Level 15: Creating a Puzzle

Welcome to Level 15 of the RPG Maker VX Introductory Course. In Level 14 we drew the map for the Good King's Lair and then set some traps.

In this level we will create a puzzle that the player must solve in order to advance to the next level of the Devil King's Lair.

Step 36: Outlining the Puzzle

You may be wondering how you can prevent the player from reaching the destination too easily? We've looked at one way already in the Cave of Demons and it involved a locked door. There is a more elaborate variation of this locked door puzzle, and we'll explore it next.

Puzzle for the Devil King's Lair Level 1:

- A locked door with no keyhole prevents the player from reaching level 2.
- In order to open the door, the player must destroy 3 tablets.

First, we'll place a locked door with no keyhole in front of the stairs leading to level 2. Then we'll place 3 tablets (Events) around level 1. Once these tablets have been destroyed by the player the door blocking the stairway will disappear. The important point here is how to link the door's disappearance to the destruction of the 3 tablets.

Step 37: Using Variables

Before we dive into using Variables, lets talk a little bit about what they are.

Point: Creating Variables

In Level 4 we described Switches as devices that record the state of certain Events in the game. Variables do much the same thing. But where Switches can only record an “ON” or “OFF” state, Variables can record numeric values.

It’s perhaps easiest to think of Variables as containers. We can use them to hold numbers for us to use at certain points in the game. Variables in their default state are always empty; they contain nothing, or “0”. Later on the game, we can assign numbers to Variables. This is how we put numbers inside of them, by assigning a number. So through an Event Command, we can assign the number 5 to Variable 0001. That Variable now contains the number 5 and will hold on to it until we need it again. We can also change the number inside the Variable by assigning a new number. We do this through Event Commands as well. So, if the next Event Command says to assign the number 7 to Variable 0001, that Variable no longer holds 5, but 7.

Variables can also be treated as numbers. So we can add, subtract, multiply and divide them just as we would with regular numbers. For example, Variable 0001 is currently holding the number 7. If we add 1 to Variable 0001, then the number it holds will now be 8. Similarly, if we add another 1 to Variable 0001, the number inside increases to 9. It is perhaps useful to think of variables as “Switches that can remember numbers”.

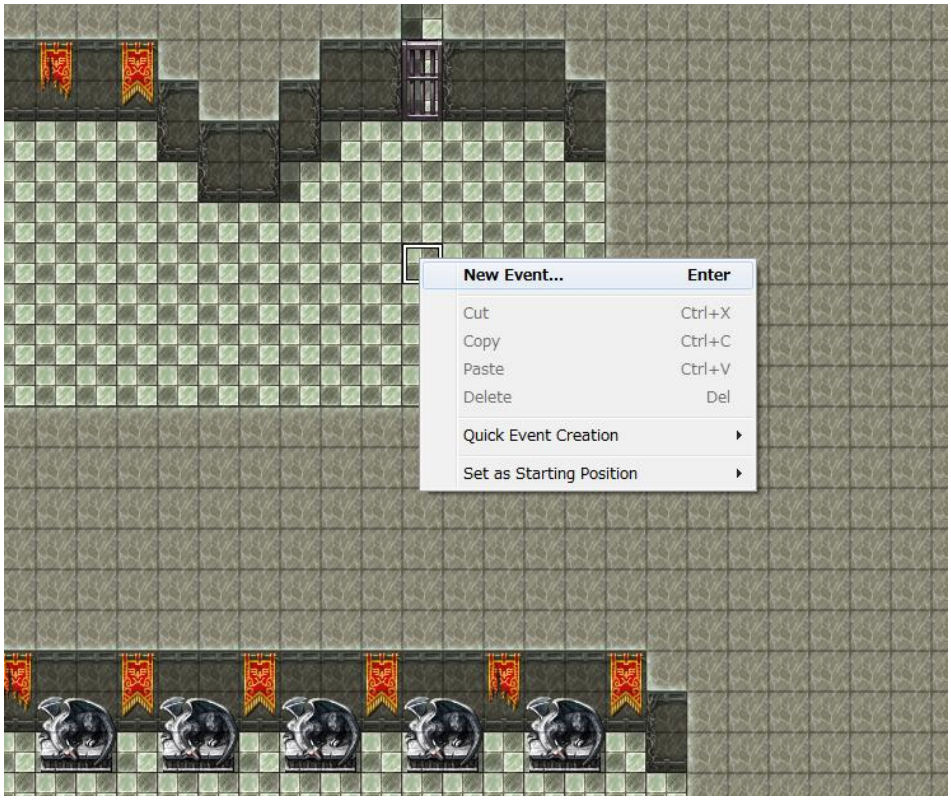
Using Variables to Count the Number of Broken Tablets

So, if a Variable is a Switch that can remember numbers, then we can use them to count the number of special items a player has, or the number of certain actions a player has taken. Is it starting to make sense now? For each tablet that the player breaks, we can add 1 to a Variable. When the Variable reaches 3, we can set the locked door to disappear.

Creating the Tablet Events

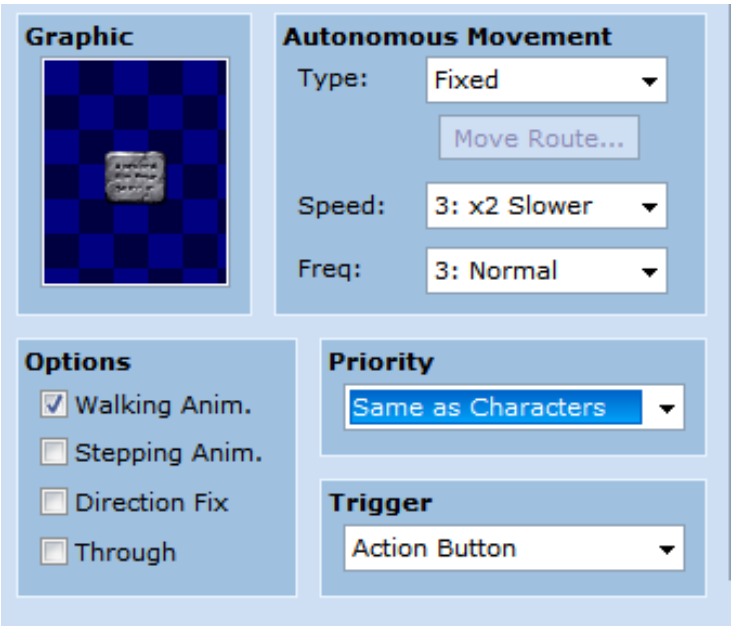
Let's create the 3 tablets to be broken.

Switch to Event mode.



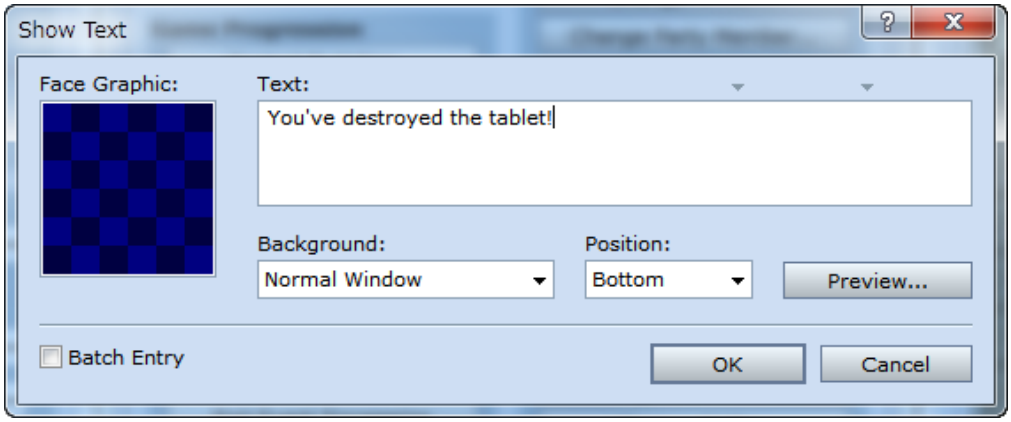
*Creating a new Event

We'll set our first tablet at coordinates 045,035 in the Devil King's Lair Level 1 map. Right-click on an appropriate location and select "New Event" from the pop-up menu.



*Setting the graphic and optional settings.

The tile can be found in “Tileset-C”. Change the Priority to “Same as Character”. The other settings can be left as they are.



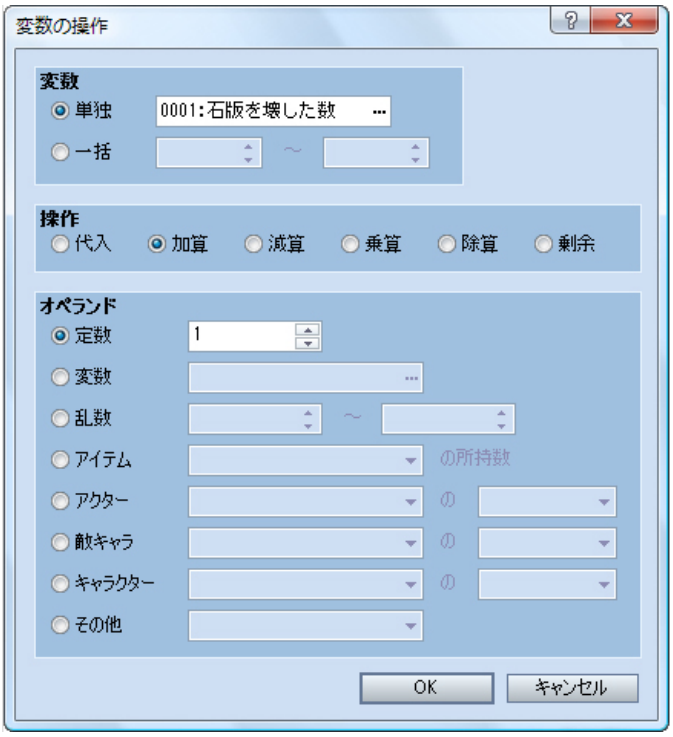
*The Show Text Command.

Once the player breaks the tablet, let’s have a text message confirm the Event. Double-click on the “@” mark and select the “Show Text” command.

Setting the “Control Variables” Command

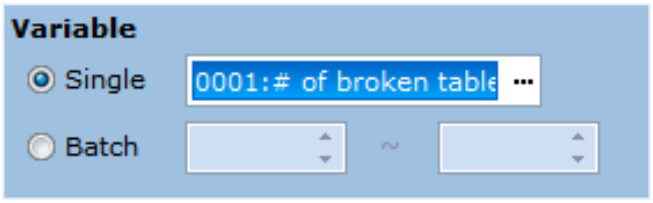
*List of Event Commands page 1.

Double-click on the “@” at the bottom of the List of Event Commands and select “Control Variables from the Event Command List.



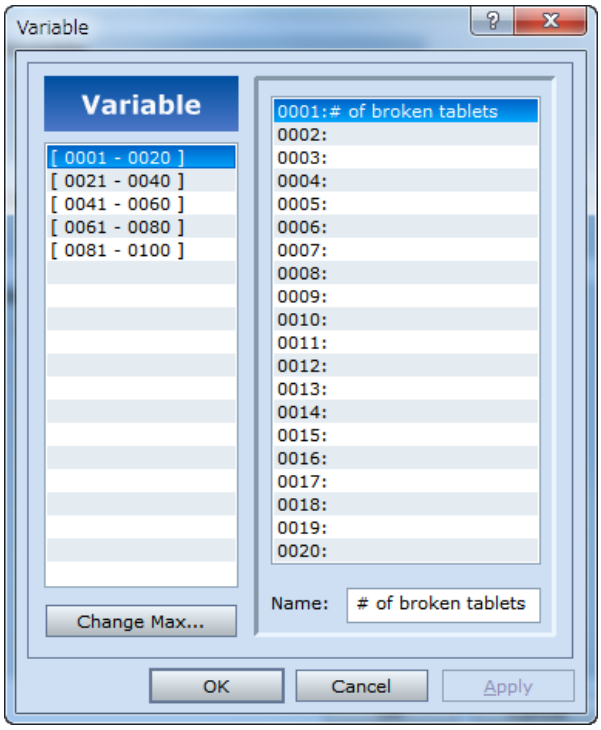
*The Control Variables Command.

The dialogue may seem a bit confusing at first, but we only need to set 3 items here.



*Variable setting.

First is the Variable pane. Here we select which Variable we want to use, just like when controlling Switches. Make sure Single is selected and click on the ellipse on the right to select Variable 0001.

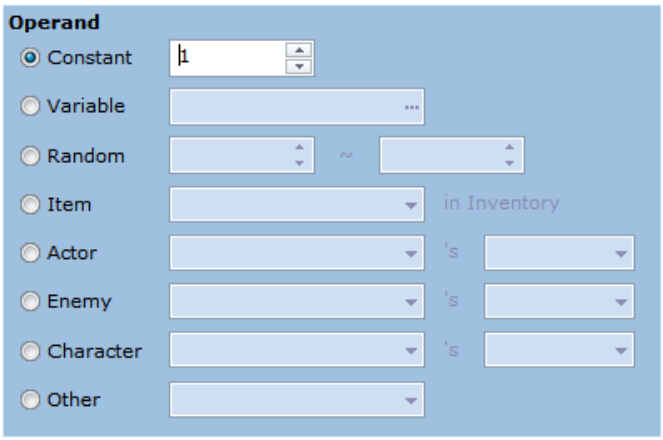


*Variable dialogue.

Just as with Switches, we can name our Variables, We've named this one "# of broken tablets".

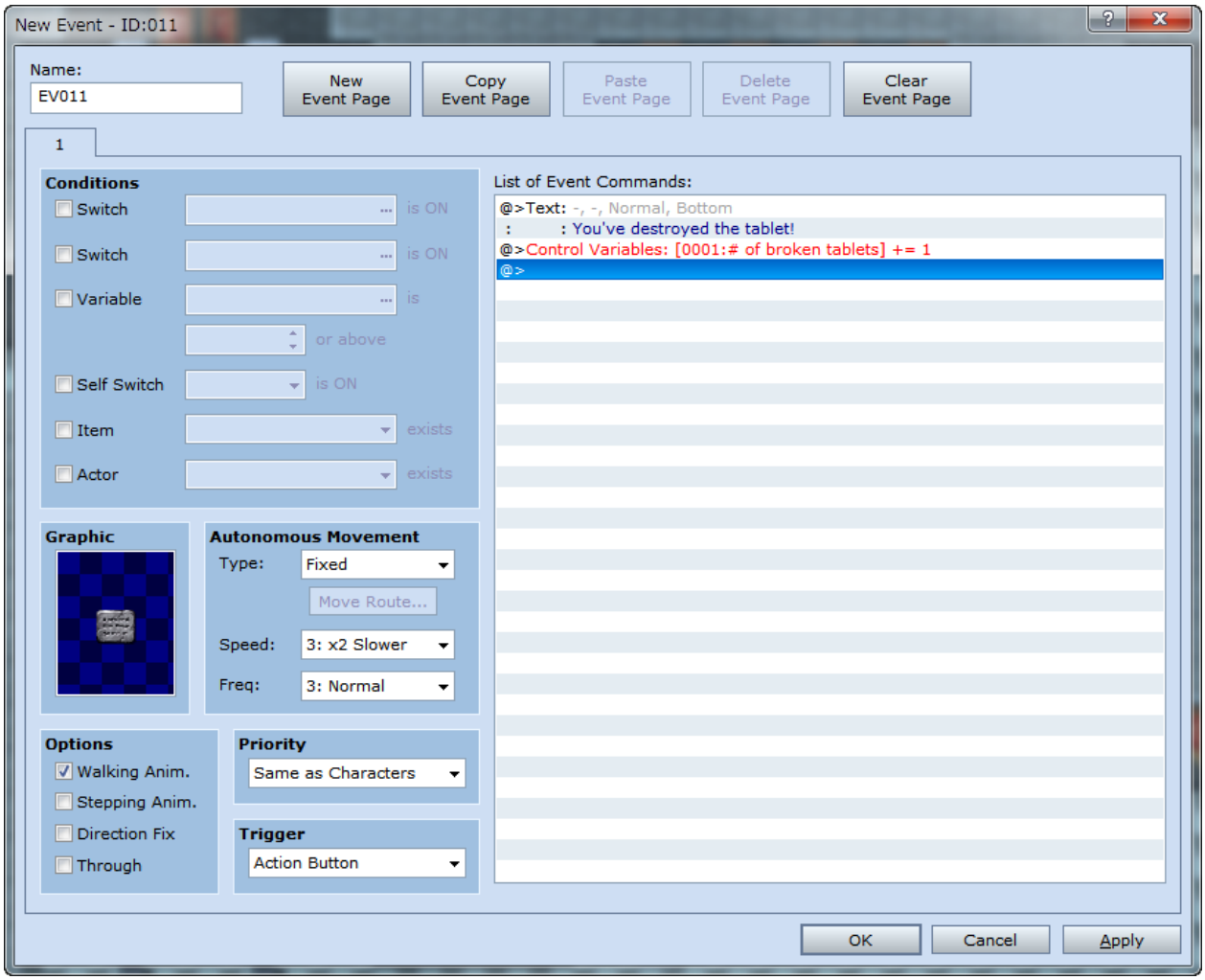
*Operation setting.

The Operation pane lets you choose what you want to do with the Variable (add, subtract, divide...etc). Here we'll select Add



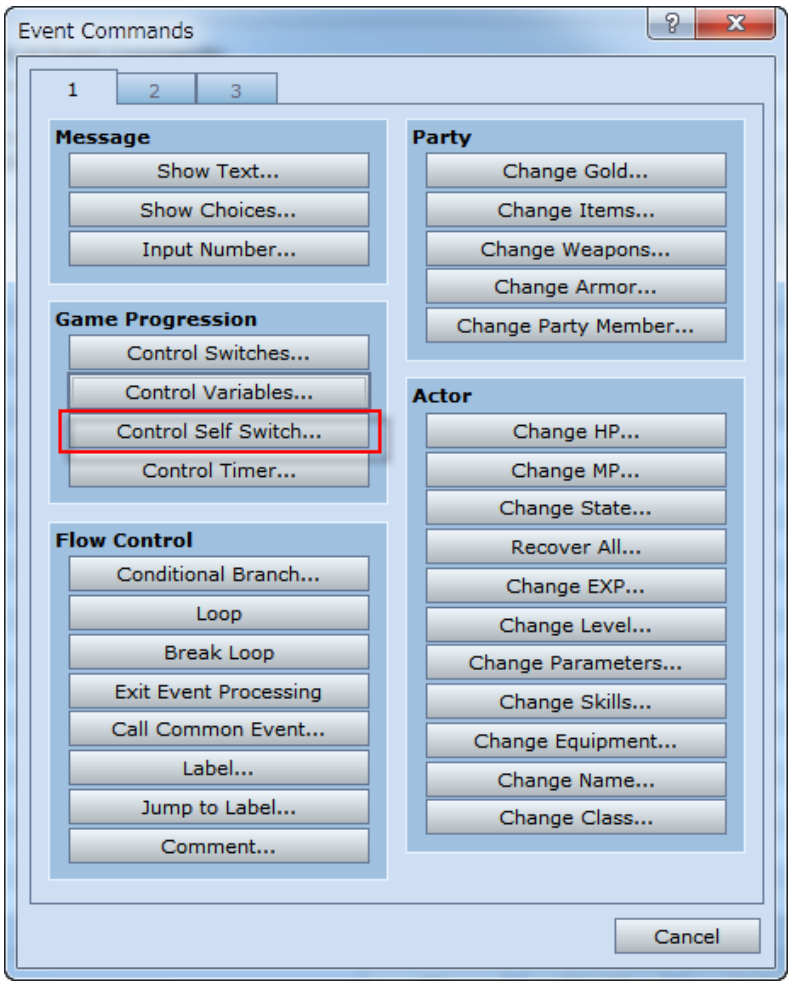
*Operand setting.

A new word that will require some getting used to, Operand refers to the result of the operation, for example how many numbers to add or what number to assign. You can enter numbers directly, or numbers of items. Here we'll check "Constant" and set the value to 1.



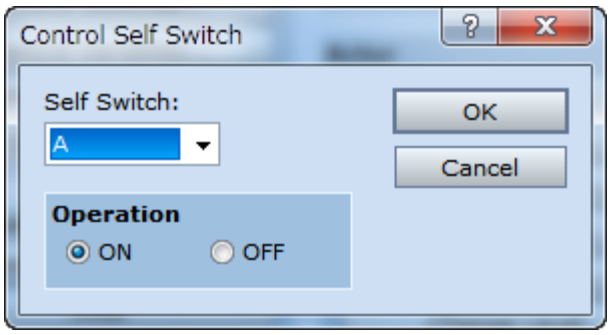
*Finished setting the Control Variables Command.

So far, we've set the Variable "# of broken tablets" to add 1. The reason we've done this is because we don't know which tablet the player will break first. So, we've set it up so that the first tablet the player breaks will add 1 to the Variable, the next will add another 1, and the final will add another 1, regardless of the order the tablets are broken.



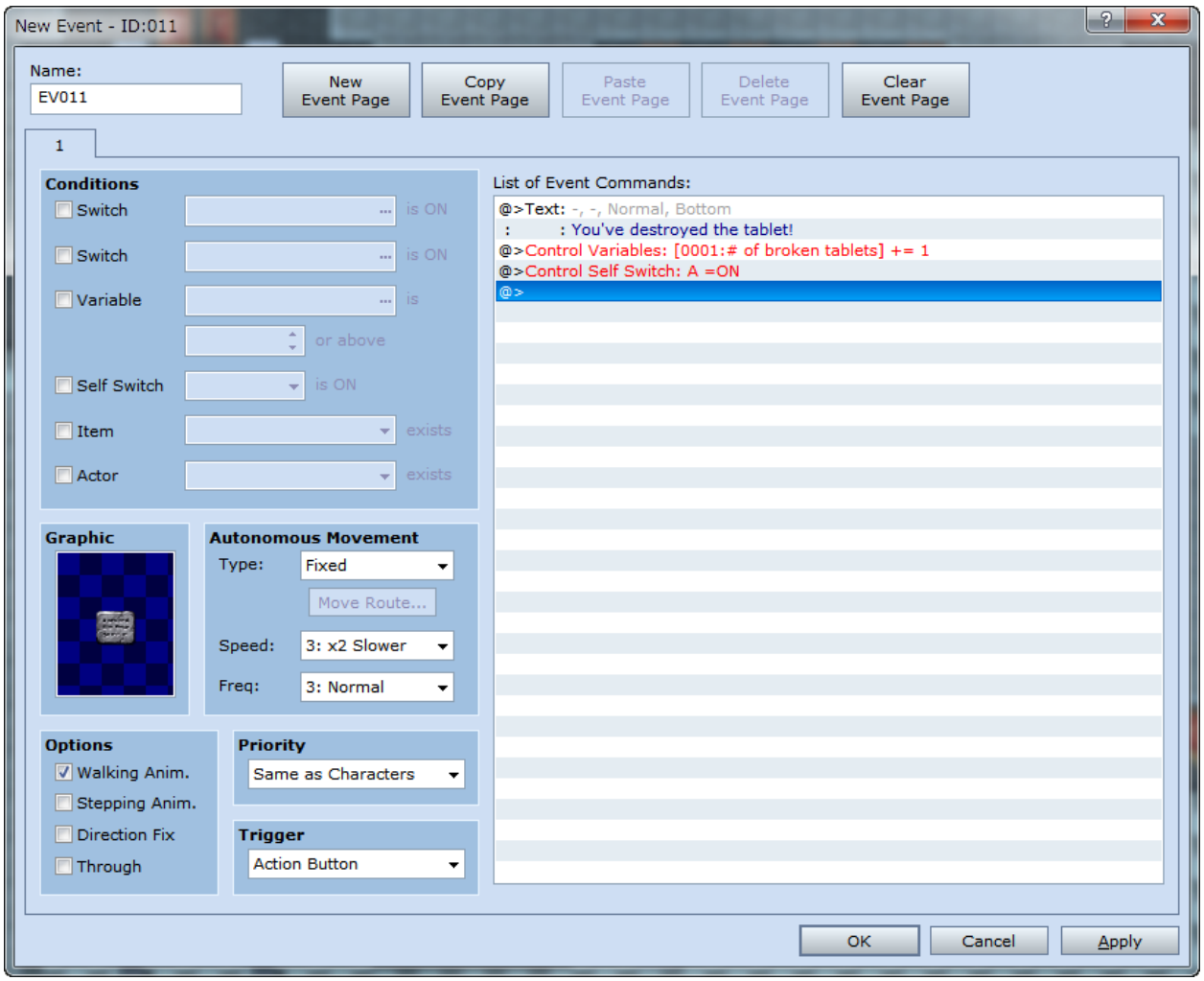
*Event Command List page 1

In order to prevent the same Event from repeating, we'll set a Self Switch. Double-click on the bottom-most "@" mark and select "Control Self Switches" from the Event Command List.



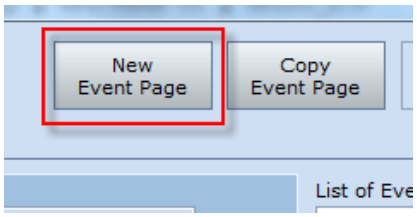
*The Control Self Switches Event Command

Set Self Switch A to "ON".

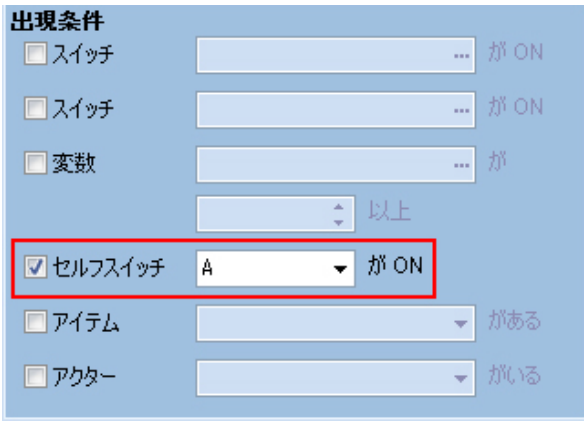


*Event Page 1 complete.

Creating Event Page 2

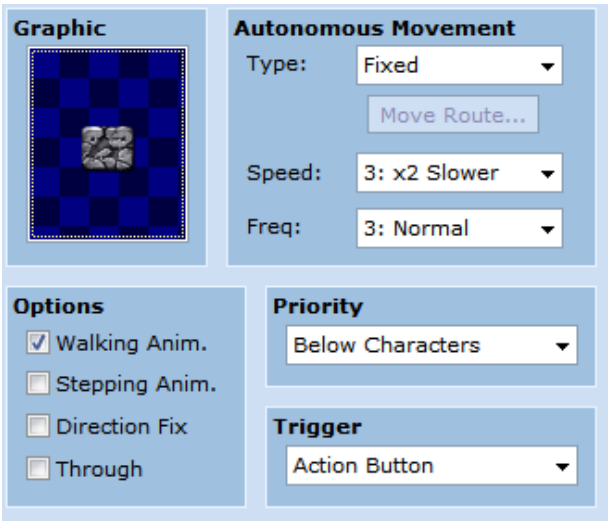


Event Page 2 is to show the broken tablet. Create a new Event Page by clicking “New Event Page” at the top of the Event Editor window.



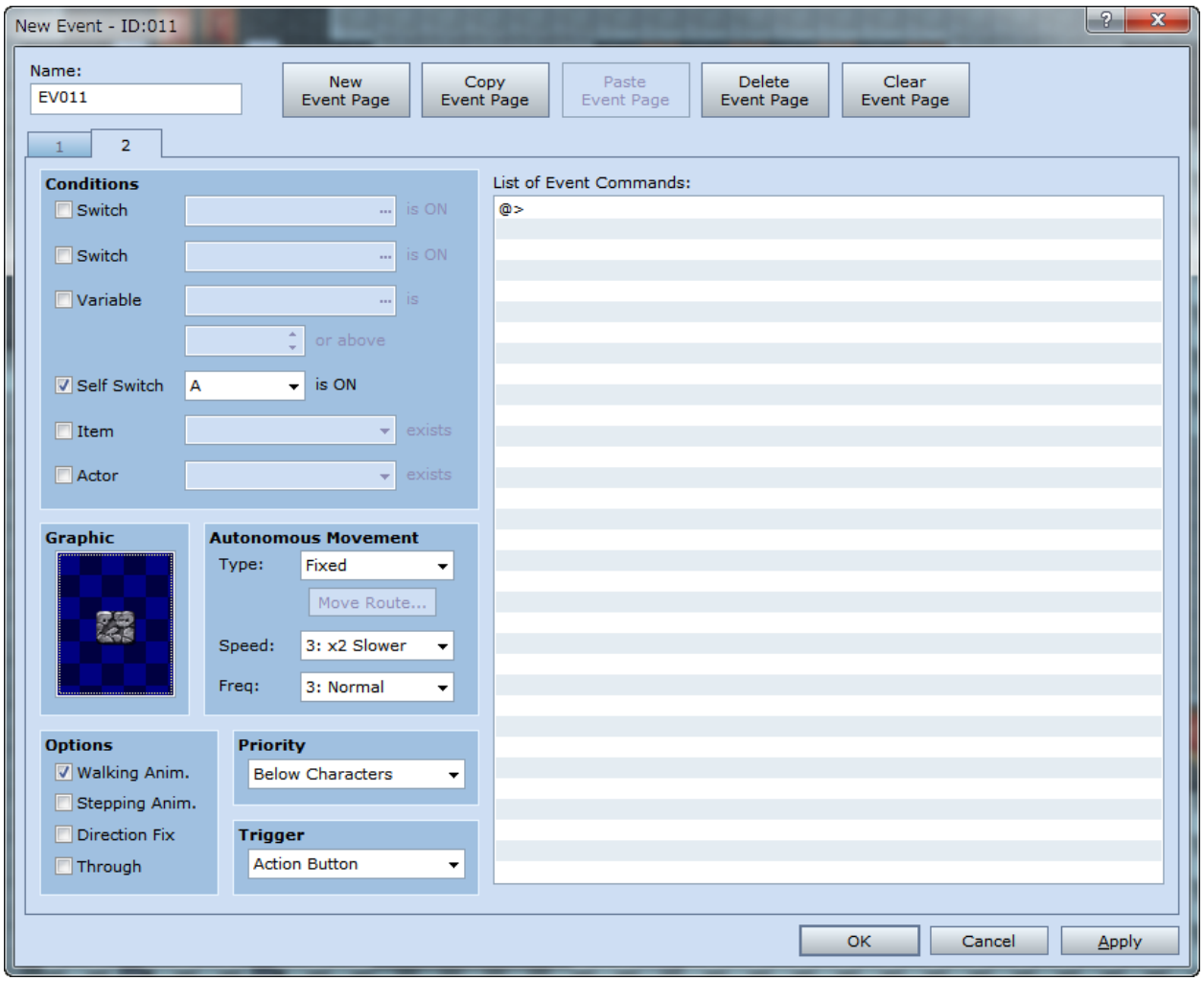
*Setting the Self Switch condition.

Check the “Self Switch” box in the Condition pane. Make sure it reads “A” is ON.



*Graphic and optional settings.

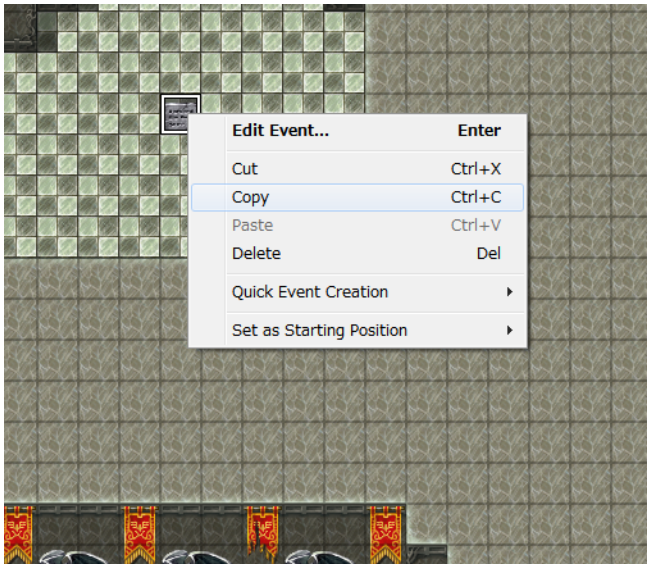
Select the broken tile from “Tileset-C”. The remaining settings can be left as they are.



*Event Page 2 completed.

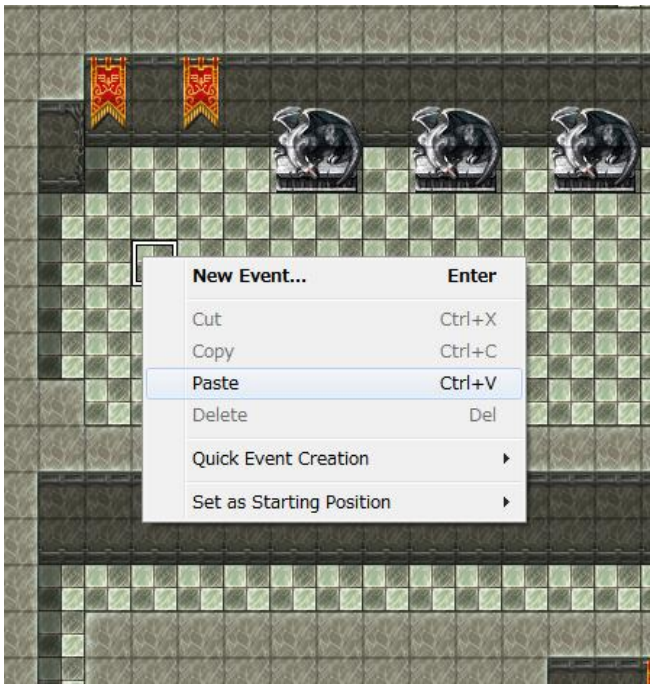
Placing the other Tablets by Copying the EventCreating Event Page 2

The tablet Event is now complete. Some of you may have already guessed, but the remaining tablet Events will have the exact same content. We want this because we don't know which tablet the player will destroy first; we just want each broken tablet to add 1 to the Variable "# of broken tablets". Also, since we're using Self Switches, there is no need to adjust each Switch individually. Therefore, we can just copy and paste the remaining Events.

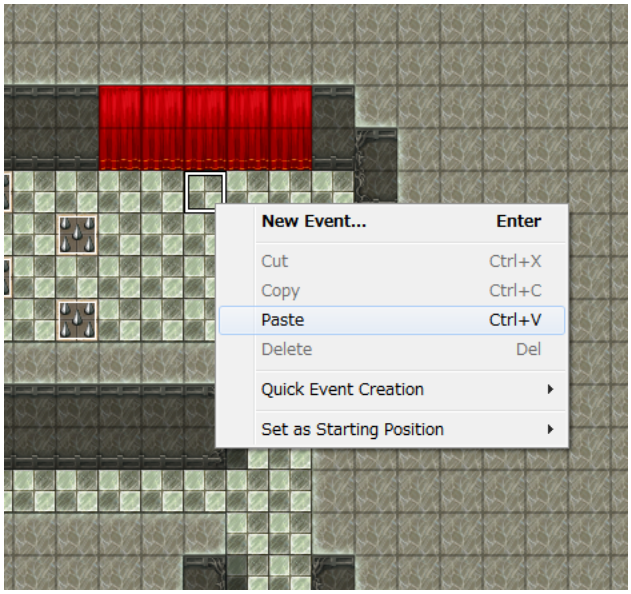


*Copying an Event.

Right-click on the completed tablet Event and select “Copy”.



*Pasting an Event (010,020)

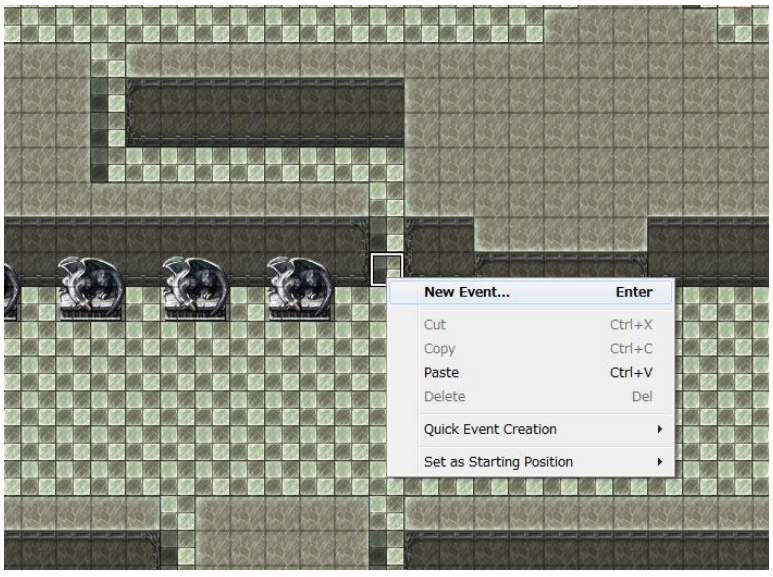


*Pasting an Event (047,007)

Next, right-click on where you want to place the remaining Events and select “Paste”. Here, we paste the tables to (010,020) and (047,007).

Creating the Door Event

We’ll now create the door with no key hole that blocks the stairway leading up to level 2. This will be a 2-page event. The first page will represent the door before all 3 tablets are broken. The second page will execute once all 3 are broken.

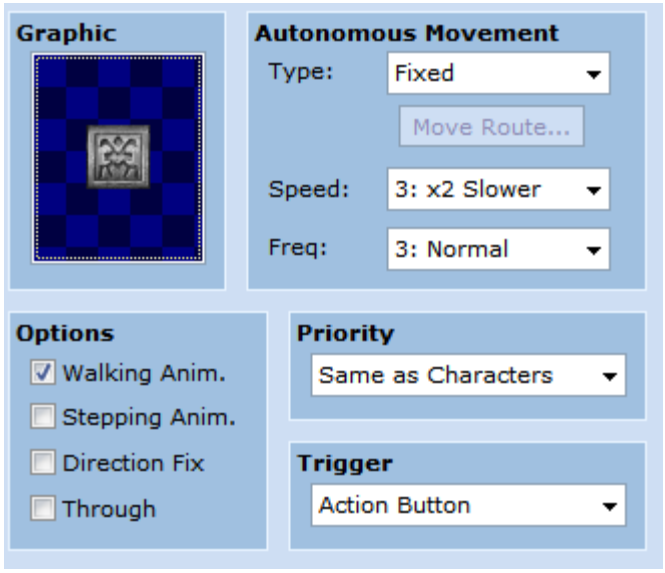


* Create New Event

Place the event at Devil King's Lair Level 1 (028,017). Hover the mouse and right-click, and then select "Create New Event" from the pop-up menu.

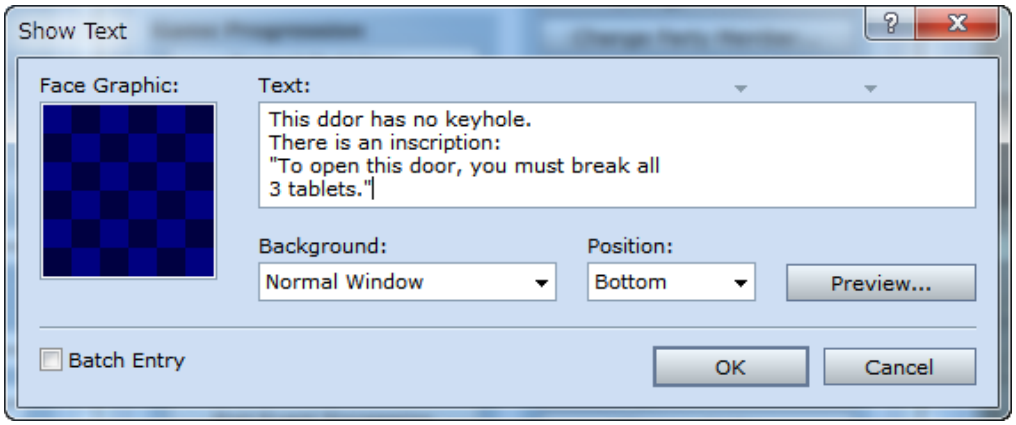
Creating the Event Page 1

Event Page 1 is for the situation that broken tablets didn't meet the minimum requirement of 3 tablets. In this case, the door won't open. Leave a message to let the player know.



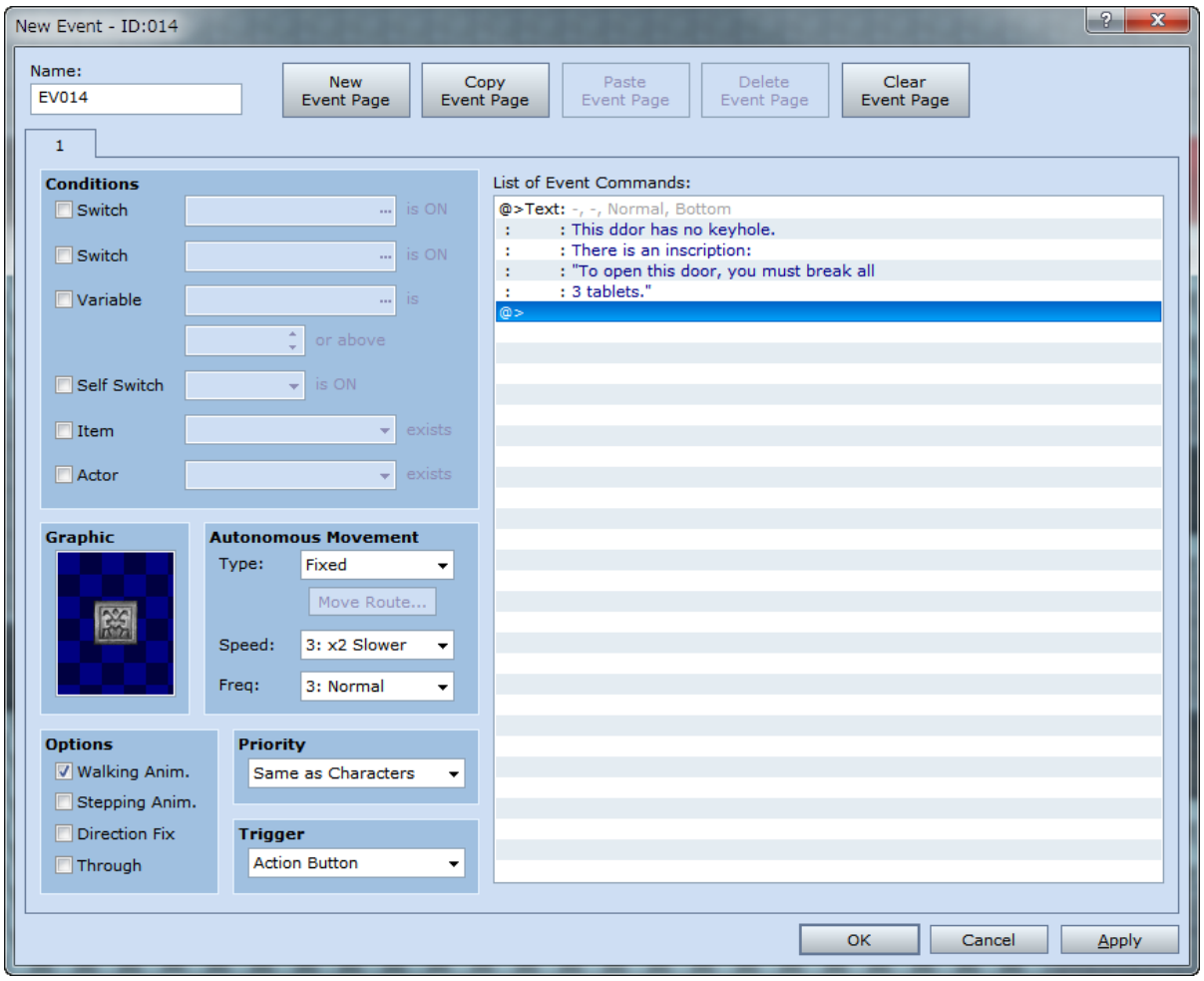
*Setting the graphic and optional settings.

Double-click on the Graphic box to select the door's graphic. We've selected the door found in the bottom row, second from the right in the !Door1 category. The remaining settings can be left as they are.



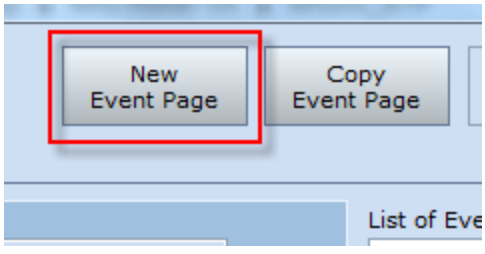
*The Show Text Event Command.

Coming from the Cave of Demons, the player may think that a key is necessary to open this door. Use the Show Text Command to give the player a hint as to how to open this door.

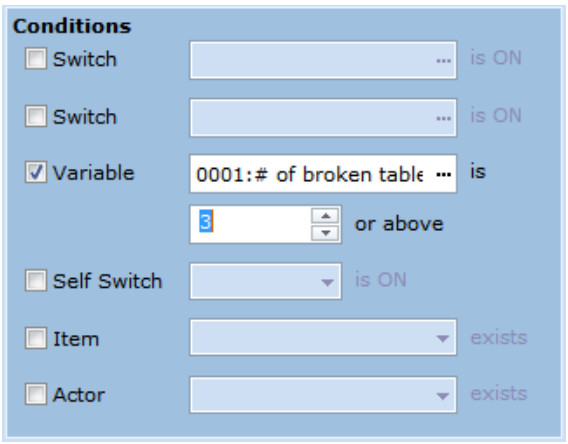


Event Page 1 complete.

Creating the Event Page 2

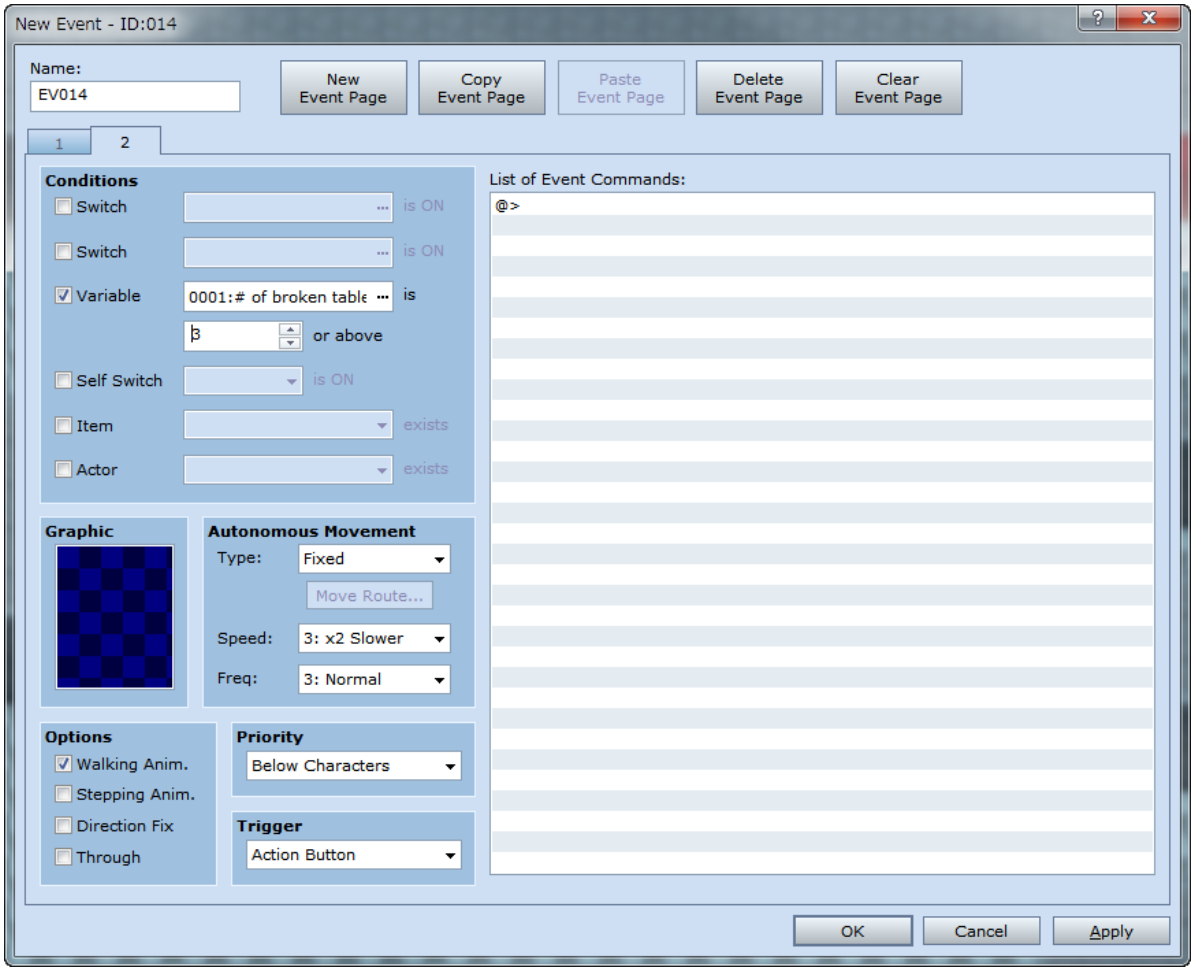


Event Page 2 will execute and cause the door to disappear when all 3 tablets are destroyed. Create the second Event Page by clicking on “New Event Page”.



*Condition Variable

Check the Variable box in the Conditions pane. Here we select “# of broken tablets” and set the value to 3. This will make sure the second page doesn’t execute until all 3 tablets are broken.



*Event page 2 completed.

No other settings need be adjusted on page 2. Since we want the door to disappear, we'll use an empty Event to create an empty space where the door once was.

Check with a Playtest

Finally, check your work with a playtest.

- Does the hint appear when you try to open the door before breaking all 3 tablets?
- Do all the tablets change their graphic after being destroyed?
- Does the door disappear once all 3 tablets are destroyed?

If the door opens too early (after only 2 tablets are broken), then there is something wrong with the way the variable is being adjusted. Check to ensure an Event isn't repeating itself.

Congratulations! You've cleared Level 15. We're almost ready to create the final Event! But, as Events grow more complicated, debugging them becomes harder, too. The final Devil King Event is a 2-step Event, so before we dive in, let's look at some convenient debugging features first.

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