Introduction to Modding Fate
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Tutorial 101 - Intro to Modding

This is a Modding 101 tutorial for users of Vista.
It will explain the steps necessary for creating a manual backup of the items.dat file, and it will also describe the coding technique of "effect blocking." We will then create a new item known as an "Archer's Ring", which will be socketed, and give the character +10 Dexterity and +5 Strength bonuses when equipped. In a later chapter, we will learn how to make simple mods applicable through gbrown's Mod Manager.

This tutorial references the use of a text editor called EditPad Lite. Although you could use NotePad to complete the tutorial,it is recommended that you download EditPad Lite for free (link below). This editor is superior to NotePad, and its versatility will become clear as we make increasingly more complicated mods.

 http://www.editpadpro.com/editpadlite.html

Part 1: Creating a manual backup of items.dat

1. On your desktop, you will have a shortcut icon for Fate. Right click on this icon to give you the following menu and move your cursor to "Open file location."
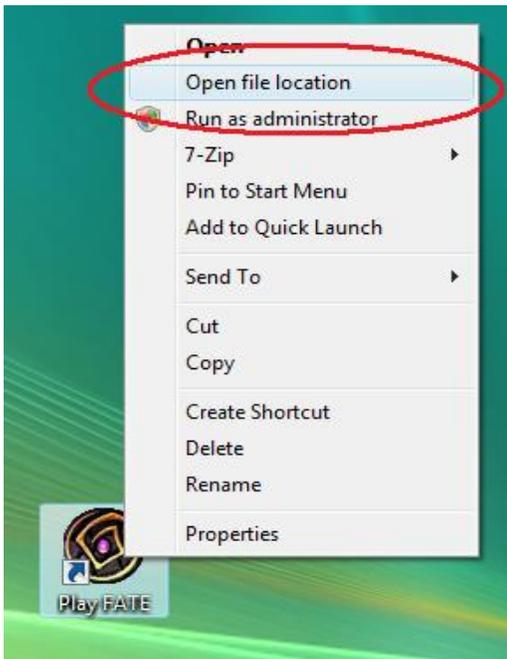

2. Left click on "Open file location", and you will get the following window. You are now viewing all the files and folders in Fate's root directory. Scroll through this window until you find a folder named "ITEMS".
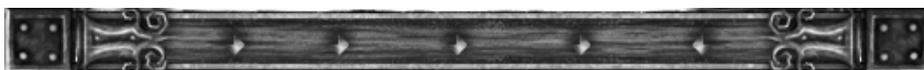
3. Double click on the "ITEMS" folder to open it, and scroll through this window until you find the items.dat file.
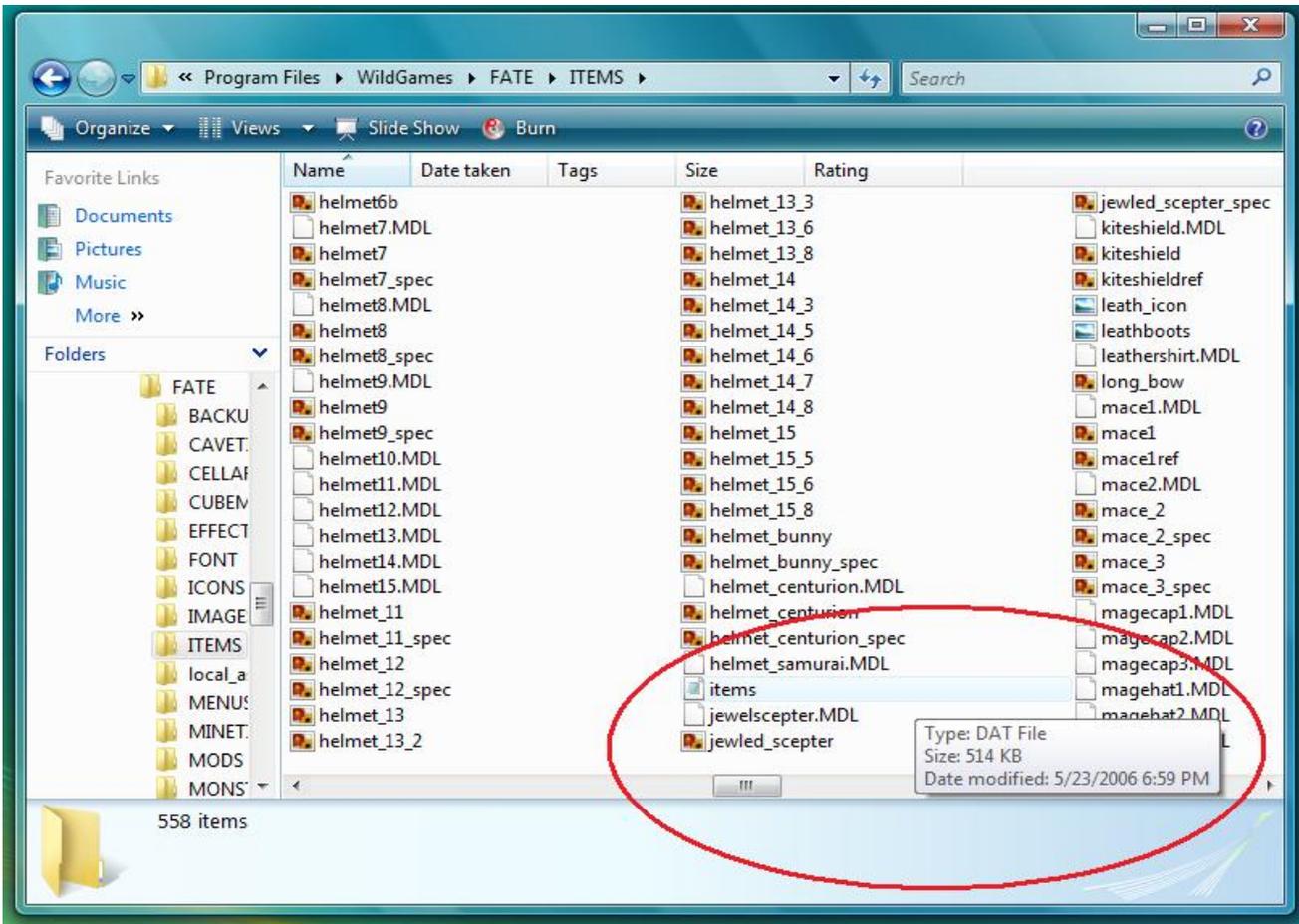
4. Right click on the items.dat file to give you the following window, move your cursor to "Copy", then left click.
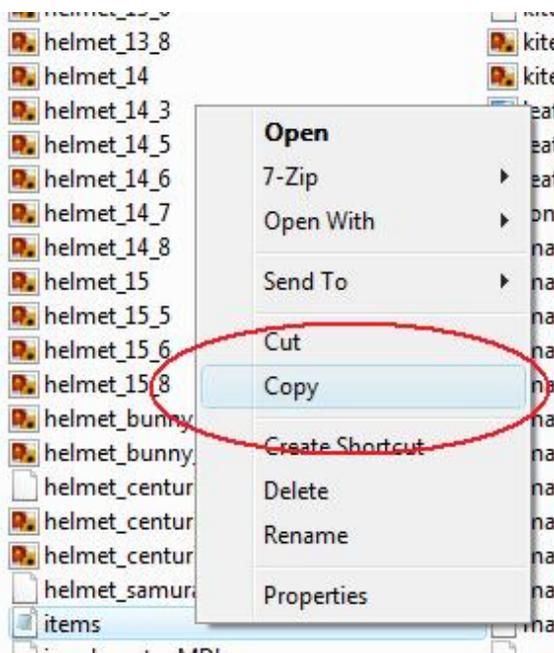
5. Now left click anywhere on your desktop to select it, then right click on the desktop to get the following menu.
Move your cursor to "Paste" and left click. (The keyboard shortcuts ctrl-C and ctrl-V are of course faster in the above steps.)
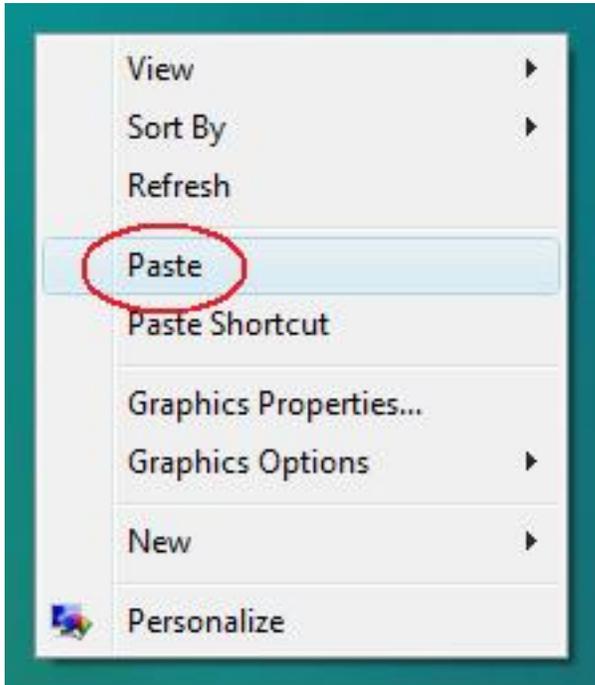
6. You will now get a new file icon on the desktop which looks like this:

This is the backup of the items.dat file. Keep it in a safe place. If you make numerous changes to the working items.dat file
and the code has too many errors to accurately debug, you may need to replace the working items.dat with the backup and start
from scratch. This holds true even if your are using Mod Manager, as Mod manager has issues restoring files in Vista
(more on that in another chapter). I've found that it's always wise to have manual backups of ALL Fate files that you intend to alter.
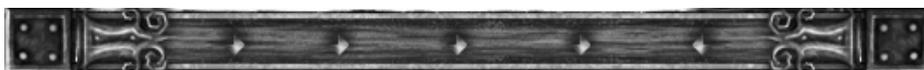
Open editpad (or notepad) and type this template.

```
[ITEM]
<TYPE>:RING
<NAME>:
<RARITY>:
<FISHING_RARITY>:
<MINIMUM_DEPTH>:
<MODEL>:ITEMS/ring.mdl
<COLLIDEABLE>:0
<SHADOW>:0
<ICON>:ICONS/ring8.png:ICONS/ring8a.png
<VALUE>:
<TAKEABLE>:1
<DROP_SOUND>:SOUNDS/ITEMS/fall.wav
<TAKE_SOUND>:SOUNDS/ITEMS/ring.wav
<LAND_SOUND>:SOUNDS/ITEMS/ring.wav
[/ITEM]
```

This is what we will use for the template for our new Archer's Ring.

After the <NAME>: tag, you need to type "Archer's Ring", as this is the name for your new item.

Next comes the <RARITY>: tag. The function of this tag should be obvious, it controls how rare this item is.
The rarity can be any number between 1 and 1000, 1 = very common, 1000 = you will never see this item in the dungeon.

Next comes the fishing rarity. This, of course, controls how rare this item is when fishing. The rules for the
<RARITY>: tag apply here as well. You could, for example, type in <RARITY>:1000 for the rarity tag and <FISHING_RARITY>:930.
This would mean that you can only get this item by fishing.

<MINIMUM_DEPTH>: controls what the minimum depth (dungeon level) this item can be found at. (Note: There is also a
<MAXIMUM_DEPTH>: tag, this obviously controls the maximum depth the item can be found at)

<MODEL>: This tells the game which 3d model to use for the game. Make sure you type the path correctly!

<COLLIDEABLE>: Determines whether or not you can run into the item. <COLLIDEABLE>:1 means you can collide into it,
<COLLIDEABLE>:0 means you cannot.

<SHADOW>: Determines whether the item has a shadow.

<ICON>: This tells the game what to use for the item's icon, and after a colin (:) the alpha. The alpha is a black
and white image that determines what area(s) of icon are transparent. White = completely transparent, black = not transparent.
Make sure you type the path correctly!

<VALUE>: This is how much gold it will cost you to buy it from a merchant.

<TAKEABLE>: This tells the game whether you can pick the item up or not.

<DROP_SOUND>: This is what sound it makes when you toss it into the air.

<TAKE_SOUND>: This is what sound it makes when you pick it up.

<LAND_SOUND>: This is what sound it makes when it hits the ground.

Now, to add the +10 dexterity and +5 strength bonuses, you need to put in something called the effect block. Normal effect blocks go like this:

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:
<VALUE>:
<DURATION>:INSTANT
[/EFFECT]

For a dexterity bonus, you want to put <TYPE>:DEXTERITY in the effect block. The <VALUE>: tag tells how much of the type to apply. In this case, for a +10 dexterity bonus, you would type <VALUE>:10. (You can also do curses on an item, to do this, you would type a - sign, then the number of reduction)

To make another effect on an item, you need another effect block. Type another one. Now, make the <TYPE>: tag <TYPE>:STRENGTH. The value, of course, would be 5.

There are many types of effects. This is the complete list:

STRENGTH	SKILLATTACKMAGIC	PERCENTMAGICALRESISTANCE
DEXTERITY	SKILLDEFENSEMAGIC	PERCENTFIRERESISTANCE
VITALITY	SKILLCHARMMAGIC	PERCENTICERESISTANCE
MAGIC	PERCENTSTRENGTH	PERCENTELECTRICRESISTANCE
MANA	PERCENTDEXTERITY	REMOVEEFFECT
HP	PERCENTVITALITY	KNOCKBACKEFFECT
STAMINA	PERCENTMAGIC	IDENTIFY
MANARECHARGE	PERCENTMANA	WRITESPELL
HPRECHARGE	PERCENTHP	SUMMON
STAMINARECHARGE	PERCENTSTAMINA	ADDDAMAGETYPE
ARMORBONUS	PERCENTSPEED	TRANSFORM
TOHITBONUS	PERCENTATTACKSPEED	REVERTTRANSFORM
DAMAGEBONUS	PERCENTARMORBONUS	OPENPORTAL
DAMAGETAKEN	PERCENTTOHITBONUS	DISCOVER
KNOCKBACK	PERCENTDAMAGEBONUS	FLEE
SKILLSWORD	PERCENTDAMAGETAKEN	TURNALIGNMENT
SKILLCLUB	PERCENTMAGICALDROP	DISPEL
SKILLHAMMER	PERCENTGOLDDROP	DISPELENEMY
SKILLAXE	PERCENTCASTSPEED	
SKILLSPEAR	PERCENTLIFESTOLEN	
SKILLSTAFF	PERCENTMANASTOLEN	
SKILLPOLEARM	PERCENTDAMAGEREFLECTED	
SKILLBOW	PERCENTBLOCKCHANCE	
SKILLCRITICALSTRIKE	PERCENTITEMREQUIREMENTS	
SKILLSPELLCASTING	PERCENTPIERCINGRESISTANCE	
SKILLDUALWIELD	PERCENTSLASHINGRESISTANCE	
SKILLSHIELD	PERCENTCRUSHINGRESISTANCE	

Now, to put your finished mod in the game, you need to copy your item code and paste it somewhere in the items.dat file. It doesn't matter where, but I would suggest putting it on either to top or bottom, so it is easier to find.
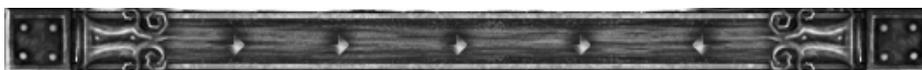
Tutorial 102 - Editpads & Templates

In this tutorial, we will create a small mod that adds three new amulets to the game. Most satisfying mods have a carefully planned theme upon which they are built. Experienced modders plan their work much like a composer plans his symphony.

But our theme will be a modest one: we will create three new amulets that accentuate the magic skill points of the character. These amulets will be useful to players that prefer to use magic, but perhaps they will be even more useful to melee fighters, who tend to put most of their skill points into the weapon they have at hand in addition to critical strike.

We will learn how to change the base value of the amulets and how to intersperse our new items throughout the levels of the game. Also, learn how to use tabs in EditPad Lite, and how to create templates for our future modding projects.

Part One: Creating Templates in EditPad

1. Let's begin by opening EditPad Lite and typing in the following effect block code:
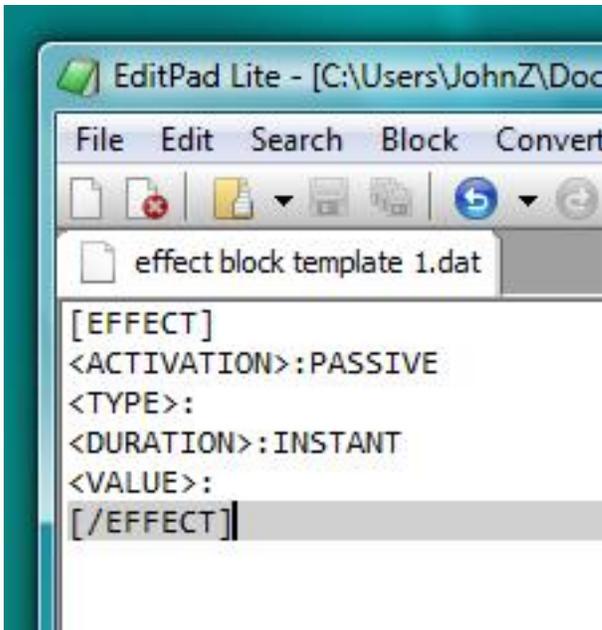
Notice that the entries after <TYPE>: and <VALUE>: are left blank. Save this file as "effect block template1.dat. Don't forget the .dat file extension.

2. Now create a new file by selecting File - New. Notice that EditPad creates this new file without closing the previous one. Both files can be accessed within the same window by clicking on the tabs directly above the text. This is one of the advantages of EditPad over other text editors, and this feature will come in very handy when we are making complicated mods that require a great deal of copying and pasting.
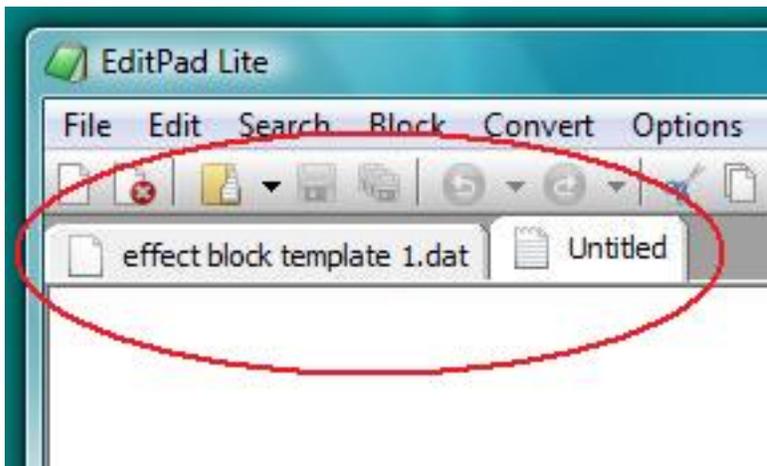
3. Now go to the items.dat file in the Fate root directory and find the code for "Elven Amulet" (Tutorial 101 explains how to find, copy, and paste items from the items.dat file in Fate's root directory). Copy the code and paste it into the untitled EditPad file. Then save it as "Magic Amulet template.dat". It should look like this:

We are going to alter this code to create a template for our new amulets.

4. Let's start by deleting the entries after <NAME>, <RARITY>, <MINIMUM_DEPTH>, and <VALUE>. Do not delete the colons!


```
[ITEM]
<TYPE>:NECKLACE
<NAME>:
<RARITY>:
<MINIMUM_DEPTH>:
<MODEL>:ITEMS/necklace.mdl
<COLLIDEABLE>:0
<SHADOW>:0
<ICON>:ICONS/amulet3.png:ICONS/amulet3a.png
<VALUE>:
<TAKEABLE>:1
<DROP_SOUND>:SOUNDS/ITEMS/fall.wav
<TAKE_SOUND>:SOUNDS/ITEMS/ring.wav
<LAND_SOUND>:SOUNDS/ITEMS/ring.wav
[/ITEM]
```
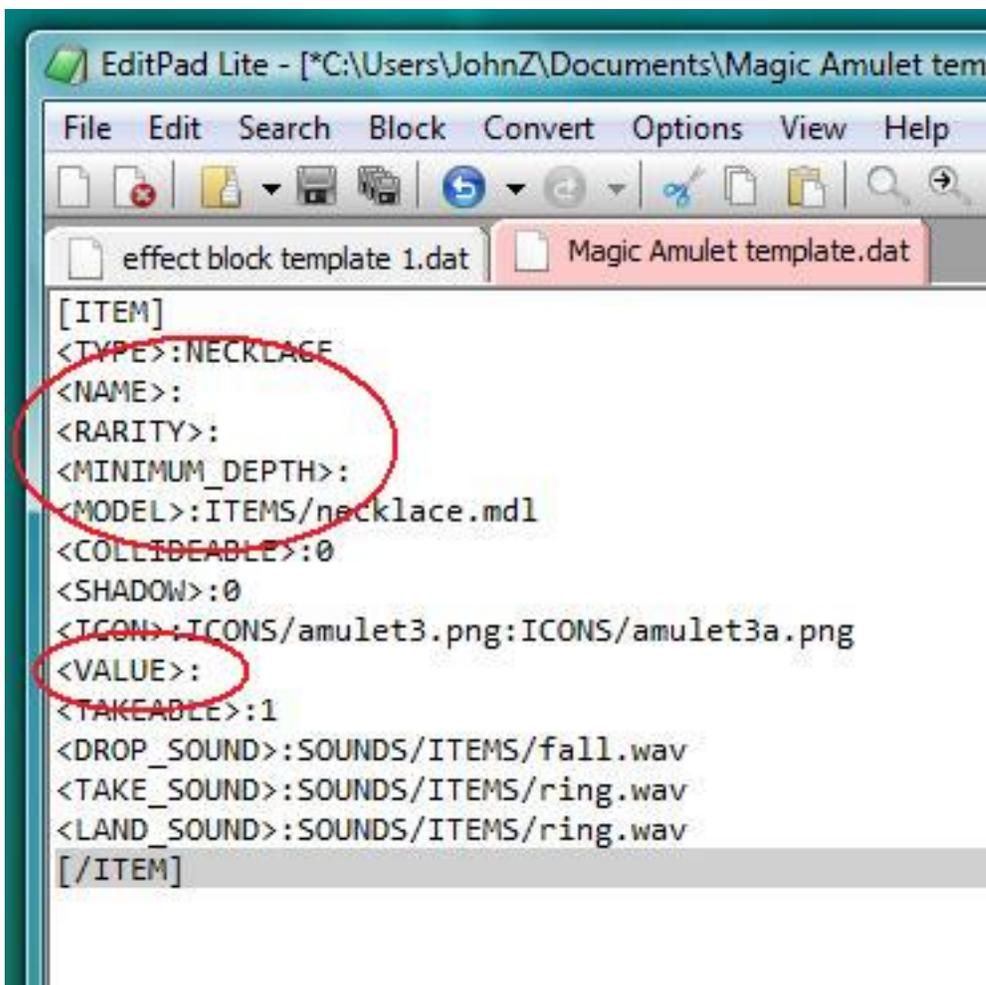
5. Now we will add the following lines of code: <MERCHANT_MINIMUM>: and <SOCKETS>:1. (Just for fun, we want all of the amulets to be socketed). The merchant minimum code will be discussed shortly.
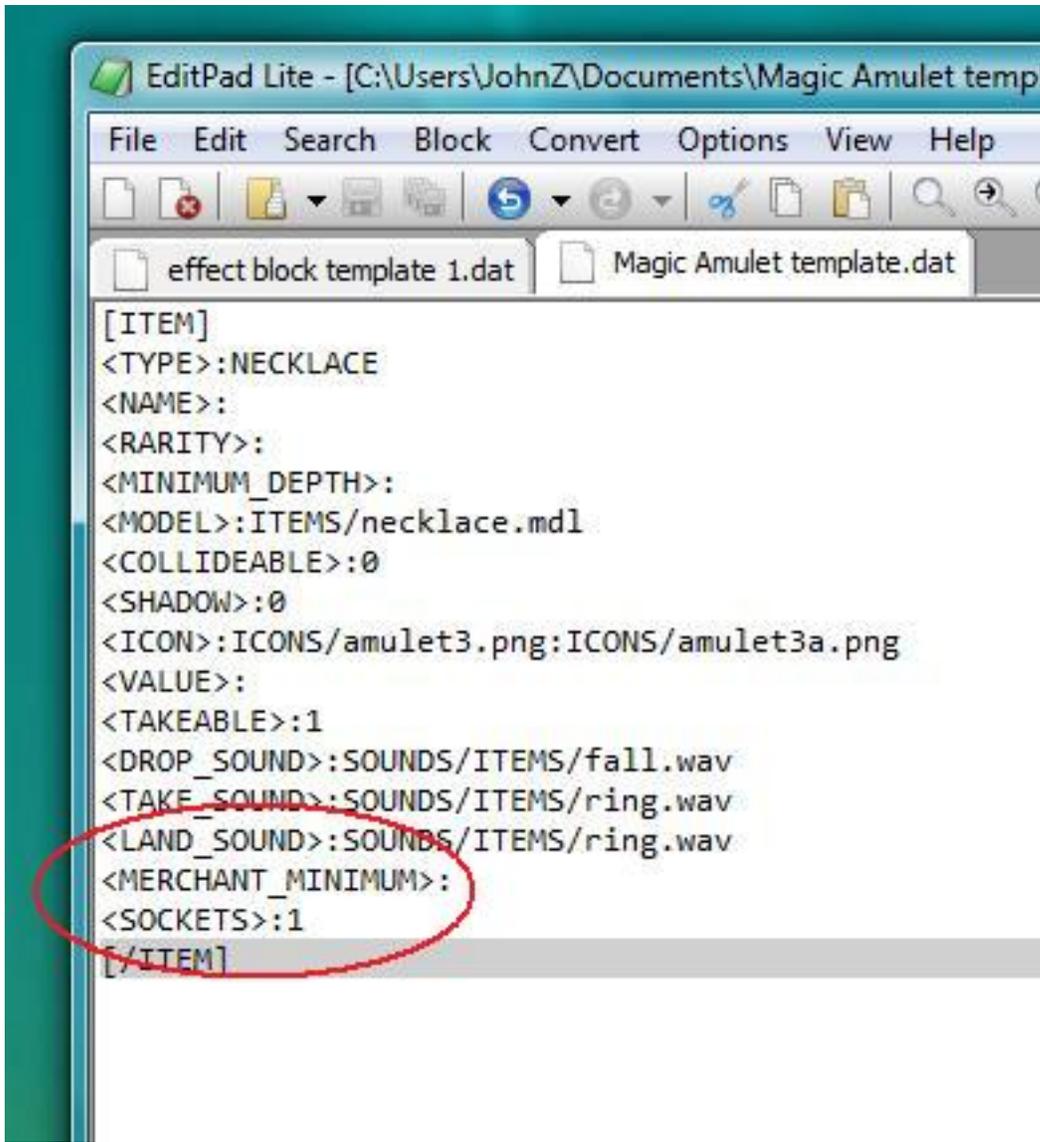
6. And now let's use the tabs in EditPad to their full advantage: click on the "effect block template 1.dat" tab, and copy the contents of the file. Then click on the "Magic Amulet template.dat" tab and paste the effect block template into it three times, UNDER the item description. The code in "Magic Amulet template.dat" should now look like this:

```
[ITEM]
<TYPE>:NECKLACE
<NAME>:
<RARITY>:
<MINIMUM_DEPTH>:
<MODEL>:ITEMS/necklace.mdl
<COLLIDEABLE>:0
<SHADOW>:0
<ICON>:ICONS/amulet3.png:ICONS/amulet3a.png
<VALUE>:
<TAKEABLE>:1
<DROP_SOUND>:SOUNDS/ITEMS/fall.wav
<TAKE_SOUND>:SOUNDS/ITEMS/ring.wav
<LAND_SOUND>:SOUNDS/ITEMS/ring.wav
<MERCHANT_MINIMUM>:
<SOCKETS>:1

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:
<DURATION>:INSTANT
<VALUE>:
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:
<DURATION>:INSTANT
<VALUE>:
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:
<DURATION>:INSTANT
<VALUE>:
[/EFFECT]
[/ITEM]
```

WARNING! Do not copy this code directly from the forum and paste it into EditPad. It may not function correctly due to possible hidden text formatting issues. Code should only be copied from working .dat files.

7. In our initial vision of this mod, we wanted to create three amulets that would increase the magic skill points of the bearer, so our next step will be to add the appropriate entries to each of the effect blocks after <TYPE>. Effect block 1 will receive the entry SKILLATTACKMAGIC, effect block 2 will receive the entry SKILLDEFENSEMAGIC, and effect block 3 will receive the entry SKILLCHARMMAGIC.

Now the code in the file "Magic Amulet template.dat" file should look like this:

```
[ITEM]
<TYPE>:NECKLACE
<NAME>:
<RARITY>:
<MINIMUM_DEPTH>:
<MODEL>:ITEMS/necklace.mdl
<COLLIDEABLE>:0
<SHADOW>:0
<ICON>:ICONS/amulet3.png:ICONS/amulet3a.png
<VALUE>:
<TAKEABLE>:1
<DROP_SOUND>:SOUNDS/ITEMS/fall.wav
<TAKE_SOUND>:SOUNDS/ITEMS/ring.wav
<LAND_SOUND>:SOUNDS/ITEMS/ring.wav
<MERCHANT_MINIMUM>:
<SOCKETS>:1

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLATTACKMAGIC
<DURATION>:INSTANT
<VALUE>:
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLDEFENSEMAGIC
<DURATION>:INSTANT
<VALUE>:
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLCHARMMAGIC
<DURATION>:INSTANT
<VALUE>:
[/EFFECT]
[/ITEM]
```
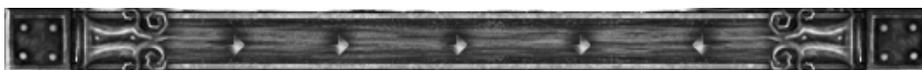
8. Save the file "Magic Amulet template.dat". This is the final template for our mod - now let's go make it!

Part Two: Writing The Mod

1. In EditPad, create yet another new file, which will give you a new tab. Save this file as "Magic Skills Amulet Mod.dat" Now click on the "Magic Amulet template.dat" tab, copy its contents, then click on the "Magic Skills Amulet Mod.dat" tab and paste three times. You have now made three copies of the final template into the mod file.

2. Now let's discuss the coding that will complete our project. First of all, we need to change the names of all three items in our mod. Let's call the first amulet "Apprentice's Collar", and the second "Magician's Choke", and the third "Warlock's Bling Bling".

Type "Apprentice's Collar" into the parameter after <NAME>: in the first item, type "Magician's Choke" into the parameter after <NAME>: in the second item, then type "Warlock's Bling Bling" into the parameter after <NAME>: in the third item.

This is an important step in the process: not only do we want our amulets to have different names, but the items.dat file in Fate should NOT contain two items with the same name.

3. Now let's add values to the <RARITY>: tags. These values can range from 1 to 999, 1 being the most commonly found, and 999 being the rarest. If a value of 1000 is used, the item will never be found, but it could possibly be purchased (more on that at another time).

We will set the rarity of the Apprentice's Ring to 600, the Magician's ring to 700, and the Warlock's Ring to 800.
(In general, the more powerful an item is in Fate, the more difficult it is to come across.)

4. Now we will add values to the <MINIMUM_DEPTH>: line. This represents the minimum dungeon level at which the item can be found. We want to space these rings out throughout the game. The Apprentice's Collar can be found anywhere throughout the game, so enter a value of 1. The Magician's Choke is more powerful, so let's enter a value of 10, and the Warlock's Bling Bling is the most powerful, so we'll give it a minimum depth of 20.

5. We will now enter numbers in the <VALUE>: lines. These numbers represent the base price merchants will ask for a non-enchanted item. (Of course if you try to sell an item back the value will be much lower.)

All necklaces in Fate have a base value of 700 GP. But since we have added enchantments to our amulets, the buy price will be much higher than the number we enter into the <VALUE>: line. In fact, the buy price may range between 150% and 190% of the base value. The sell price will tend to range between 19% and 25% of the base value. If the program generates necklaces that have enchantments in addition to the ones we have added, the buy and sell prices will go up as well.

So how do we judge the value of each item? The only way to do it is to use the "best guess method". Let's choose values that we think will work and test them out during the game-play. Then we can decide whether we've made them too cheap, or too expensive.

Let's set the base value of the Apprentice's Collar to 2000. After all, it's socketed, and it boosts all magic skills. As we're going to going to double the amount of skill points that the Magician's Choke endows, let's set its value to 4000. Likewise, let's set the value of the Warlock's Bling Bling to 8000.

WARNING! At this stage, we are only adding entries after the <VALUE>: lines in the item descriptions, NOT the effect blocks. Leave those alone.

6. Now let's add values to the <MERCHANT_MINIMUM>: lines. These represent the level at which an item can be sold by merchants. In this case, we'll set the merchant minimum levels to approximately the same values we used in <RARITY>. Apprentice's Collar gets the entry 0 (meaning you can buy the item in town the first time you start a game), Magician's Choke will be 10, and Warlock's Bling Bling will be 20.
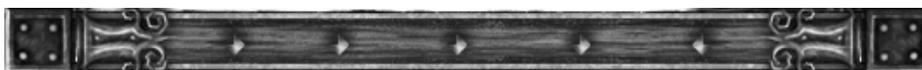
7. We are now ready to edit the effect blocks in each of the items. For the Apprentice's Collar, set the value of all magic skill points to 10, like so:

```
[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLATTACKMAGIC
<DURATION>:INSTANT
<VALUE>:10
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLDEFENSEMAGIC
<DURATION>:INSTANT
<VALUE>:10
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLCHARMMAGIC
<DURATION>:INSTANT
<VALUE>:10
[/EFFECT]
```

For the Magician's Choke, set the values to 20, and for the Warlock's Bling Bling set the values to 40.

Done!

At this point we have finished our mod, but we may still have some questions as to how well it plays. Are the items too common or rare? Are they powerful enough to entice a player to use them, or are they so powerful that they make the game unchallenging? Are they too expensive, or too cheap?

Only time will tell. Perhaps the most important part of the mod-making process is playing the mod, and tweaking it into a form that you and other players find satisfying.

Here is the final version of the code. Check it carefully! One misplaced letter or added space can make the game crash.
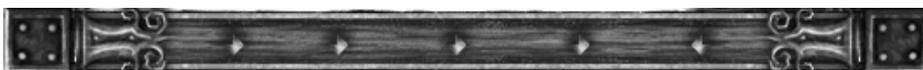
```
[ITEM]                                          [ITEM]
<TYPE>:NECKLACE                                 <TYPE>:NECKLACE
<NAME>: Apprentice's Collar                     <NAME>:Magician's Choke
<RARITY>:600                                    <RARITY>:700
<MINIMUM_DEPTH>:1                               <MINIMUM_DEPTH>:10
<MODEL>:ITEMS/necklace.mdl                      <MODEL>:ITEMS/necklace.mdl
<COLLIDEABLE>:0                                 <COLLIDEABLE>:0
<SHADOW>:0                                      <SHADOW>:0
<ICON>:ICONS/amulet3.png:ICONS/amulet3a.png    <ICON>:ICONS/amulet3.png:ICONS/amulet3a.png
<VALUE>:2000                                    <VALUE>:4000
<TAKEABLE>:1                                    <TAKEABLE>:1
<DROP_SOUND>:SOUNDS/ITEMS/fall.wav              <DROP_SOUND>:SOUNDS/ITEMS/fall.wav
<TAKE_SOUND>:SOUNDS/ITEMS/ring.wav              <TAKE_SOUND>:SOUNDS/ITEMS/ring.wav
<LAND_SOUND>:SOUNDS/ITEMS/ring.wav              <LAND_SOUND>:SOUNDS/ITEMS/ring.wav
<MERCHANT_MINIMUM>:0                            <MERCHANT_MINIMUM>:
<SOCKETS>:1                                     <SOCKETS>:1

[EFFECT]                                        [EFFECT]
<ACTIVATION>:PASSIVE                            <ACTIVATION>:PASSIVE
<TYPE>:SKILLATTACKMAGIC                         <TYPE>:SKILLATTACKMAGIC
<DURATION>:INSTANT                              <DURATION>:INSTANT
<VALUE>:10                                      <VALUE>:20
[/EFFECT]                                       [/EFFECT]

[EFFECT]                                        [EFFECT]
<ACTIVATION>:PASSIVE                            <ACTIVATION>:PASSIVE
<TYPE>:SKILLDEFENSEMAGIC                        <TYPE>:SKILLDEFENSEMAGIC
<DURATION>:INSTANT                              <DURATION>:INSTANT
<VALUE>:10                                      <VALUE>:20
[/EFFECT]                                       [/EFFECT]

[EFFECT]                                        [EFFECT]
<ACTIVATION>:PASSIVE                            <ACTIVATION>:PASSIVE
<TYPE>:SKILLCHARMMAGIC                          <TYPE>:SKILLCHARMMAGIC
<DURATION>:INSTANT                              <DURATION>:INSTANT
<VALUE>:10                                      <VALUE>:20
[/EFFECT]                                       [/EFFECT]
[/ITEM]                                         [/ITEM]
```
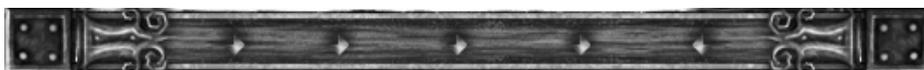
```
[ITEM]
<TYPE>:NECKLACE
<NAME>:Warlock's Bling Bling
<RARITY>:800
<MINIMUM_DEPTH>:20
<MODEL>:ITEMS/necklace.mdl
<COLLIDEABLE>:0
<SHADOW>:0
<ICON>:ICONS/amulet3.png:ICONS/amulet3a.png
<VALUE>:8000
<TAKEABLE>:1
<DROP_SOUND>:SOUNDS/ITEMS/fall.wav
<TAKE_SOUND>:SOUNDS/ITEMS/ring.wav
<LAND_SOUND>:SOUNDS/ITEMS/ring.wav
<MERCHANT_MINIMUM>:20
<SOCKETS>:1

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLATTACKMAGIC
<DURATION>:INSTANT
<VALUE>:40
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLDEFENSEMAGIC
<DURATION>:INSTANT
<VALUE>:40
[/EFFECT]

[EFFECT]
<ACTIVATION>:PASSIVE
<TYPE>:SKILLCHARMMAGIC
<DURATION>:INSTANT
<VALUE>:40
[/EFFECT]
[/ITEM]
```
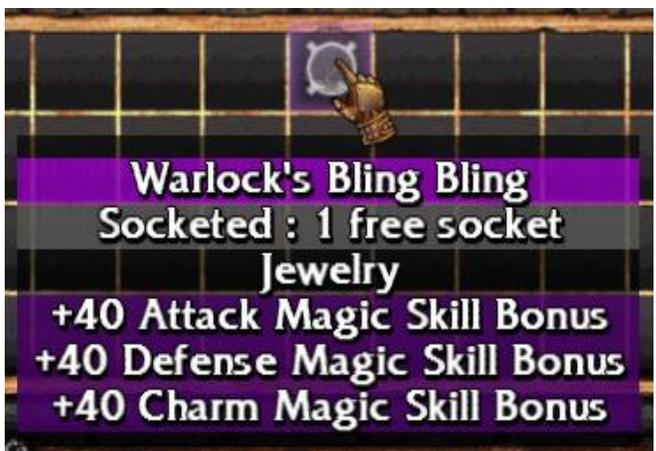
8. (The last step) Once the code has been carefully proofread, save the file "Magic Skills Amulet.dat." Then copy its contents and paste them into the items.dat file in Fate, as described in Tutorial 101.

Launch Fate.

Now let's make certain that our newly-added code actually creates three new amulets. Use the cheat console to summon them up.

And voila! Here they are:

Notice that the game engine will also use your new items to generate its own:

Exercises:

1. Using the techniques presented in this tutorial, create a mod that introduces a new class of four rings that gradually accentuate the strength and vitality of the bearer. Use any ring model, and intersperse the rings throughout the game levels by factors of 15. All other choices are up to you. Play the mod.

2. (Advanced) Create a mod that has six new amulets and six new rings. Use whichever models you want. Start by creating a vision for this mod from your own game-play: what do you like? what do you dislike? Use all of the coding techniques in Tutorial 101 and 102.

SUMMARY

In this tutorial we learned how to use the "tabs" feature in EditPad to create templates for our current mod. These templates can also be used for future mods. We created two templates that were eventually combined to create a skeletal version of our mod. Then we created three new amulets, changed their values, and interspersed them throughout the game by using the <RARITY>, <MINIMUM_DEPTH>, and <MERCHANT_MINIMUM> code.

MANTICORE

BULLFROGMAN
3/19/08

DRAGONITE
WIZARD
3/13/08

ROOT GOLEM
5/19/08

SQUIDLORD WARRIOR

FLOATING
BRAINBEAST

CLOUD DJINN