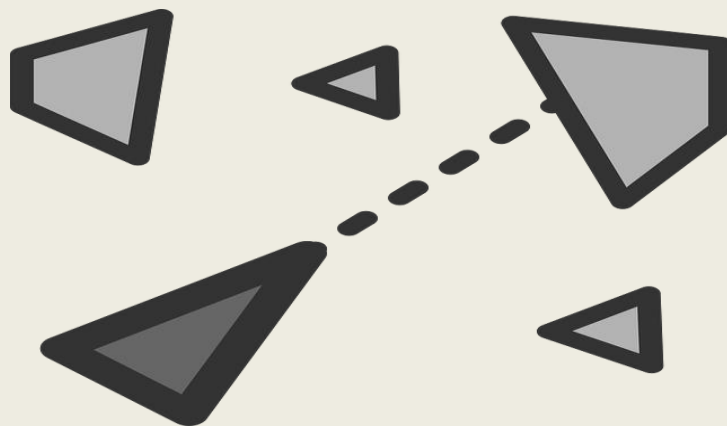


# Asteroids

## User Manual

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# USER MANUAL

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By

ISetroids

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## TABLE OF CONTENTS

Program Description_____	3
Main Menu_____	4
Menu Controls_____	4
Second Menu_____	5
Start Game_____	5
Level of Difficulty_____	5
Game Components_____	6-7
Pause Game_____	8
Game Over_____	8
Win Game_____	9
Instructions_____	9
HighScores_____	10
Statistics_____	10
Bugs in the program_____	11



## Program Description

The object of the game is to shoot and destroy asteroids and aliens while not colliding with either, or being hit by the alien's bullets. The player wants to score as many points as possible by destroying asteroids and aliens by controlling a ship that can rotate left and right, fire shots straight forward, and thrust forward. As the ship moves, momentum is not conserved; the ship eventually comes to a stop again when not thrusting. Each stage starts with a few large asteroids drifting in random directions on the screen. The player is able to wrap around the screen, for instance, if it drifts off the top edge of the screen it reappears at the bottom and continues moving in the same direction. As the player shoots asteroids, they break into smaller asteroids that frequently move faster and are more difficult to hit. When a certain number of asteroids are destroyed in each stage, an alien appears on a random side of the screen and disappears only when the player shoots it. There are two kinds of Aliens: green aliens uses a pathfinder AI and aims at the player's ship, the other AI rotates constantly in a random direction and while constantly shooting bullets. Once the screen has been cleared of all asteroids and aliens, a new set of large asteroids appears. The number of asteroids increases each stage (5 stages in total). The game is over when the player has lost all of his lives.

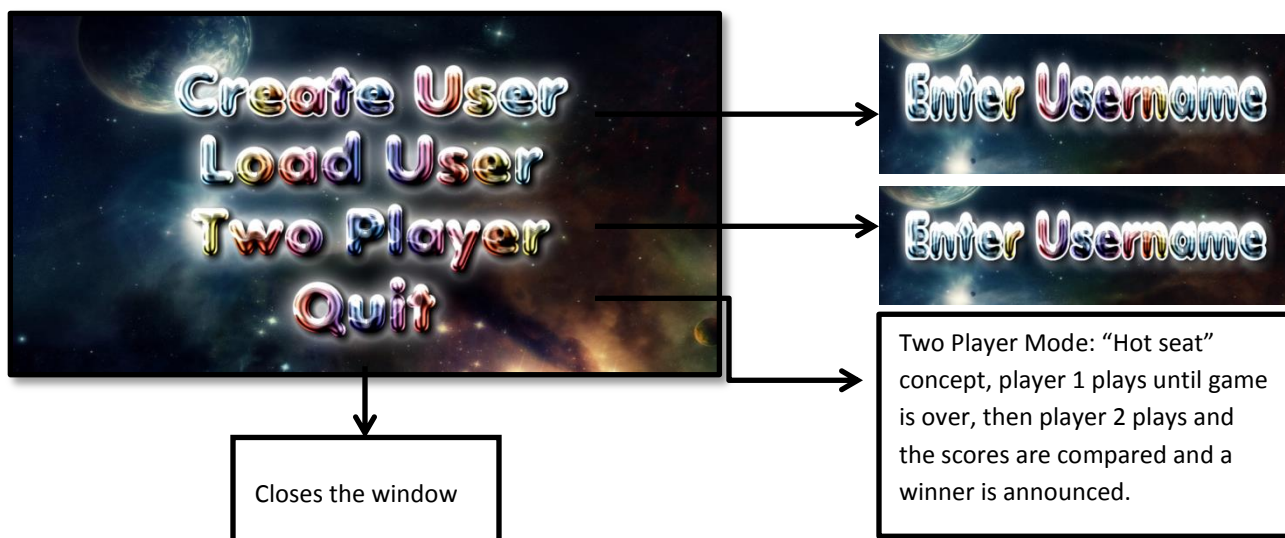
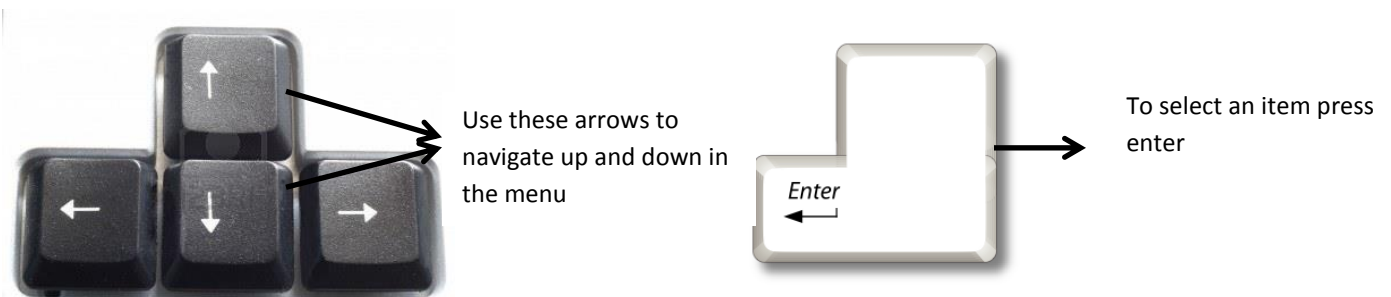


## Main Menu

The image below represents the main menu of the game. If the player is new, he must identify himself by clicking on “Create User”. If the player already has a username, he must click on “Load User” to identify himself and recover the high scores and statistics associated to his username.

Menu controls:

First, you need to click on the screen. Then you can use your keyboards keys to navigate through the menu:





### Second Menu

Once the users are identified the second menu appears



**Start Game**

When the user presses “Start Game”, he/she is prompted to select a level of difficulty.

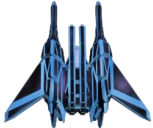



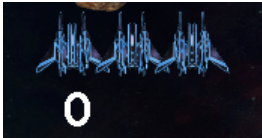

Moreover, in each of these levels (easy, medium, and hard) there are 5 stages. The player must pass each of the 5 stages in order to win. Each stage is more difficult with an increasing number of asteroids and aliens. The asteroids are also becoming faster as the stages are incremented.






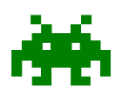



Once the player has selected the level of difficulty, the game starts. The player's ship is initially positioned in the middle of the screen as you can see below and asteroids are randomly starting to appear on the screen.



Game Components	Name and Description
	<p><b>Player's Ship :</b> To control the ship, the player needs to use the 3 arrows on the keyboard: Turn left/right  Move forward</p> <p>As the ship moves, momentum is not conserved; the ship eventually comes to a stop again when not thrusting.</p>
	<p><b>Bullets:</b> The player can shoot red bullets by pressing on the x </p>
	<p><b>Lives and Score:</b> The number of lives the player has is indicated on the top right hand side of the screen. The initial number of lives is set to 3 and the game is over when the player has no more lives. The score of the player is indicated below. In this example, the player has a score of 0 and has 3 lives left.</p>
	<p><b>Shield:</b> When the player loses a life, a shield immediately appears around the ship to protect it for a few seconds.</p>

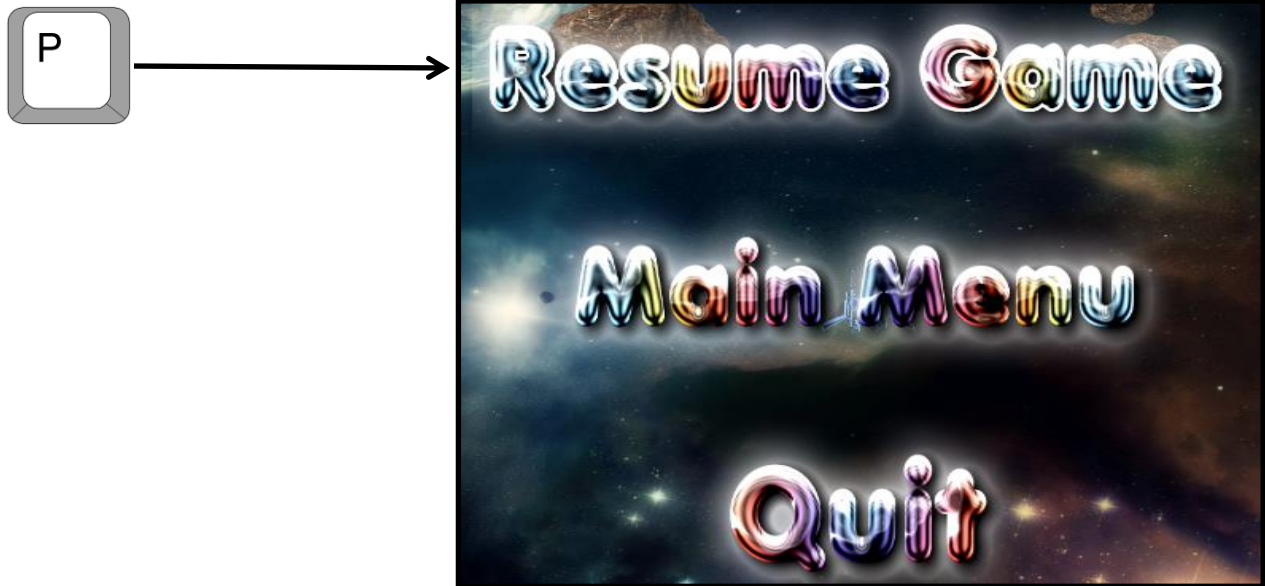


	<p><b>Rapid Fire:</b> When the player destroys asteroids, there is a random chance that a rapid fire drop appears. This drop allows the player to shoot 1.6 times faster. The player needs to move over it in order to benefit from it.</p>
	<p><b>Life:</b> When the player destroys asteroids, there is a random chance that a bonus life drop appears. The player needs to move over it in order to benefit from it.</p>
	<p><b>Asteroids:</b> To obtain points, the player needs to shoot at asteroids and destroy them. The more asteroids destroyed, the more points obtained. When a large asteroid is hit, it will divide into smaller and faster asteroids. Each asteroid destroyed is worth 10 points.</p>
	<p><b>Green Alien:</b> The green alien appears in stage 2, 4 and 5 after a certain number of asteroids are destroyed. It uses a path finder AI: a force is pushed in the direction of the player and it pushes a torque to orient with it. It starts shooting when the alien is aligned with the player.</p>
	<p><b>Red Alien:</b> The red alien appears in stage 3, 4 and 5 after a certain number of asteroids are destroyed. It constantly rotates with a random torque value. The red alien travels around the screen and continuously shoots bullets while rotating.</p>





The player can pause the game at any moment by pressing on “P”. A menu will appear asking whether the player want’s to resume the game, return to main menu or quit the game.



If the player lost all his lives before, then the game is over. The game is stopped and the following window appears:



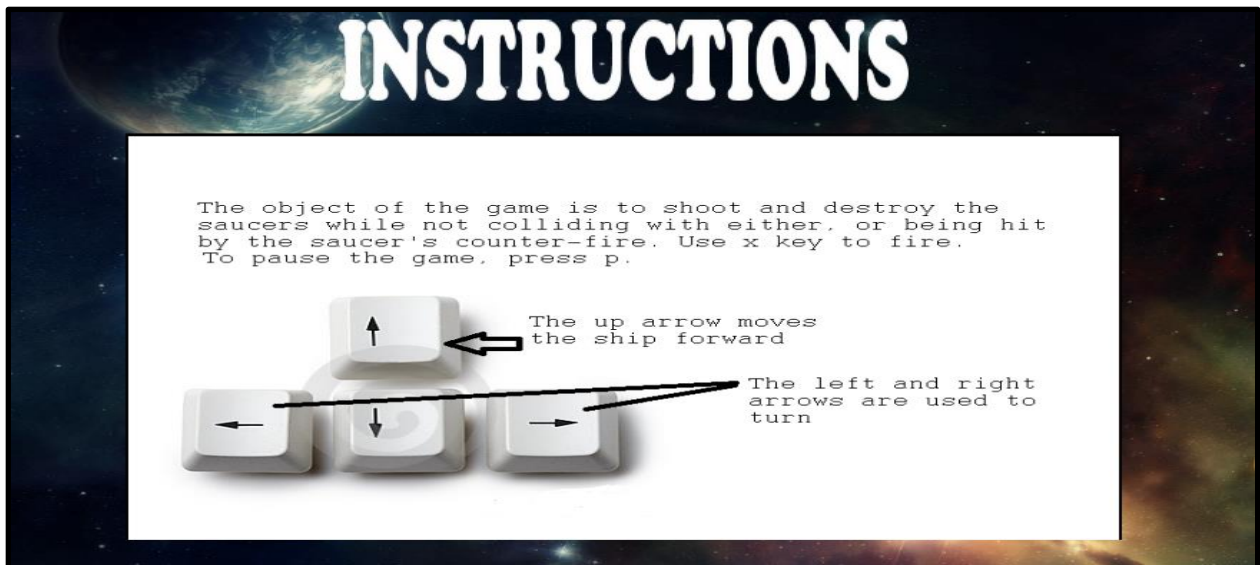


If the player successfully completed all 5 stages, the player won the game and the following message will appear:



### Instructions

To see the game instructions, the player needs to select “Instructions” in the 2<sup>nd</sup> menu after the user is identified. The following window will appear, explaining the directions for the game:





## High Scores

To see the high scores of the game, the player needs to select “Highscores” in the 2<sup>nd</sup> menu after the user is identified. The following window showing all the high scores will appear:



In this example, the player with the user name “DSA” has the highest score with a total score of 2390 points.

## Statistics

To see the statistics of the current player, the player needs to select “Statistics” in the 2<sup>nd</sup> menu after the user is identified. The following window showing all the statistics will appear:



In this example, the player with the Username “GEN” has an average score of 0 for 1 game played. The best score out of all the games played is 0.



### **Bugs in the Program**

Sometimes, when the player is shooting he randomly loses a life.