Portable Edition

Farming Simulator Modding

FOR DUMMIES

A Wiley Brand

Learn to:
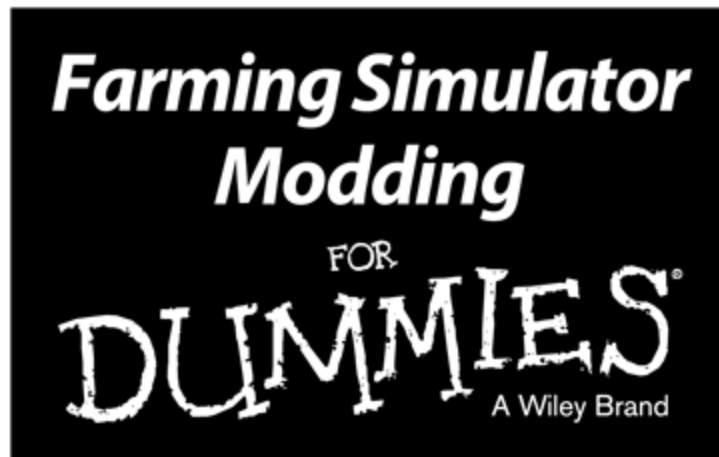
- Get up and running with 3D modeling and simulation
- Create custom mods for Farming Simulator
- Use GIANTS 3D modeling tools
- Export models to Blender®, Maya®, 3DS Max®, or FBX®

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Farming Simulator Modding For Dummies

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Introduction

You'll often hear two comments from nearly anyone who has played any version of Farming Simulator released in the last few years.

- **"I had no idea this game would be so addictive."** A person often gets the game on a lark, purchasing it from a favorite retail outlet or downloading it via Steam or www.farming-simulator.com. You then start playing. The next thing you know, hours have flown by and you're eyeballing a new fork for the front loader you just bought so you can move more bales around your steadily growing farm. It's not at all uncommon for a person to dump more than a 100 hours of gameplay into Farming Simulator within only a few weeks. Only then does it begin to sink in as to why this game has become so incredibly popular, with more than 5 million copies sold worldwide.

- **"I didn't realize how incredibly large and active the modding community is for this game."** *Mod* is short for *modification,* and GIANTS Software has made it incredibly easy to make modifications to Farming Simulator and share those mods with others. If you want proof of how big modding is for this game, type "farming simulator mods" into your favorite search engine. On even a basic search, you can find more than a dozen different mod communities for Farming Simulator, each one with more than 1,000 unique mods. In fact, more than 15,000 mods have been created just for Farming Simulator 2013! You can find everything from a simple ramp or new tractor to custom maps and reconfigured game mechanics. There's even a mod that turns Farming Simulator into

a flight simulator! And the community creates more mods each and every day. There's something incredibly rewarding about making your own custom *thing* for a game — taking ownership of it, if you will — and then actually using it in the game environment with others.

So Farming Simulator is not only a lot of fun to play, but it's also equally fun to customize.

About This Book

Farming Simulator Modding For Dummies serves as a reference for each step in the process of making mods. That process is simultaneously artistic and technical, spanning a wide array of tools and disciplines. For this reason, you often see people group together and form mod teams, so individuals with a more specialized skill can focus on what they're good at. If you're making the full mod yourself, this book can help guide you through it. If you're one person on a team, the book covers your specialization while also giving you an understanding of what the other members of your team need (as well as what you should expect from them).

This book isn't large enough to be comprehensive, so I focus on just what you need to know to start building mods. Some subjects simply are out of scope. For example, on the art side, I cover polygon budgets for models and the process of getting your 3D models properly optimized for the Farming Simulator engine, but there isn't enough room to cover 3D modeling as a topic. (That would be a book by itself!) Likewise, on the technical side, I can show you the structure of the `modDesc.xml` file and introduce the possibilities in

customizing your mod with Lua, but you'll need to look online for the full API.

All the screenshots were taken on a computer running the Windows operating system. Although Farming Simulator *does* run on Mac OS X, most of the modding community uses Windows. Generally, there aren't too many differences, but I make note of where they do crop up. On a related note, if you're using a Mac and only have a trackpad, I can't emphasize enough the value in working with a proper three-button mouse. Most applications that work in 3D, including the ones covered in this book, expect you to have one. If you're adept at using the trackpad and gestures to simulate a three-button mouse, you may be fine, but advanced gestures like pinching and rotating aren't likely to work for you.

Also, when it comes to creating 3D content for your mods, you can use a wide variety of tools. This book references the three most common ones used in the Farming Simulator modding community: Blender, Maya, and 3ds Max. Because it's free (and because it's my personal favorite), most of the references in this book focus on Blender. When something is specific to Maya or 3ds Max, I point it out.

As I discuss various software programs in this book, I tell you how to find an operation in a menu using this symbol:⇒, such as "Go to File⇒Open to open a file." That said, regardless of the program, I have a preference for using hotkeys because they're much faster. So where possible, I lead with the hotkey combination and include the menu navigation in parentheses. For example, "Open the file by pressing Ctrl+O (or File⇒Open in the menu)."

Foolish Assumptions

I assert a few assumptions about you in this book. In list form:

- **You have a computer capable of running Farming Simulator and GIANTS Editor.** It's pretty difficult to know if your mod works if you can't play the game. The system requirements for these are pretty modest; please refer to the manual for specifics.

- **You have a basic understanding of 3D graphics.** You don't need to be a professional video game programmer. If you know how to navigate in a 3D game and select things, that should be enough to get you started.

- **You're comfortable editing text files.** A lot of modding involves making adjustments to text files using a program like Notepad++. You *can* write them from scratch, but to start, you just need to know how to open them, make changes, and save.

I also assume that you can access the Internet from time to time. You don't need an Internet connection to make your mod, but a number of useful online resources are available, and you definitely need the Internet if you want to share your mod with others.

Beyond This Book

As this book is intended to give you a good, solid start in making mods for Farming Simulator, additional resources of information are available at your fingertips. Chapter 15 has a slew of these resources listed. However, other modders are the greatest source of information. The official forums on the GIANTS Developer Network (http://gdn.giants-software.com) and the Farming Simulator website

(http://forum.giants-software.com) are a great start, but look at mod groups and mod hosting sites that are local to you as well. They're fountains of information as well as people willing to help.

Icons Used in This Book

These icons that appear in the book's margins can help you navigate your way through the book. Here is what they mean.

This icon calls out suggestions that help you work more effectively and save time.

Keep these useful pointers in mind as you produce your mods. Generally, you'll regularly encounter these things as you're working.

These icons point out moments that can get you pulling out your hair in frustration if you get caught in one.

Where to Go from Here

I am tempted to say, "To the fields!" Of course, you're making modifications for a game that simulates farming, so perhaps a bit of silliness is to be expected. If you're new to modding, then it makes the most sense to start at the beginning and work forward sequentially from Chapter 1. If you're familiar with modding, but you want to get up to speed with the specifics of creating mods for Farming Simulator, peruse the Table of Contents and find

the chapter(s) that most interest you and read what you need.

Now, to the fields!

Part I
Getting Started with Farming Simulator Modding

In this part ...

- Discover what modding is and the different ways that you can make changes in Farming Simulator

- Understand the fundamental tools used for modding Farming Simulator so you can begin creating your own mods

- Create map mods with your own custom terrain and foliage around buildings and other props as you see fit

- Familiarize yourself with how to control surface materials in Farming Simulator's 3D world

- Get a taste for how particles are used in a mod to bring life and realism to the game

Chapter 1
Introducing GIANTS Editor

In This Chapter

▶ Understanding the GIANTS Editor interface

▶ Opening 3D objects and scenes in the editor

▶ Moving around within a 3D scene in GIANTS Editor

▶ Moving, rotating, and scaling objects

All modding for Farming Simulator starts and ends with GIANTS Editor. If you want to make a quick change to a map or a vehicle, you can open its file and edit attributes in GIANTS Editor. If you've created a full mod from scratch, you pull all the pieces together and prepare them for inclusion in the game in GIANTS Editor. Think of GIANTS Editor as your modding dashboard.

You don't need to do a lot in order start working with GIANTS Editor; it ships with Farming Simulator. So if you've been playing the game, you're good to go with the editor; you just need to install it. You can find the install file in the `sdk` folder wherever you've installed Farming Simulator on your hard drive. (On a Windows computer, it's usually something like `C:\Program Files (x86)\Farming Simulator 2015`.) Of course, going to the GIANTS Developer Network website (http://gdn.giants-software.com) and checking for updates is still a good idea. That way you can be sure you get the latest features and bug fixes. Updated versions of the editor are free to download after you've registered on the site (which is also free).

This chapter serves as your jumping-off point into the world of creating mods for Farming Simulator by making sure you have firm footing when it comes to using GIANTS Editor. Regardless of how simple or complex your mod may be, it needs to come through GIANTS Editor, so this chapter is relevant, no matter your general modding experience.

Knowing the Editor's Parts

When you first launch GIANTS Editor, you'll see a Getting Started splash window that provides you with a hotkey reference and a set of buttons that links you to a number of useful resources to help quickly get you on the road to modding. You can toggle whether this window appears every time you launch it by clicking the Show at startup checkbox in the window's lower-left corner. These resources are certainly valuable, but you also have this book, so you can comfortably close this window for the time being. You can always bring it back from the Help menu in the editor (Help⇒Getting Started …).

After you move past the splash window and actually get into the editor, you may think it looks rather stark, consisting of a set of mostly empty panels. Not to worry, though, those panels will fill up pretty quickly. Figure 1-1 shows GIANTS Editor with the default interface and a scene already loaded.
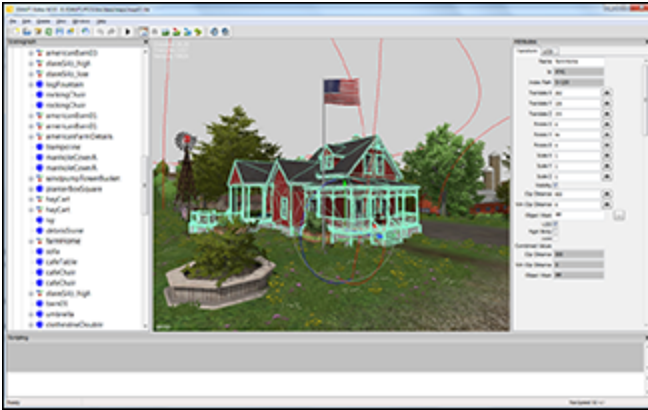
Figure 1-1: The GIANTS Editor default interface.

You can see four main panels when you first load GIANTS Editor:

✔ **Scenegraph:** You can find the Scenegraph on the far left of the editor window. The Scenegraph gives you a hierarchical view of the 3D scene, including all models, lights, and cameras. Think of it as an outline for your mod. In complex scenes, the Scenegraph panel is incredibly useful for selecting the object you're interested in editing.

✔ **3D Viewport:** The 3D Viewport is the large panel at the center of the editor window and is where the majority of your work takes place. Here you can select and manipulate objects in your mod; the 3D Viewport also provides a decent preview of what you can expect your mod to look like after you load it into Farming Simulator.

✔ **Attributes:** The Attributes panel on the far right of the editor window can show different settings and parameters, depending on the object you currently have selected. At the very least, any object you select will have Transform attributes for controlling how that object is positioned and oriented in 3D space. From

there, depending on what the object is and what it does, it may have a wide variety of potential other subtabs available in the attributes panel. For example, in Figure 1-1, the selected building in that scene has a separate tab labeled LOD, for *level of detail*.

✔ **Scripting:** The Scripting panel is across the bottom of the editor window. This panel gives you a log and basic feedback on what's been done in your scene, such as loading external textures. It can also give you warnings if you have missing assets or if you've formatted something incorrectly in your mod. When things go pear-shaped in your mod, the Scripting panel is your best friend for troubleshooting what happened. And, of course, you can use the Scripting panel to type commands and make large automated changes to objects in your scene. Chapter 12 discusses scripting in greater depth.

With the exception of the 3D Viewport, you can move around any panel in the GIANTS Editor interface by clicking and dragging the panel's header bar. Doing so allows you to place the panel in another location or leave it as its own floating window. Being able to customize your interface is especially useful if you're working on a computer with multiple monitors. You can keep the 3D Viewport as big as possible on one monitor and move the other panels to your other monitor. Also, you can close any panel by clicking the little X on the right of the panel's header. You can bring back any closed panels from the Window menu.

Loading Assets

The file format that GIANTS Engine uses is the I3D format. I3D is an eXtensible Mark-up Language (XML) file format. That means, in part, that you can open it with a plain text editor and make changes to it. Chapters 6 and 11 discuss I3D and XML more.

For the purposes of this chapter, you just need to know that an I3D file encapsulates or references all the necessary data for a 3D asset in GIANTS Engine. That also means I3D files are what you load and modify from GIANTS Editor for your Farming Simulator mod. This section explains how to open full maps as well as individual assets that may appear on a map.

Opening an existing map

The easiest asset to open in GIANTS Editor is the default map that comes with Farming Simulator. Go to File⇒Open in GIANTS Editor and navigate to the maps folder within the folder where you've installed Farming Simulator (typically `C:\Program Files (x86)\Farming Simulator 2015\data\maps`) and choose the file named `map01.i3d`. You should see the familiar original map in the 3D Viewport after it finishes loading. Figure 1-2 shows the default Farming Simulator map loaded in GIANTS Editor.
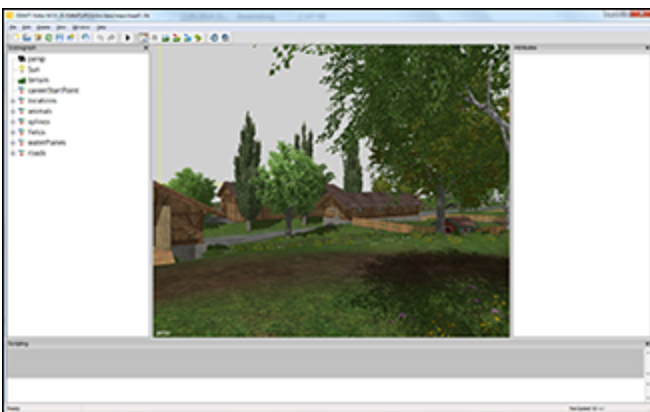
Figure 1-2: The default Farming Simulator map (`map01.i3d`) opened within GIANTS Editor.

WARNING! Do *not* save or overwrite the default Farming Simulator map, especially if you've made any changes to the file. At the very least, doing so may change the default behavior of the game. At worst, it may cause the game not to load and force you to reinstall it. Although Chapter 2 covers exporting the original map for modifications, right now your main focus should be on loading the map in GIANTS Editor and poking around to familiarize yourself with the interface.

Using this same basic method you can open any map scene. If you have any map mods installed, you can try opening up the map scenes from them as well.

Previewing objects

A Farming Simulator map is really a compilation of different 3D assets, including props, terrain, buildings, and so on. Suppose you're not interested in working with a full map, and you only want to have a look at one of the objects that appears on the map. You don't have to open the map in GIANTS Editor and hide everything except what you want to see.

You just need to follow the same basic steps for opening a map in GIANTS Editor. Find the I3D file for the object and open it from the editor. Figure 1-3 shows a mailbox from the default Farming Simulator map loaded in GIANTS Editor.
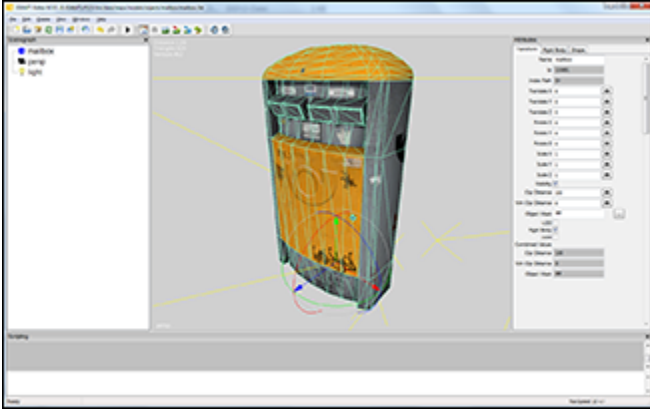
Figure 1-3: A mailbox object opened in GIANTS Editor.

When you first load an object in the editor, you may notice that the object may be really small in the 3D Viewport or out of view entirely. Fortunately, you can easily fix it with the following steps:

1. **If you can see the object in the 3D Viewport, you can select it by clicking on it.**

   If it's too small to select that way or if it's not visible in the 3D Viewport at all, you can click on the object's name in the Scenegraph panel and select it that way.

2. **With the object selected, you can frame the 3D Viewport on it using the F hotkey.**

   Doing so brings the object into view. However more than likely, the view will be too close to see the entire object. Using the scroll wheel on your mouse, you can back away from the object in the 3D Viewport and make it more visible. For more ways to navigate the 3D Viewport, refer to the next section.

You may also notice that your object appears really dark. Most objects don't emit light, so most object I3D files don't include any light in the scene, which can make previewing an object difficult.

To see the object clearly, you may want to add a light using the Ctrl+L hotkey combination. You can also add a light from the Create menu (Create⇒Light).

If you're viewing objects from the Farming Simulator data folder, *do not save* those object files, especially if you've made modifications like adding a light. Doing so affects how the object appears in the game.

Navigating in 3D Space

Being able to move around in the 3D Viewport to see the map or object from different angles is also important. You can move around by using the mouse and the Alt key on your keyboard.

Having a three-button mouse when working with 3D software is really in your best interest. These programs have a tendency to use as many buttons on your computer as they can get. Fortunately, most modern desktop computers come with three-button mice. (***Note:*** You can find the third button on most of these mice by pressing down on the mouse's scroll wheel.) If you have a laptop, though, the built-in trackpad doesn't often have a middle mouse button. In that case, I highly recommend that you purchase a proper mouse.