



**Novel Games**

**Lightning  
(Flash ActionScript 3.0 Version)  
Customization Guide**

Version 1.13.0



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## Introduction

This document describes the source codes of Lightning (Flash ActionScript 3.0 Version) and the ways to customize the game.

In order to use the source codes, Adobe Flash Professional CS4 or above should be installed in your computer. You should possess basic knowledge of the Flash authoring environment, such as the steps to modify a picture, the steps to change the value of a variable, etc.



## Directory Structure

The source codes are arranged in the following directory structure:

```
+
+-- lightning.pdf (this file)
+-- common
|   +-- com
|       +-- novelgames
|           +-- flashgames
|               +-- common
|                   +-- MainDevelopment.as
|                   +-- other ActionScript 3.0 .as files
+-- lightning
+-- lightning_e.fla (for English version)
+-- lightning_e.swf (for English version)
+-- lightning_e.htm (for English version)
+-- com
+-- novelgames
+-- flashgames
+-- lightning
+-- Config.as
+-- other ActionScript 3.0 .as files
```

To build the game, open lightning\lightning\_e.fla in Flash CS4 and then publish it. The file lightning\_e.swf in the same directory is the compiled SWF file for your reference.

The file lightning\_e.htm contains sample HTML codes for you to use in your website.

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

Depending on the customization you would like to make, different files need to be modified:

- 1) To change the graphics and the sounds, please edit the FLA file.
- 2) To tune the parameters of the game, please edit the Config.as file.
- 3) To add the support of high scores or change the link of the "More Games" button, please edit the MainDevelopment.as file.



- 4) To change the behavior of the game but such changes cannot be made by tuning the game parameters as in 2) above, please edit the ActionScript .as files.

Points 2) and 3) will be discussed in the next two sections.



## The Configuraton File (Config.as)

This section explains the parameters in Config.as and the ways they affect the behavior of the game.

Unless otherwise stated, the units of the parameters are expressed as follows:

- length units are in pixels;
- time units are in milliseconds;
- angle units are in degrees;
- speed units are in pixels per second;
- rotation speed units are in degrees per second;
- acceleration units are in pixels per second squared;
- color units are in 0xRRGGBB format.

Parameter	Description
LIGHTNING_MINTIME	The minimum time after which the lightning will occur
LIGHTNING_MAXTIME	The maximum time before which the lightning will occur
LIGHTNING_DURATION	The duration of the lightning
TIME_BADPICTURE	The maximum time spent to take a nice picture
SCORE_BASE	The base score
SCORE_PERMILLISECOND	The score deducted for each millisecond of reaction time
MESSAGE_ENDTIME	The time the end message will be shown for



## High Scores

To support high scores, modify the following two functions in MainDevelopment.as:

```
public function showHighScores():void {
    trace("showHighScores()");
}

public function showEnterHighScore(score:int,
    customShareText:String = null, customSharePictureBytes:ByteArray
    = null, customSharePictureURL:String = null, customExtra:String
    = null):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 player's score has been calculated. The parameters are as follows:

`score` - the score achieved

`customShareText` - the text to share if the player wants to share the result on Facebook, Twitter or other platforms

`customSharePictureBytes` - the bytes of the PNG image to share if the player wants to share the result on Facebook, Twitter or other platforms

`customSharePictureURL` - the URL of the picture to share if the player wants to share the result on Facebook, Twitter or other platforms

`customExtra` - the extra stuff regarding the result

Our Free High Scores Module can be used if you want to use a High Scores table in your game. Please download it here: <http://business.novelgames.com/otherdownloads/highscores/>.



## "More Games" Button

To change the URL to go to when the "More Games" button is clicked, modify the following function in MainDevelopment.as:

```
public function gotoMoreGamesURL():void {  
    navigateToURL(new URLRequest("http://www.novelgames.com"),  
        "_blank");  
}
```



## Site Locking

Site locking is a mechanism to lock the game to a particular website so that the game can only run on that website. This is used to forbid unauthorized parties from downloading the game SWF file and uploading them to their own websites. Do not enable site locking if you plan to redistribute the game SWF file to third-party websites, otherwise the game will not be able to run on those websites.

To enable site locking and to set the websites to lock the game SWF file to, modify the function `checkSiteLock` in `MainDevelopment.as`:

```
public function checkSiteLock():Boolean {  
    var siteLockWebsites:Array = [];  
    ...  
}
```

Update the `siteLockWebsites` Array so that it contains the host names of the websites to lock to, e.g.

```
public function checkSiteLock():Boolean {  
    var siteLockWebsites:Array = ['*.novelgames.com',  
    'www.yahoo.com'];  
    ...  
}
```

In the example above, the game SWF file can only run on the websites that end with `novelgames.com` (e.g. `www.novelgames.com`, `games.novelgames.com`, etc.) and on `www.yahoo.com`.



## Troubleshooting

If compiler errors occur when you are compiling the games, try the following:

- 1) Select "Control" and then "Delete ASO Files" on the menu bar
- 2) Compile the game again

If compiler errors still occur, try the following:

- 1) Select "Control" and then "Delete ASO Files" on the menu bar
- 2) Restart Flash
- 3) Compile the game again

If compiler errors still occur, try the following:

- 1) Select "Control" and then "Delete ASO Files" on the menu bar
- 2) Edit all the .as files (for example by adding a space at the end), then save the files
- 3) Restart Flash
- 4) Compile the game again

If compiler errors still occur, please contact us at [support@novelgames.com](mailto:support@novelgames.com)

### Modification History

Version	Date	Description
1.13.0	2012-09-12	Removed game.js and updated the color scheme of the document
1.12.0	2012-06-06	Separated AS3 and AS2 versions
1.11	2011-2-18	Fixed typos
1.10	2010-8-2	Added section about site lock
1.9	2008-11-12	Updated Optional Functions section with information about the more games link
1.8	2008-10-31	Added game.js to directory structure and "About ActionScript 2.0 Version" section
1.7	2008-6-13	Added LIGHTNING_DURATION parameter
1.6	2008-2-4	Added Troubleshooting section
1.5	2007-12-31	Added parts about ActionScript 2.0
1.4	2007-12-28	Changed LIGHTNINGPROBABILITY to LIGHTNING_MINTIME and LIGHTNING_MAXTIME, added MESSAGE_ENDTIME
1.3	2007-2-22	Updated Optional Functions section
1.2	2006-1-27	Added lightning.htm
1.1	2006-12-20	Added the TIME_BADPICTURE parameter
1.0	2006-9-11	First Draft