

# Chadsoft SZS Modifier

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## Readme and User Documentation

**Version 2.4.6.0**

**Chadsoft**

**26<sup>th</sup> February 2010**

This document contains a file outlining all the current features of the SZS Modifier at the time of release, and an outline on how to use them, as well as installation instructions and the EULA.

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## **Installation**

### ***System Requirements***

Operating System:

- Microsoft Windows XP (Any edition) (x86 or x64)
- Microsoft Windows Server 2003 (Any edition) (x86 or x64)
- Microsoft Windows Vista (Any edition) (x86 or x64)
- Microsoft Windows Server 2008 (Any edition) (x86 or x64)
- Microsoft Windows 7 (Any edition) (x86 or x64)

The Microsoft DotNet Framework version 2.0 is required for this application to run. This can be found at <http://www.microsoft.com/Downloads/details.aspx?familyid=0856EACB-4362-4B0D-8EDD-AAB15C5E04F5>.

The installation will require a User Account Control check on Windows Vista and later.

### ***Downloading***

The application can be downloaded from <http://chadderz.is-a-geek.com/wiicoder/download.aspx> which will have the most up to date version at all times. To download the application press the 'Download' button on that page.

Depending on your browser, you will then be prompted to open or save the installer. The installer and it's required files are packaged in a .zip file. Therefore, you must save it and then wait for the download to complete. Once complete find the .zip file and right click on it. Select extract all and then follow the steps in the wizard. Once completed, find where the files extracted to and run setup.exe.

### ***Installing***

When you have run setup.exe or updated the application, the installer will appear. By following the steps in this installer you can install the application. The installer may tell you to download the DotNet Framework version 2.0. You can do this by downloading it from Microsoft here: <http://www.microsoft.com/Downloads/details.aspx?familyid=0856EACB-4362-4B0D-8EDD-AAB15C5E04F5>.

The installer will require a User Account Control request in Microsoft Windows Vista and upwards

### ***Updating***

To update the application, you can follow the steps above to download the application. Alternatively, the application will check for updates when the splash screen is displayed. If one is present, the application will prompt the user in a dialog like so:



If you click Ok the update will automatically be downloaded and the installer will be run. The follow the steps for installing.

## ***Uninstalling***

### **Microsoft Windows XP and Microsoft Windows Server 2003**

1. Go to the control panel
2. Select Add or Remove programs
3. Go to SZS Modifier
4. Click remove
5. Follow the steps in the wizard

### **Microsoft Windows Vista, Microsoft Windows Server 2008 and Microsoft Windows 7**

1. Go to the control panel
2. Select Programs and Features
3. Go to SZS Modifier
4. Click uninstall
5. Follow the steps in the wizard

## Program Usage

### *Starting the Application*

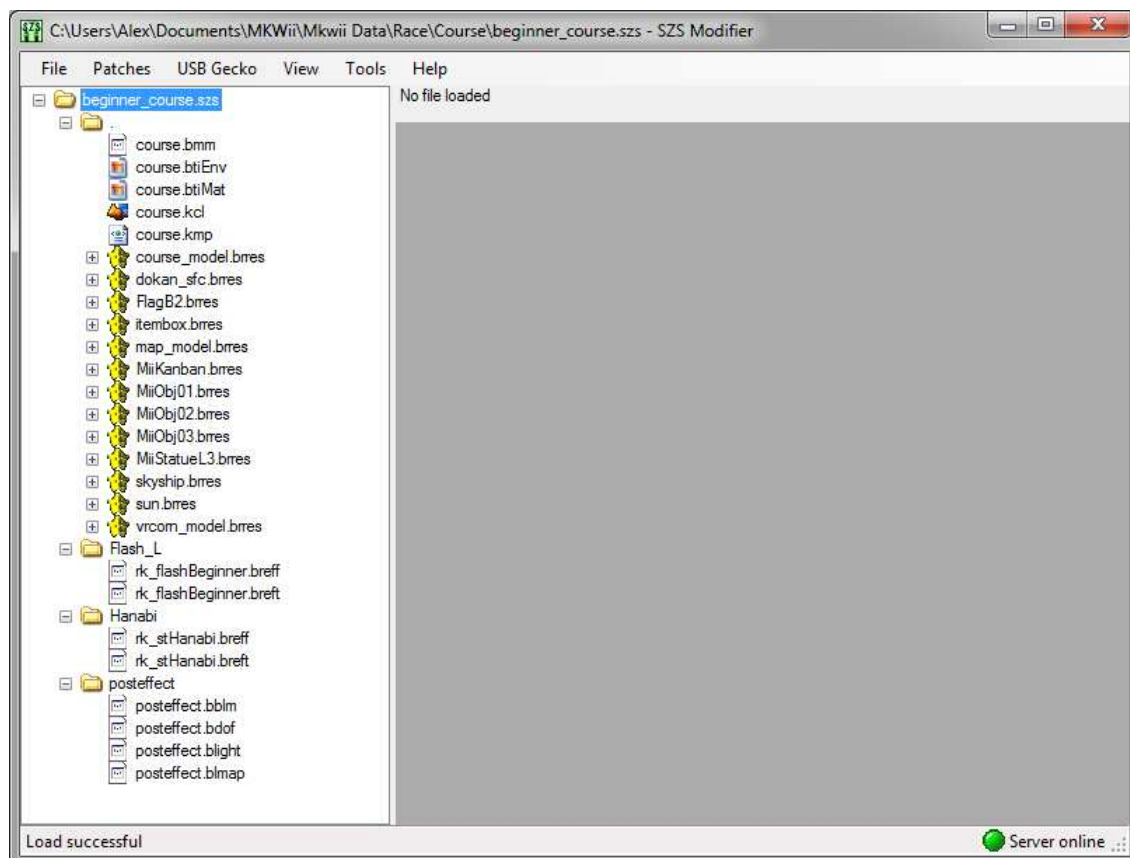
To start the application, either double click on the shortcut on the desktop, or go to the start menu and select Programs (or All Programs), Chadsoft, SZS Modifier.

### *Using the Application*

The program is designed to open several file formats originally made by Nintendo, which can either be compressed using the YAZO compression scheme, or in an uncompressed form. Principally, the SZS Modifier opens .bmg, .brres, .carc and .szs files. These files actually contain several smaller files within them, which can mostly be viewed by the SZS Modifier.

### Opening Files

To open a file with the application, click File, Open. Then, select a file you wish to open and, if possible, its contents will be displayed in the window.

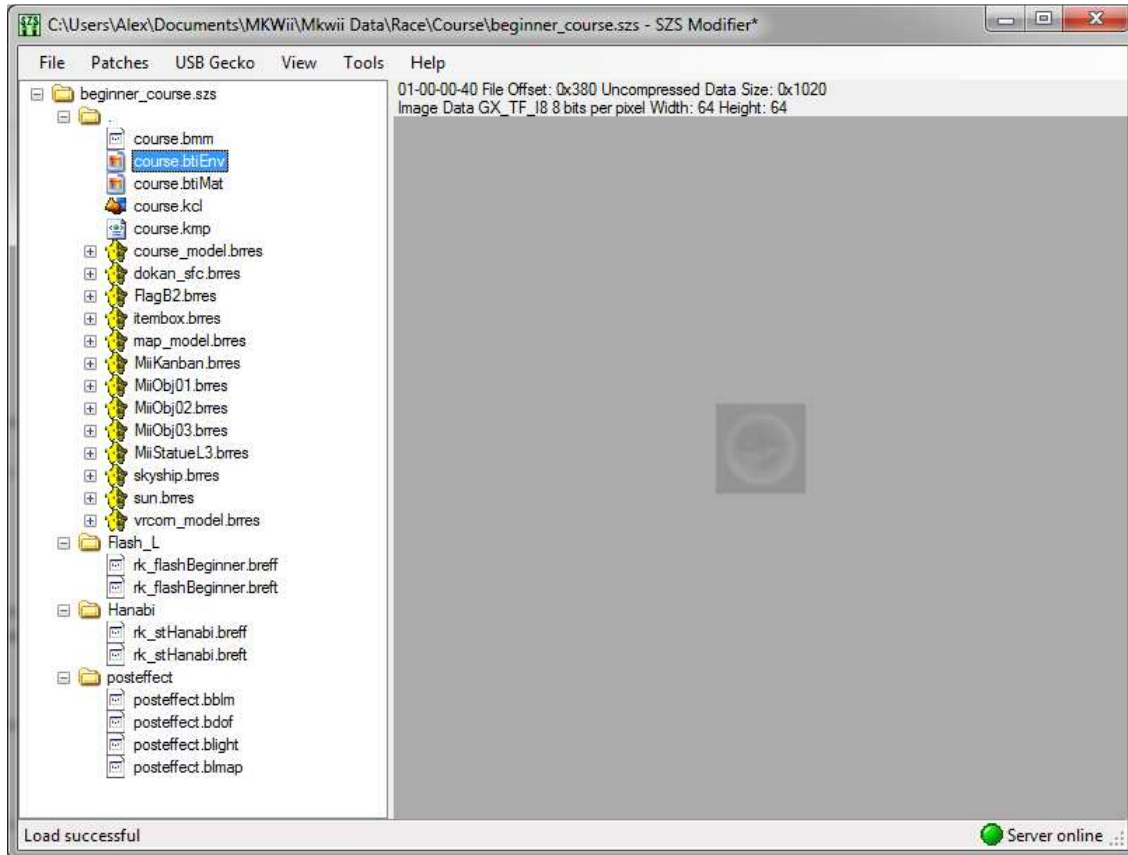


### Changing Files

To change one of the files within a file, simply select it in the explorer on the left hand side. If possible, this will open an appropriate editing window, or a hex viewer if this is not possible. The currently available editing windows are listed below. If you wish to open the hex viewer instead of the default editing window, hold down the control key while selecting the file.

## Editing Windows

### Texture viewer



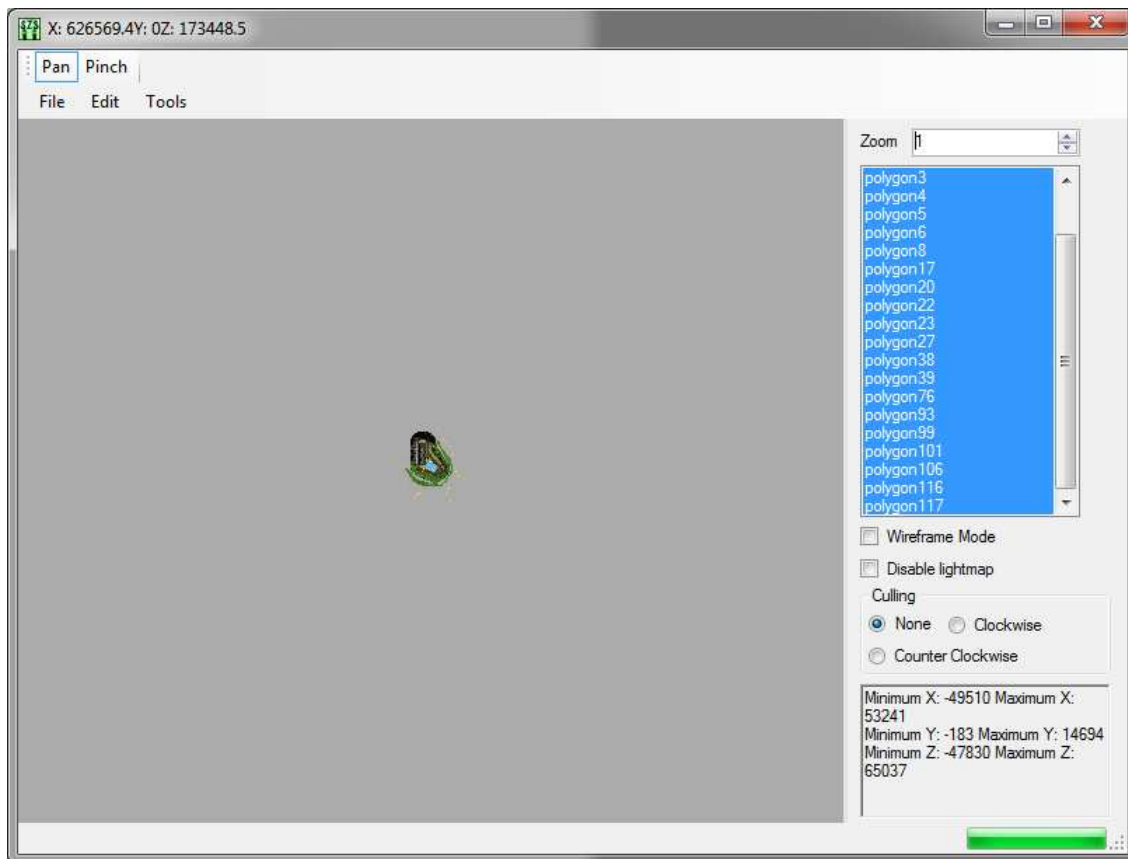
The texture viewer is available to .tpl, .bti, .breff and .brres texture files. It allows for a preview of images in the main SZS Modifier window. For supported files, double clicking this preview opens the Texture Editor. Information about the image is show at the top of the preview.

## Texture editor



The texture editor is available for .brres texture files, and for .tpl files. The editor can view the various zoom levels (MipMap sublevels) for the image, zoom and scroll, and export and import the images. Images can be imported to any given zoom level, or to all of them. Please note, there may be a quality reduction when using the image exporting and importing systems, due to compression of the images. When you have finished making changes, you can click the save button to save and exit, or press the close button (x) in the top right hand corner to exit without saving.

## Model Viewer



**Note: DirectX 9.0c for managed code is required to use this feature**

The model viewer is available to models within .brres files. It may take up to a minute to load the model. The model viewer allows you to see models in .brres files, and to manipulate them in a primitive way.

You can zoom using the zoom box in the top right. Below that is the polygon window, which allows you to choose which polygons are being rendered. Blue polygons are currently being rendered. The Wireframe Mode checkbox below that allows you to choose to render only lines without filling in the model, so that you can view it's makeup. Below that is the Disable Lightmap checkbox which allows you to turn on and off some of the more complex texturing techniques used by the SZS Modifier to generate more accurate outputs. This can however improve the rendering. Below that, you can select the mode of back-face culling to use on the model. In most Nintendo files, Clockwise culling will cause faces facing away from the camera to disappear, and Counter Clockwise culling will cause faces facing to the camera to disappear. Below that is a box which shows the current minimum and maximum points for the selected polygon(s). Using the mouse, you can manipulate the camera in the view. Left click causes the model to move, and right click causes it to rotate.

At the top of the screen there is the pinch option. If used, this causes the viewer to be able to manipulate the currently selected polygon by dragging it about. The model cannot be rotated while this is happening. Settings for this can be found on the right of the screen.



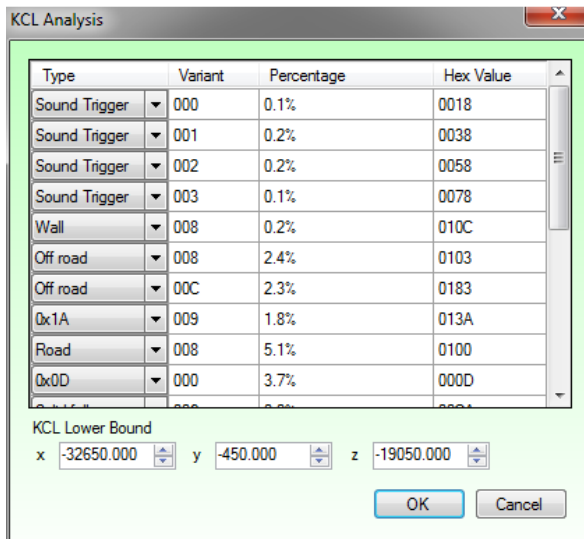
From the file menu you can save, export or import models and also exit the model viewer.

**Note: The import and export features are presently quite unreliable and are being improved. Try to avoid using them.**

From the edit menu you can undo and redo changes made by certain tools in the model viewer.

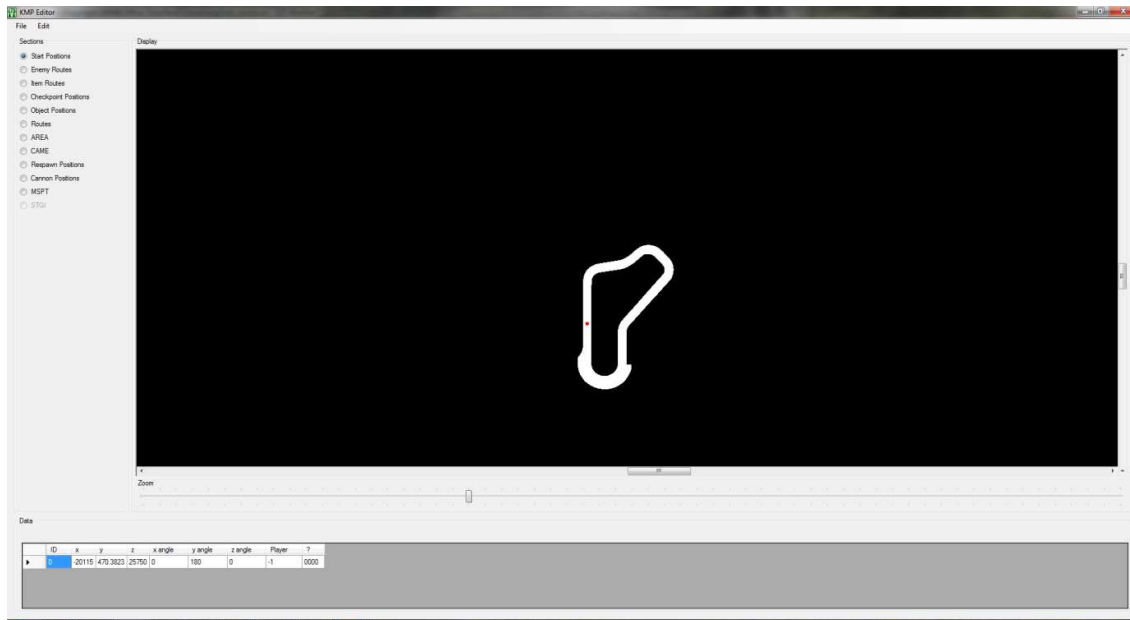
From the tools menu you can access several tools for manipulating models and .kcl files. The .kcl file tools apply to ./course.kcl if it is present. The blank kcl tool allows for the course.kcl file to be turned into a flat plane with the specified y height and terrain type. This tool is now obsolete. The create kcl tool generates a course.kcl file based on the currently selected model with specified settings. The Apply a matrix tool allows for a 4x4 translation matrix to be applied to each of the points in the selected polygons. The model creator tool allows for the generation of a polygon model based on a greyscale image. This is designed for use in Mario Kart Wii. It is recommended the images are no larger than 250x250 pixels. The delete polygon tool causes the polygon to become a single pixel at the origin, so as to make it appear to be deleted. It does **not** ultimately remove the polygon. The retexture polygon tool can be used to change a polygons texture coordinates so that they all are projected from a plain. The settings for this should be given as prompted.

## Kcl analysis



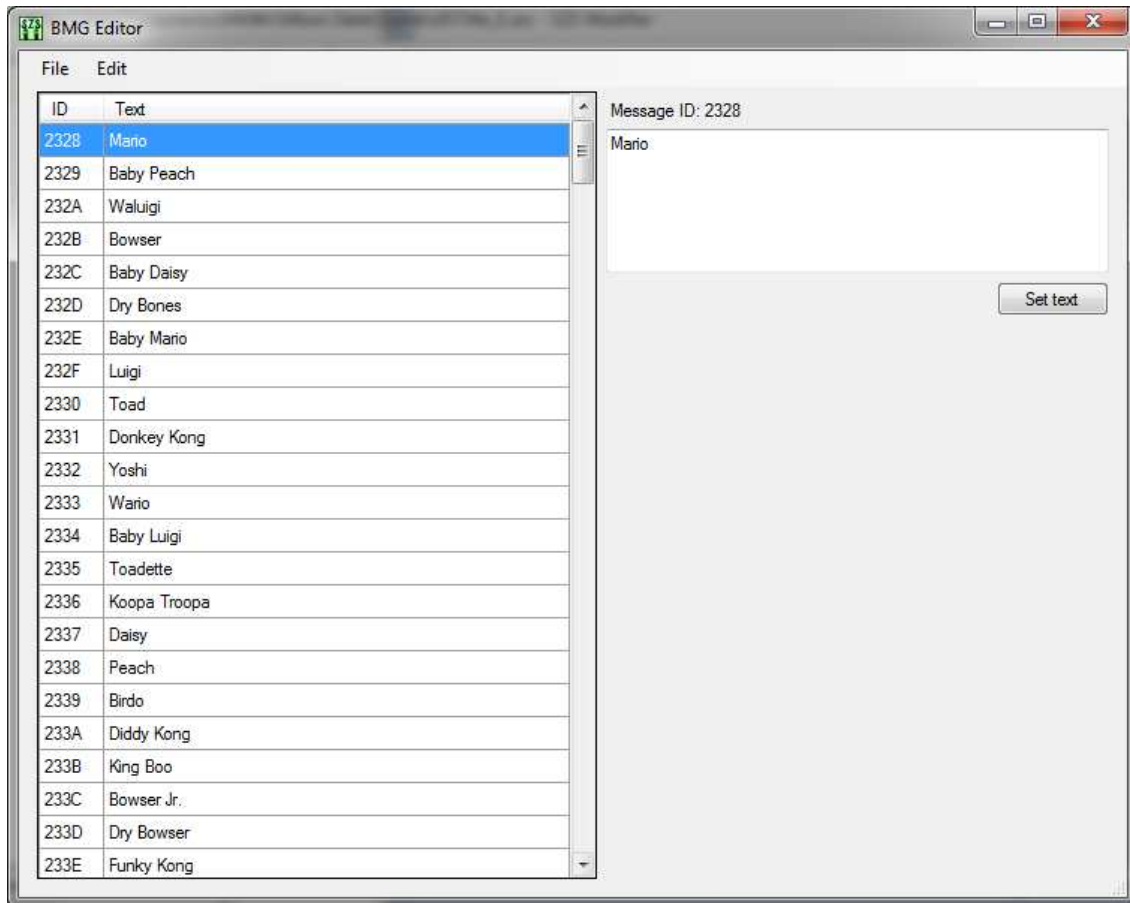
The kcl analysis is available to .kcl files. The kcl analysis shows the distribution of terrain types within a kcl collision file. The terrain types given are provided as a guide only, and may not be correct, or apply to non-Mario Kart games. The type and variant are combined to give a hex value at the end, which is as it appears in the file. The kcl lower bound specified the lowest point in the kcl, however changing this manually has become obsolete by the new kcl generator.

## Kmp editor



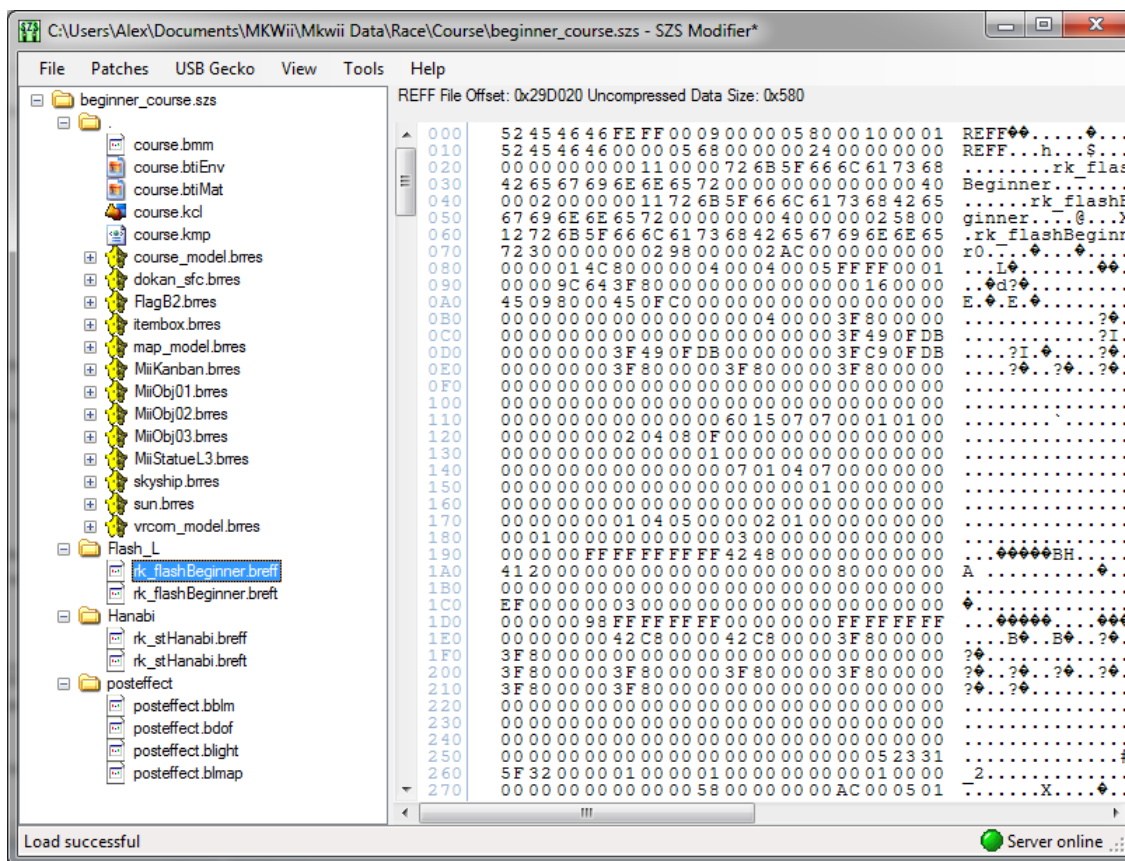
The kmp editor is available to .kmp files. The kmp files contain information regarding Mario Kart Wii course settings. If present, a map is generated from map\_model.brres for reference. There are many sections in the kmp as listed on the left hand side. These can be edited in the window at the bottom, and a graphical output of these is generated where appropriate in the map window. The map window has scrolling and zooming, and also allows for any points to be manipulated by clicking and dragging them.

## Bmg Editor



The bmg editor is available to bmg files both in the SZS Modifier file explorer, and also files opened directly through File, Open in the main window. The bmg editor allows the viewing and editing of text. To edit text, select it using the browser on the left, than edit it in the box on the right and press Set Text. The text may not be longer than it was originally.

## Hex viewer



The hex viewer is available to all files, and can be accessed by selecting an unsupported file, or by holding down control when selecting a file. The hex viewer shows a hexadecimal, utf-8 and floating point representation of the data. It presently cannot edit the data in this manner. Information about the file is displayed at the top of this window. The raw data for files can be exported by right clicking on them in the explorer and pressing export, and replace by selecting import.

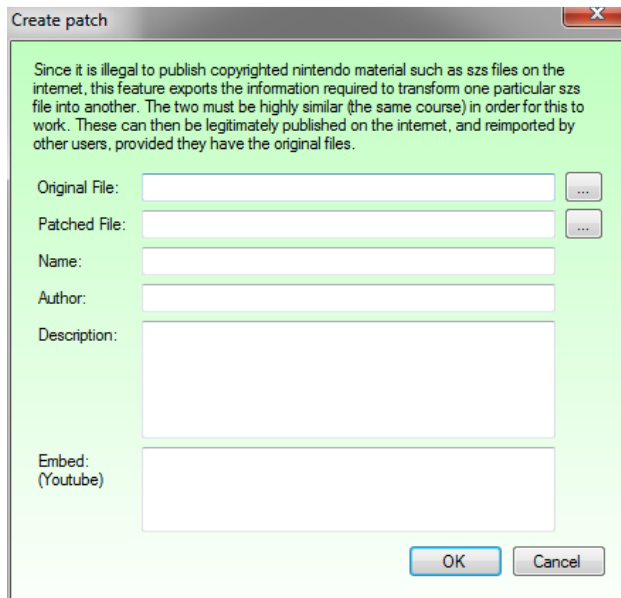
## Saving Files

When a file has changed, its name will have a star by it in the main window. The file can be saved by selecting File, Save or Save As. The files will be saved with compression if they had it originally.

## The Patch Service

The patch service is an online database of customised files users have generated. Because it would be illegal to store these files directly, instead patches are used which contain the data required to change the original file into the new one. The patches can be create, used, uploaded or downloaded from the Patches menu in the main window.

## Creating Patches



Patch creation is achieved by specifying the original file and the edited one. These must both be stored in an accessible file location. For ease of use, the original file should always be an unedited file retrieved directly from a game, and the file used should be specified in the description. The name, author and description are there for clarity, and are used on the patch database to differentiate between patches. The optional YouTube embed is an embed tag provided by YouTube or another video hosting sight, which allows the video to be viewed in another site. If it is valid, the embed will be used on the SZS Modifier's website to show off what the patch does. Ideally the video should be of the patched data in use.

## Using Patches

With the original data file of the patch open, select the import patch option and then select the patch to use. If the patch is compatible with the file, the file will be updated to contain the new data.

## Uploading Patches

Patches which you have created can be added to the online data base for others to use by selecting upload patch and selecting a patch. This may take a few minutes depending on your internet connection speed. To upload a patch you must have an account on the patch server which can be created at <http://chadderz.is-a-geek.com/wiicoder/signup.aspx>.

**By uploading a patch you agree for anyone to be able to download and use the patch for personal use. We reserve the right to remove patches, and ban users from the patch server for inappropriate behaviour. Patch names and descriptions should be free from profanities or offensive language, bearing in mind there are young children on the server. Any patches containing objectionable material should have it clearly highlighted in the description. All responsibility falls to the user to adhering to these rules, and also to remaining within the law including, but not limited to, copyright law.**

## **Downloading Patches**

To download a patch select Browse patches on server. This may take a few minutes depending on your internet connection speed. Once there you will be able to see all the patches people have made and read about them, as well as download them by selecting one and pressing download.

## ***USB Gecko***

From the USB Gecko menu, a USB Gecko can be used to access the data files in the Wii's RAM directly. The option will only be enabled if a USB Gecko is detected and is useable. The USB Gecko connection may take a few minutes to find files. By right clicking them, files can be opened in the SZS Modifier or saved. Files opened function as normal, but update the RAM when they are edited allowing for manipulation to occur while the Wii is running. Any changes made are not permanent. Because of the nature of RAM, the Wii may break if significant changes occur.

## ***Options***

The options window can be accessed from Tools, Options in the main window. From here the compression settings of the SZS Modifier can be set so that the compression create smaller files, or works faster. Also the interface language can be set to German, English or Spanish, however support for non-English languages is limited.

## **Getting Support**

If any problems cause the SZS Modifier to break, they will be reported anonymously to the server, to aid the bug fixing process. If however, you feel there are any issues, or you have trouble installing the program, or you wish to suggest a new feature for the application then feel free to email us at <mailto:support@chadderz.is-a-geek.com>.

## **EULA**

**The software is presented 'as is' and the manufacturer is not liable for any damages or losses that occur, directly or indirectly due to the software. By installing or downloading the software you accept these terms fully and unconditionally.**



## Version History

2.4.0.0: Gained the ability to write to .kcl files, and has vista 64bit support

2.3.0.0: The SZS Modifier can now connect to a USB Gecko device in order to allow for live course modification. Additionally, the older installer has been replaced with a more automated one to try and make the process easier. Also, several bugs removed.

2.2.0.0: The bmg editor has been added, the kmp editor has been given the flip and reverse tools, and the kcl editor uses names for certain flags.

2.1.0.0: The kmp editor has been added which allows for the alteration of checkpoints and objects, as well as several bug fixes.

2.0.0.0: The new model editor has been created which allows for the user to draw a course as a monochrome or greyscale image, which can then be interpreted automatically into a course or model.

1.6.0.0: 3D models now display when one of the files in '10' of the model data is selected.

1.5.0.0: The contents lists are now fully generated, and patches can now be delete from the server by their original owners.

1.4.0.0: The rendering of [almost] every texture is now 100% perfect and accurate, as are the import and export features.

1.3.0.0: The software can now connect to an online database, and share .sfp files with other users, as well as downloading the latest ones.

1.2.0.0: The software can now create .sfp files which allow users to transfer modifications to files, without breaching copyright laws, and saving space.

1.1.0.0: The application now supports export and imports of textures and the colours are more accurate

1.0.0.0: Original version