

# RPG Maker XP documentation

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## Abstract

Nam dui ligula, fringilla a, euismod sodales, sollicitudin vel, wisi. Morbi auctor lorem non justo. Nam lacus libero, pretium at, lobortis vitae, ultricies et, tellus. Donec aliquet, tortor sed accumsan bibendum, erat ligula aliquet magna, vitae ornare odio metus a mi. Morbi ac orci et nisl hendrerit mollis. Suspendisse ut massa. Cras nec ante. Pellentesque a nulla. Cum sociis natoque penatibus et magnis dis parturient montes, nascetur ridiculus mus. Aliquam tincidunt urna. Nulla ullamcorper vestibulum turpis. Pellentesque cursus luctus mauris.

Nulla malesuada porttitor diam. Donec felis erat, congue non, volutpat at, tincidunt tristique, libero. Vivamus viverra fermentum felis. Donec nonummy pellentesque ante. Phasellus adipiscing semper elit. Proin fermentum massa ac quam. Sed diam turpis, molestie vitae, placerat a, molestie nec, leo. Maecenas lacinia. Nam ipsum ligula, eleifend at, accumsan nec, suscipit a, ipsum. Morbi blandit ligula feugiat magna. Nunc eleifend consequat lorem. Sed lacinia nulla vitae enim. Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

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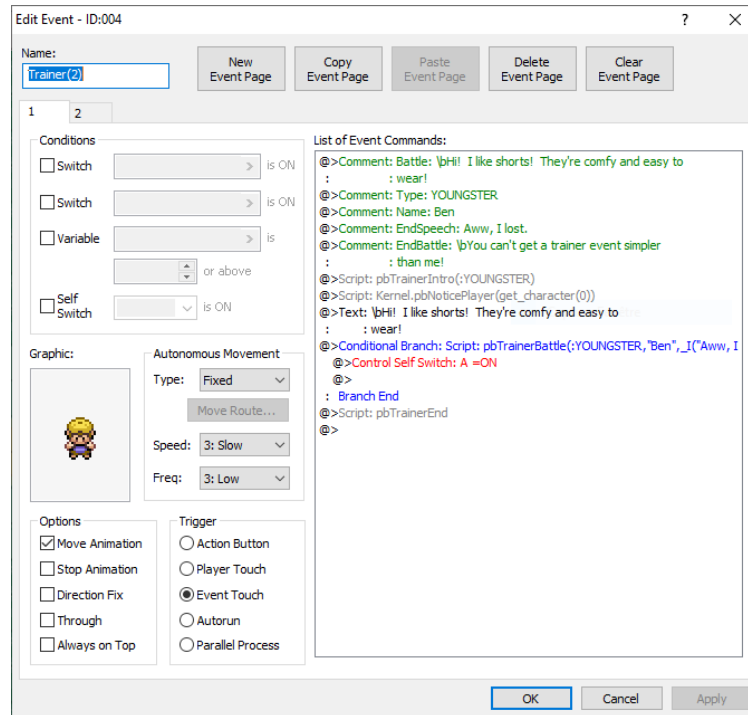
# 1 What this document is about

## 2 Events

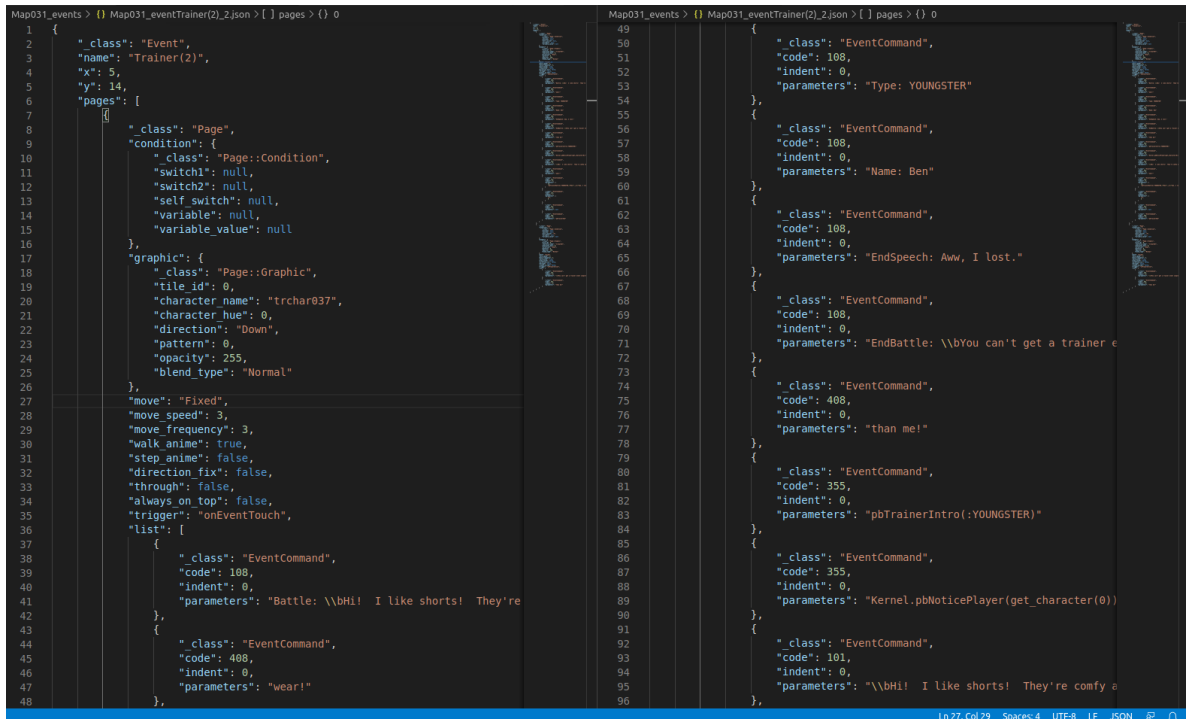
An event, or more precisely a *map event*, is a way to introduce elements with behavior, therefore bringing flexibility and dynamism into the game world.

Events have two aspects :

- A GUI element.



- Its data class instance counterpart.



Basic information can be found in RPG Maker XP's provided documentation.

## 2.1 Basic functionalities

These are the easiest and most straightforward behavior to implement into an event :

- Giving an element a *sprite* (texture) : This is useful for objects capable of movement, NPCs, etc.
- *Movement* : Select how the element moves with presets (speed, frequency, pattern, etc).
- *Event commands* : Select the trigger for behavior and what the element does when triggered (movement, dialogue, etc) within the extensive command list.

## 2.2 Advanced functionalities

These require an understanding of conditional execution and scripting :

- *Conditional execution* : branching instructions based on the value of : global variables, global switches, self switches, script return, etc.
- *Pages* : Allow to give an element different behavior depending on conditions.
- *Move routes* : Define a sequence of movement commands to be executed.
- *Script calls* : Call a script to be executed for more complex behavior, launching mini-games, retrieving data, etc.

### 3 Commands

Although they are very similar in structure and use, a distinction is made between `RPG::EventCommand` and `RPG::MoveCommand`.

*EventCommands* are the representation of elements present in the "List of Event Commands" in the GUI. They are the building block of event's behavior.

*MoveCommands* are the representation of an individual movement the event is capable of, typically found in sequences `RPG::MoveRoute` associated with a dedicated *EventCommand*.

They both have, at least :

- A *code* : An integer that uniquely identifies the particular command.
- *Parameters* : Depend on the particular command, can be empty, a variable, an object, or a list of objects.

Additionally, *EventCommands* have an *indent* integer value, tied to the layout visible in the "List of Event Commands" in the GUI.

#### 3.1 Methodology

In order to successfully *extract semantic from events*, it was decided that *documenting* every command used in Pokemon Essentials and finding an appropriate (human-readable) *representation* was the way forward.

#### 3.2 Miscellaneous information

Codes used in Pokemon Essentials 17.2 :

0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 33, 34, 37, 38, 39, 40, 41, 42, 44, 101, 102, 104, 106, 108, 111, 112, 113, 115, 118, 119, 121, 122, 123, 125, 201, 202, 208, 209, 210, 221, 222, 223, 225, 231, 232, 235, 236, 241, 242, 247, 248, 249, 250, 314, 354, 355, 401, 402, 404, 408, 411, 412, 413, 655

Implementation details :

- `RPG::MoveCommand` use range [1-45]
- `RPG::EventCommand` use range [101- $x$ ],  $x \geq 655$
- A "frame" is defined as  $\frac{1}{20}$  second.

0	Description Parameters Notes Representation	Nothing, empty command or end of the event command list None Will not be represented None
1	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the South None See footnote <sup>1</sup> "Move, S"
2	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the West None See footnote <sup>1</sup> "Move, W"
3	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the East None See footnote <sup>1</sup> "Move, E"
4	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the North None See footnote <sup>1</sup> "Move, N"
5	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the SouthWest None See footnote <sup>1</sup> "Move, SW"
6	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the SouthEast None See footnote <sup>1</sup> "Move, SE"
7	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the NorthWest None See footnote <sup>1</sup> "Move, NW"
8	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move to the NorthEast None See footnote <sup>1</sup> "Move, NE"
9	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move at random (N,E,S,W) None See footnote <sup>1</sup> "Move, R"
10	Description Parameters Notes Representation	<code>RPG::MoveCommand</code> - Move towards player None See footnotes <sup>1,3</sup> "Move, TODO"

11	Description Parameters Notes Representation	RPG::MoveCommand - Move away from player None See footnotes <sup>1,3</sup> "Move, TODO"
12	Description Parameters Notes Representation	RPG::MoveCommand - Take 1 step forward None See footnote <sup>1</sup> "Move, TODO"
13	Description Parameters Notes Representation	RPG::MoveCommand - Take 1 step backward None See footnote <sup>1</sup> "Move, TODO"
14	Description Parameters Notes Representation	RPG::MoveCommand - Jump to relative coordinates on the same map [2] - 0:deltaX [signed integer], 1:deltaY [signed integer] "Jump, TODO"
15	Description Parameters Notes Representation	RPG::MoveCommand - Wait n seconds [1] - 0:number of seconds to wait $n$ [integer $\in \mathbb{N}^*$ ] Typically $n == 2$ , but values up to 15 were found in PE. "Wait seconds, $n$ "
16	Description Parameters Notes Representation	RPG::MoveCommand - Turn towards South None See footnote <sup>2</sup> "Turn, S"
17	Description Parameters Notes Representation	RPG::MoveCommand - Turn towards West None See footnote <sup>2</sup> "Turn, W"
18	Description Parameters Notes Representation	RPG::MoveCommand - Turn towards East None See footnote <sup>2</sup> "Turn, E"
19	Description Parameters Notes Representation	RPG::MoveCommand - Turn towards North None See footnote <sup>2</sup> "Turn, N"
20	Description Parameters Notes Representation	RPG::MoveCommand - Turn 90° right, relative to current position None See footnote <sup>2</sup> "Turn, R"
21	Description Parameters Notes Representation	RPG::MoveCommand - Turn 90° left, relative to current position None See footnote <sup>2</sup> "Turn, L"



22	Description Parameters Notes Representation	RPG::MoveCommand - Turn 180° None See footnote <sup>2</sup> "Turn, 180"
23	Description Parameters Notes Representation	RPG::MoveCommand - Turn 90° to the left or right, at random None See footnote <sup>2</sup> "Turn, 90random"
24	Description Parameters Notes Representation	RPG::MoveCommand - Turn at random (90° or 180°) None See footnote <sup>2</sup> "Turn, random"
25	Description Parameters Notes Representation	RPG::MoveCommand - Turn towards player None See footnotes <sup>2,3</sup> "Turn, TODO"
26	Description Parameters Notes Representation	RPG::MoveCommand - Turn away from player None See footnotes <sup>2,3</sup> "Turn, TODO"
33	Description Parameters Notes Representation	RPG::MoveCommand - Turn ON walking animation None "Animation, ON"
34	Description Parameters Notes Representation	RPG::MoveCommand - Turn OFF walking animation None "Animation, OFF"
37	Description Parameters Notes Representation	RPG::MoveCommand - Turn ON "through" None Equivalent to activating "walk through walls", making it possible to walk through impassable tiles/characters. "WTW, ON"
38	Description Parameters Notes Representation	RPG::MoveCommand - Turn OFF "through" None Equivalent to deactivating "walk through walls". "WTW, OFF"
39	Description Parameters Notes Representation	RPG::MoveCommand - Always on top ON None Elevate the display priority, therefore bringing the event graphic to the forefront (above any tile/character) "AOT, ON"
40	Description Parameters Notes Representation	RPG::MoveCommand - Always on top OFF None "AOT, OFF"

41	Description Parameters Notes Representation	RPG::MoveCommand - Change event's graphic TODO "TODO"
42	Description Parameters Notes Representation	RPG::MoveCommand - Change event's graphic opacity [1] - 0:new opacity value $n$ [integer 0-255] "Opacity, $n$ "
44	Description Parameters Notes Representation	RPG::MoveCommand - Play a sound effect TODO "Play SE, TODO"
101	Description Parameters Notes Representation	RPG::EventCommand - Show text [1] - 0:text $s$ [String] $s$ must be properly double-quoted and formatted (inner double-quotes and backslashes must be escaped). "Show Text, $s$ "
401	Description Parameters Notes Representation	RPG::EventCommand - Show text (continued) [1] - 0:text $s$ [String] Continuation of 101. See footnote <sup>4</sup>
102	Description Parameters Notes Representation	RPG::EventCommand - Show choices [2] - 0:array of size $n$ [Array of Strings], 1:cancel behaviour [integer 0-4] Displays up to 4 selectable options in a message window. Cancel behaviour : 0 disallow canceling, $1-4 \leq n$ selects choice by default. "Choose, {0}, default={1}"
104	Description Parameters Notes Representation	RPG::EventCommand - Change text options [2] - 0:position $p$ [integer 0-2], 1>window border $b$ [integer 0-1] Sets message window position and border. $p$ follows "common relation 1", $b$ follows "common relation 2" "Change text options, position={0}.toString(), border={1}.toString()"
106	Description Parameters Notes Representation	RPG::EventCommand - Wait [1] - 0:number of frames to wait $n$ [integer $\in \mathbb{N}^*$ ] Conversion to milliseconds chosen for its more precise and general use : $m = n * 1000/20 \equiv n * 50$ , TODO:research its use "Wait ms, $m$ "
108	Description Parameters Notes Representation	RPG::EventCommand - Comment [1] - 0:comment text $s$ [String] Has no effect. TODO:research link to particle effects. "# $s$ "
408	Description Parameters Notes Representation	RPG::EventCommand - Comment (continued) [1] - 0:comment text $s$ [String] Happens after a 108. "# $s$ "

111	Description	RPG::EventCommand - Conditional branch
	Parameters	See " <b>Conditional branch</b> " section.
	Notes	Complex but essential command.
	Representation	"If, {condition}"
112	Description	RPG::EventCommand - Loop
	Parameters	None
	Notes	Loops over commands until broken. TODO:research usage
	Representation	"Loop"
113	Description	RPG::EventCommand - Break loop
	Parameters	None
	Notes	Escape innermost loop. TODO:research usage
	Representation	"Break"
115	Description	RPG::EventCommand - Exit Event Processing
	Parameters	None
	Notes	TODO:research usage
	Representation	TODO
118	Description	RPG::EventCommand - Label
	Parameters	[1] - 0:label name <i>s</i> [String]
	Notes	Sets a label to allow jumping to.
	Representation	"Label, <i>s</i> "
119	Description	RPG::EventCommand - Jump to Label
	Parameters	[1] - 0:label name <i>s</i> [String]
	Notes	Jumps to a label.
	Representation	"Jump to Label, <i>s</i> "
121	Description	RPG::EventCommand - Control switches
	Parameters	[3] - 0:starting switch <i>ssa</i> [integer], 0:starting switch <i>ssz</i> [integer], 0:new state <i>n</i> [integer]
	Notes	Batch control is unused in PE, therefore deprecated. <i>n</i> follows "common relation 3".
	Representation	"Control Switch, <i>ssa.toString()</i> , <i>n.toString()</i> "
121	Description	RPG::EventCommand - Control variables
	Parameters	See " <b>Control variables</b> " section.
	Notes	Batch control is unused in PE, therefore deprecated. <i>n</i> follows "common relation 3".
	Representation	"Control Switch, <i>ssa.toString()</i> , <i>n.toString()</i> "

Common relations :

1. 0:Top, 1:Middle, 2:Bottom
2. 0:Show, 1:Hide
3. 0:ON, 1:OFF

<sup>1</sup>Movements consolidated with new *Move* command with argument.

<sup>2</sup>Turs consolidated with new *Turn* command with argument.

<sup>3</sup>Unknown algorithm to determine direction "towards player" and "away from player."

<sup>4</sup>Is part of a command sequence that should be merged in a sensible way.

### **3.3 Complex commands**

Some commands have complex behaviour that doesn't fit in the table above, so I put detailed explanation below

#### **3.3.1 Conditional branch**

#### **3.3.2 Control variables**

## 4 Remarks

### 4.1 Contact

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