



# NGT Debug tools

---

Swen Meeuwes, (swen@ranj.com)

7 December, 2016

*Current document version: 0.3.0*

*Current debug tools version: 0.6.2*

## Changelog

Version	Changes
0.1 (07-12-2016)	Creation of the document <ul style="list-style-type: none"><li>- Added Variable Manager</li><li>- Added Debug profiles</li><li>- Added general config options</li><li>- Added a bare 'Implementing the debug tools in projects' guide</li></ul>
0.2 (08-12-2016)	<ul style="list-style-type: none"><li>- Added tool menu</li></ul>
0.3 (23-01-2017)	<ul style="list-style-type: none"><li>- Added keybindings</li><li>- Added Variable Visualizer</li></ul>

## Planned

- Animation previewer
- Fps adjuster (createjs.Ticker, Stage Manager)
- Variable buffs - "Set variable content shows as a visual buff in-game" -> **maybe also for 'Google Analytics' events**



## Table of contents

<b>Introduction</b>	<b>3</b>
<b>Variable Manager</b>	<b>4</b>
Problem	4
Solution	4
Usage	4
<b>Debug profiles</b>	<b>5</b>
Problem	5
Solution	5
Usage	5
Configuring profiles	5
<b>Tool menu</b>	<b>6</b>
Problem	6
Solution	6
Usage	6
<b>General config options</b>	<b>7</b>
Key bindings config	7
Default key bindings	7
<b>Implementing the debug tools in projects</b>	<b>8</b>
Steps required	8
Adding javascript files to 'index.html'	8
Establish a connection with the debug tools in 'StartupCommand.js'	8
Copy debug tools assets to assets folder	8



## Introduction

*Planned*

## Variable Manager

### Problem

Managing variables in the game from within the story can be quite hard. To check if the right variable is set at the right time you would have to keep an eye on the browser console (F12 -> console). In this window you would look for the blue “SET VARIABLE” messages which are buried between the endless info log messages.

While testing there is no way to manipulate your path from within the game. You have to follow the gameflow and play the game until you are at the point you want to test, which can also take quite long.

### Solution

To resolve this problem we need an overview of the story variables within the game. These variables should be changeable, so manipulating the gameflow is possible.

The ‘Variable Manager’ offers an overview of all the story variables in the game. It also offers a way to manipulate these variables.

### Usage

By pressing the asterisk key ( \* ) on the numpad the ‘Variable Manager’ will be opened. This can be changed in the key bindings (see [‘General config options’](#)).

To add or change a variable enter the variable name in the left input field and the wanted value in the right input field. To confirm the changes click the “Set Variable” button. The variable is now added / changed.

**Tip:** Clicking the variable names in the table will auto fill the variable name in the input field, same goes for the values.

### Variable Manager

Name	Value
someVariable	true
anotherVariable	7
toggleVar1	false
offToggleVar2	7
anotherOne	true
andAnotherOne	true
youSmart	true

## Debug profiles

### Problem

Having to type variables in the '[Variable Manager](#)' all the time can be quite annoying. This can become an even bigger annoyance when multiple variable have to be set.

### Solution

Being able to set (multiple) variable with a single click would make things a lot easier.

We call this list of variables a 'profile'. Loading a profile would manipulate the list of variables.

### Usage

To popup the 'debug profiles' press the 'add' key on the numpad (+). This can be changed in the key bindings (see '[General config options](#)').

Clicking a button will load the matching profile. This means it will set its list of variables (specified in the profile).

It is also possible to have a toggle profile button. This button has 2 lists of variables, an 'off' and 'on' list. According to the toggle state the variables are set. Toggle buttons will **not** set its 'off' list of variables at the start of the game.

For adding/changing/removing profiles see '[Configuring profiles](#)'.

### Configuring profiles

Planned, feature is already there, see: `src/assets/debugtools/config/debug_profiles.json`

## Debug profiles

Some button
A toggle button <span>off</span>
Shia Labeouf
DJ Khaled says... Set some more variables
More debug tool idea's? -> Let Swen know

*Now on using the code "SWEN": Caromble! -25% off!*

*This is not true :c*

## Tool menu

### Problem

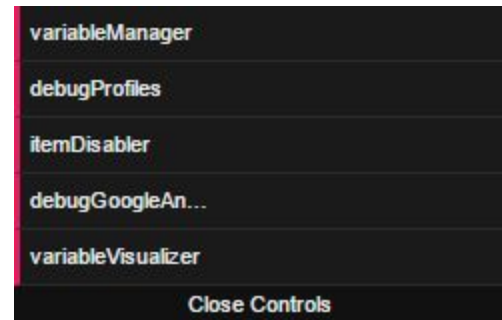
Remembering all the key bindings can be a hassle and on mobile devices you can't even press keys without a textfield. There should be another shortcut.

### Solution

The tool menu offers shortcuts to different tools.

### Usage

To open the tool menu press the 'Open Controls' button at the top right of the screen. Pressing items will open the tool.



## Variable visualizer

### Problem

While testing the flow of a NGT game watching the variable debug messages in the console can be quite a hassle, some logs might not be of use for you. It would be much nicer if these variable changes were visible to you from within the game so that you don't have to search in the console logs.

### Solution

A visual representation of a 'set variable content' would solve this problem. Testers will be able to see when and what variables are mutated by watching the variable 'buffs' in the top right corner of the game. This 'variable buff' will show the mutated variable name, operator and value.

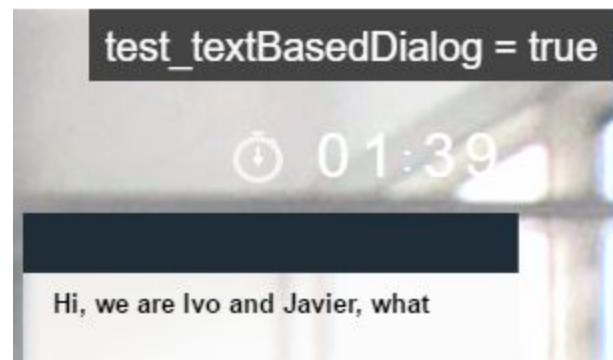
### Usage

The visualisation of variables can be turned on and off, but is turned on by default when debugging is true. To bring up the variable visualizer window press the key bound to the variable visualizer (see [keybinding](#)).

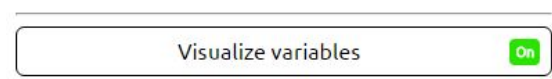
Below the enable/disable button is a list of the latest changed variables. This list contains the 10 latest changed variables.

### Configuration

The duration of the 'variable buffs' can be set in the debugtools\_config.json under the property 'variableVisualizer'. This duration excludes the animation durations.



## Variable Visualizer



### Latest changed variables

Time	Variable
11:52:49	moreIdeas = true
11:52:46	anotherOne = true
11:52:45	Shia surprise = true
11:52:42	anotherOne = true
11:52:36	toggleVar1 = true
11:52:35	toggleVar1 = true
11:52:35	someVariable = true
11:52:26	anotherVariable = 7
11:52:26	someVariable = true
11:52:23	test_textBasedDialog = true



## General config options

### Key bindings config

All the key bindings of the debug tools can be changed. This can be accomplished by editing the characters in 'debugtools\_config.json'.

This file is located at 'src/assets/debugtools/config/debugtools\_config.json'.

### Default key bindings

Key binding	Key name	Tool
*	Numpad - Asterisk	Variable manager
+	Numpad - Add	Debug profiles
-	Numpad - Subtract	Auto clicker (Experimental)
/	Numpad - Slash	Item disabler
\	Numpad - Backslash	Google analytics
.	Numpad - Full stop	Variable visualizer

## Implementing the debug tools in projects

### Steps required

1. Add javascript files to 'index.html'.
2. Establish a connection with the debug tools in 'StartupCommand.js'.
3. Copy debug tools assets to the assets folder.

### Adding javascript files to 'index.html'

```
<!-- Debug tools -->
<script type="text/javascript" src="ranj/debugtools/popup/AbstractDebugView.js"></script>
<script type="text/javascript"
src="ranj/debugtools/variablemanager/controller/VariableManagerController.js"></script>
<script type="text/javascript"
src="ranj/debugtools/debugprofiles/controller/DebugProfilesEvent.js"></script>
<script type="text/javascript"
src="ranj/debugtools/debugprofiles/controller/DebugProfilesCommand.js"></script>
<script type="text/javascript"
src="ranj/debugtools/debugprofiles/controller/DebugProfilesController.js"></script>
<script type="text/javascript"
src="ranj/debugtools/debugprofiles/view/ProfileButton.js"></script>
<script type="text/javascript"
src="ranj/debugtools/debugprofiles/view/ToggleProfileButton.js"></script>
<script type="text/javascript"
src="ranj/debugtools/connector/DebugToolsConnector.js"></script>
<script type="text/javascript" src="ranj/debugtools/connector/DebugModules.js"></script>
<script type="text/javascript" src="ranj/debugtools/connector/DebugContextConfig.js"></script>
```

### Establish a connection with the debug tools in 'StartupCommand.js'

```
// Connect debug tools
if (ranj.DEBUG) {
    var debugToolsConnector = this._injector.createInstance(ranj.DebugToolsConnector);
    debugToolsConnector.configure();

    // Connect all modules, loading separate modules can also be done with the
    "connectModule" method.
    debugToolsConnector.connectModules(ranj.DebugModules.MODULES);
}
```

### Copy debug tools assets to assets folder

Copy the 'src/assets/debugtools' folder in the 'src/assets' folder of the project.