



**Novel Games**

**Asteroids Flash Game  
Customization Guide**

Version 1.1



Modification History

<i>Version</i>	<i>Date</i>	<i>Description</i>
<i>1.2</i>	<i>2007-2-22</i>	<i>Updated Optional Functions section</i>
<i>1.1</i>	<i>2007-1-27</i>	<i>Added asteroids.htm</i>
<i>1.0</i>	<i>2006-9-8</i>	<i>First Draft</i>



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## Introduction

This document describes the source codes of the Asteroids Flash game and the ways to customize the game.

In order to use the source code your computer should have Flash Professional 8 or above installed. You should also have basic knowledge of the Flash authoring environment, such as the steps to change a picture and the steps to change the value of a variable, etc.



## Directory Structure

The source codes are arranged in the following directory structure:

```
+
+-- asteroids.pdf (this file)
+-- common
|   +-- com
|       +-- novelgames
|           +-- flashgames
|               +-- common
|                   +-- MainDevelopment.as
+-- asteroids
    +-- asteroids.flc
    +-- asteroids.swf
    +-- asteroids.htm
    +-- com
        +-- novelgames
            +-- flashgames
                +-- asteroids
                    +-- Config.as
                    +-- other ActionScript .as files
```

To build the game, you should open asteroids\asteroids.flc in Flash 8 and then publish it. The file asteroids.swf in the same directory is the compiled swf file for your reference.

The file asteroids.htm contains sample HTML codes for you to use in your web site.

All the ActionScripts are arranged in class files put in the asteroids\com\novelgames\flashgames\asteroids folder.



Depending on what you'd like to customize, you will need to modify different files:

- 1) If you want to change the graphics and the sounds, then you should edit the fla file.
- 2) If you want to tune some parameters of the game, then you should edit the Config.as file.
- 3) If you want to add the support of high scores, the credits page, or the volume control buttons, then you should edit the MainDevelopment.as file.
- 4) If you want to change the behaviour of the game and such changes cannot be achieved by tuning the game parameters as in 2) above, then you should edit the ActionScript .as files.

We will discuss 2) and 3) in the next two sections.



## The Configuraton File (Config.as)

In this section we'll explain the parameters in Config.as and how they affect the behaviour of the game.

Parameter	Description
UFO_SCORE	The score awarded when a UFO is shot
UFO_APPEARATE	The number of frames between two consecutive appearances of the UFO
UFO_FIRERATE	The number of frames between two shots made by the UFO
UFO_SPEED	The speed (in pixels per frame) of the UFO.
UFO_TOTALBULLETS	The maximum number of UFO bullets the screen will have concurrently
UFO_BULLETSPEED	The speed (in pixels per frame) of the bullets shot by the UFO
SHIP_MINX	The minimum x coordinate coordinate (in pixels) the ship can move to
SHIP_MAXX	The maximum x coordinate coordinate (in pixels) the ship can move to
SHIP_MINY	The minimum y coordinate coordinate (in pixels) the ship can move to
SHIP_MAXY	The maximum y coordinate coordinate (in pixels) the ship can move to
SHIP_MAXSPEED	The maximum speed (in pixels per frame) the ship can move
SHIP_ACCELERATION	The acceleration the ship have have when the UP arrow is pressed. The unit is pixels per frame squared, which means the speed will increase by SHIP_ACCELERATION pixels per frame for each frame
SHIP_ROTATEANGLE	The angle (in degrees) the ship will rotate for each frame when the LEFT or RIGHT arrow keys are pressed
SHIP_BULLETSNO	The maximum number of bullets the screen will have concurrently
SHIP_BULLETSPEED	The speed (in pixels per frame) of the bullets



ASTEROID_SPEED	The initial speed (in pixels per frame) of the asteroids.
ASTEROID_SPEEDINCREASE	The increase in speed (in pixels per frame) of the asteroids upon each destruction of all the asteroids
ASTEROID_TOTALTYPES	The number of types of asteroids
ASTEROID_BREAKNO	The number of smaller asteroids an asteroid will break into when being shot
ASTEROID_WIDTH_0	The width (in pixels) of the first asteroid
ASTEROID_HEIGHT_0	The height (in pixels) of the first asteroid
ASTEROID_SCORES	The scores of the asteroids, the first number is the score of the first asteroid, the second is the score of the second asteroid, and so on.





## Optional Functions (MainDevelopment.as)

If you want to support high scores then you'll need to modify the following 2 functions in this file:

```
public function showHighScores():Void {  
    trace("showHighScores()");  
}  
  
public function showEnterHighScore(score:Number):Void {  
    trace("showEnterHighScore(" + score + ")");  
}
```

The `showHighScores` function will be called if the high scores button is clicked.

The `showEnterHighScores` function will be called when the game has finished and the score of the user has been calculated.