# DungeonUp's B.I.M.E Manual

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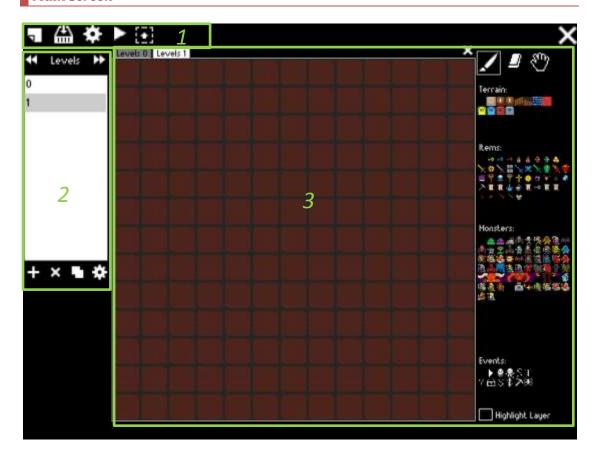
## **Interfaces**

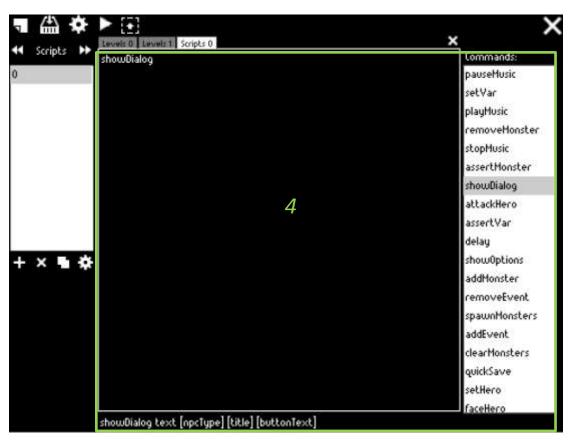
# Open/New Map Popup

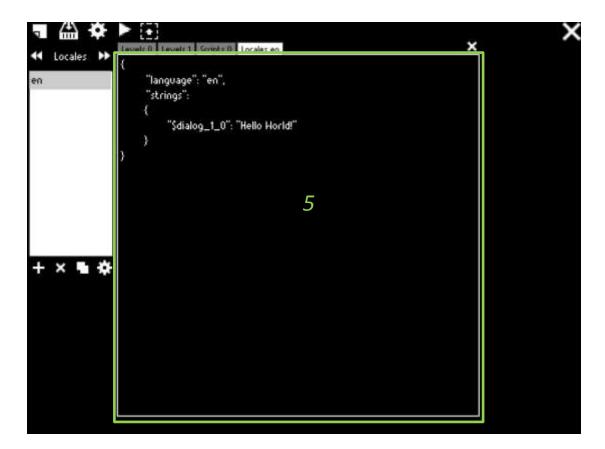


For each name in the map list, the prefix '[p]' means the map is already published, and '[R]' means the map is shared by other players, thus you don't have permission to editor it, but you can duplicate it and the new map will be yours. To avoid name confusion, please don't name your map as existing map.

Creating a new map requires the input of name and floors. The name consists of alphabets, numbers OR space characters, 30 characters at maximum. The floor represents the initial level numbers of your map. As you increase more levels afterwards, the floor will automatically increase.







#### 1. Main Toolbar

The map won't auto-save, so please remember to save your work from time to time.

You should also save your map before testing it, in case any fatal error happens during testing, and causes your changes lost.

#### 2. Resource List

Resources are levels, scripts, locales, music tracks, sound effects, custom tilesets and data, etc. For now, only first three types of resources are supported in B.I.M.E.

Any resource can be deleted or duplicated, just like the whole map.

The name of level resource represents the floor of the level. The floor starts from 0, and you can have 999 as highest floor. Please notice that floor is the physical concept of a level. It means the storage index of all levels. But in the game you see xx F, which means the displayed "floor". The logic of displaying floors is Displayed Floor = Physical Floor + Base Floor. For instance, if current floor is 1 (as resource '1' in the list), and the base floor is -50 (yeah it can be a negative number), you will get 'Level -49F' on the top-left HUD in game. To setup the base floor, please see Map Properties Popup.

The name of script resource consists of alphabets, numbers OR underscore('\_') character, 10 characters at maximum. Suggested naming convention is 'The floor of the level in which the script is used + the number of the script'. For example, the first script for level 10 should be '10\_1'.

The name of locale resource consists of 2 alphabets. It correspond the language code of your texts. The full language code can be found here (under '639-1 column):

#### http://en.wikipedia.org/wiki/List of ISO 639-1 codes

You map should at least support 'en' language code. If you don't have many texts in your map, you can write the text directly in events or scripts, but for the convenience of translation (it can properly be done by other players), putting all texts in the locales is highly suggested.

## 2.1. Exporting Resource

Any resource can be exported as a single file which can be stored in your disk. You can use this utility to edit scripts and locales with your favorite text editor, or import any resource that are exported from other maps.

## 2.2. Importing Resource

The resource file that you are going to import should match the type of the resource list. If you try to import a level file when the resource list is showing 'Scripts', you will fail. The imported resource's name equals the file name without the extension. If the import succeeds, existing resource with the same name will be overwritten.

## 3. Level Editing

The interfaces for level editing consists of the editing area in the middle, the editing toolbar on the right, and the property list on the bottom-left (it is visible only when editing an event). The editing toolbar includes brush tool (shortcut key: Q), erase tool (shortcut key: W), and selection tool (shortcut key: E).

#### **Brush Tool**

The Brush is used to brush the selected tile to the level. When clicking a tile, it will be highlighted. Then hold down the mouse in the editing area, and you will see the grid under your cursor is painted as the highlighted tile.

In B.I.M.E, walls won't be auto-connected, so each wall looks like an isolated pillar. Don't worry of that, because in the actual game, walls will connect each other on the basis of the direction. You can test your map to see what it finally looks like.

Tiles of different types can overlap each other. For example, if you brush a monster onto a wall, the monster and the wall will both exist in the level. But you can have only one tile of the same type in a grid. For instance, placing an event onto another event will overwrite the prior one.

According to the facts above, you may have figured out that the level is displayed on the basis of layers. Selecting a tile will automatically select corresponding layer. There's a checkbox 'Highlight Layer' on the bottom of the editing toolbar. When it is checked, all layers except the selecting layer will be darkened, so you can have a more clear vision on the layer you are editing.

### **Eraser Tool**

The Eraser is for erasing tiles in the level. It knows what layer to erase only if you have selected a tile.

In the example above we have a monster and a wall in the same grid. If you have selected any terrain tile, the eraser will clear the wall. Similarly, if any monster tile is selected, the eraser will remove the monster.

Another way to erase a grid is using blank tile. The first tile of each tileset is a blank tile. Using it to replace a grid does the same thing as erase the grid.

## Selection Tool & Event Properties

The Selection Tool has several purposes: for selecting/dragging/duplicating event object, and for dragging the editing area.

<u>Event</u> is the only type of tiles that has properties. When you put an event on the level, the property list will become visible on the bottom-left of the screen:

Event Properties:		
terra	1	
y	10	
×	4	

The first column represents the names of properties, and the second column represents the values of properties. Keep in mind that the property names are case-sensitive. The order of properties doesn't matter.

If you want to change the properties of an event afterwards, you'll need the Selection Tool to select the event grid you want to edit by clicking mouse in the editing area.

The selection tool can also be used to move and duplicate events. To duplicate an event, hold Ctrl key while dragging it. Note that you cannot drag an event onto another one because they are exclusive in a grid.

If the size of your level has exceeded the displaying size(13x13 grids), select the selection tool and then drag the editing area can scroll the displaying area.

#### 4. Script Editing

Scripts Editor is nothing more than a text editor. The command list in the right hand provides a quick way to insert commands. After clicking a command in the list, the parameter format of the command will appear in the bottom. Use the space character ('') to split each parameter. If the parameter is a text that contains space character(s), use the quotes to embrace the text. Again, you should always put the text in the locale resource. It benefits you from worrying the space character problem, and gives you the chance to re-use the text in other places.

### 5. Locale Editing

Locale resource is actually a JSON file. More information about the format is here: <a href="http://json.org/example">http://json.org/example</a>

"strings" is a block contains all the texts used in events and scripts. Here's an example of a locale resource:

```
{

"language": "en",

"strings":

{

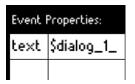
"$dialog_10_1": "Who are you?",

"$dialog_10_2": "Hello World!",

"$dialog_10_3": "Nice to meet you!"
}
```

"\$dialog\_xx\_x" are the IDs of texts, the text following the IDs are the values. You use the ID to reference the value in events and scripts. The ID must be started with '\$' character, and a strongly suggested format of the ID is "text type\_level\_number of the text". For instance "\$dialog\_10\_2" represents the second dialog text in level 10.

Example of the property of a Dialog event that references a text in locale resource:



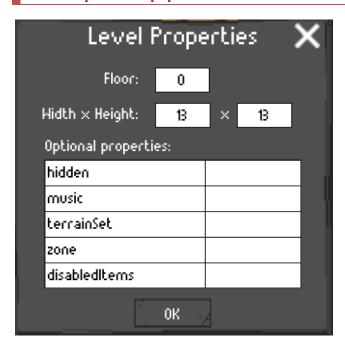
Example of a script that references texts in locale resource:

showDialog **\$dialog\_10\_1** 128

showDialog \$dialog\_10\_2 134

showDialog **\$dialog\_10\_3** 128

# Level Properties Popup



Every level has its own properties, including floor number, size, and a number of optional properties.

The floor number equals the name of the level resource. Changing this can overwrite the existing level with the same floor number.

The default size of a level is 13x13; it can be increased to a maximum size of 42x42. Any width or height that is greater than 13 will cause scrolling in game, as seen in Maze Mode. If you decrease the size, the excess grids will be cut off, while the left grids (and data) will be retained. Increasing the size of a level during editing won't delete any existing edits.

#### Explanation of optional properties:

- hidden: is the level hidden? The default value is 0 (not hidden). Set to 1 to make the level a 'secret level'. Players can only reach secret levels by using scrolls or running a script.
- music: the ID of the background music. The default value is empty (null) which represents the default music of the zone the level belongs to. Supported music IDs: Arena, Final, Lobby, Secret, Start, Zone0, Zone1, Zone2, Zone3, Zone4.
- terrainSet: the ID of the tilesets for floor and walls. This should be an integer between 0 and 5.

  The default value is empty (null) which represents the default tilesets of current zone.
- zone: the zone number that the level belongs to. By default this is empty (null) and the zone will be calculated as floor / 10. Changing that property will result in changes of default music and terrainSet, and some data will be affected as well.
- disabledItems: item type(s) that can not be used in the level. Split each item type with comma(',').

  For example, '21,22,31,35' means The Wand of Flight, The Crystal Ball, The Scroll of Height and
  The Scroll of Depth can't be used in the level.

# **Map Properties**

Map Pro	perties 🗶
baseFloor	0
startLevel	0
maxLevel	1
Hero Propteries:	
gold	0
shieldType	0
yellowKeys	0
additems	
life	1000
attack	10
Other settings:	
canSaveAndLoad	false
luckyCoinBonus	0.1
flyNearStairs	false
Save	Cancel

## Basic properties:

- baseFloor: the displaying floor for level 0. It can be a negative number.
- startLevel: the first level when you enter the game.
- maxLevel: the maximum level you can reach. By setting this property you can limit players from getting to higher levels, but the level resource are still there.

# • Hero's initial properties:

- life
- attack
- defence
- weaponType: the item type of hero's sword (0, 10, 12, 14, 16, 18). 0 means no weapon.
- shieldType: the item type of hero's sword (0, 11, 13, 15, 17, 19). 0 means no shield.
- gold
- yellowKeys
- blueKeys
- redKey
- addItems: item type(s) to add at the beginning. Split with commas.
- Other settings:

- canSaveAndLoad: is optionally save & load allowed in the map? Default is false.
- luckyCoinBonus: the bonus ratio of gold when wearing the Lucky Coin. Default is 0.1(10%).
- flyNearStairs: is staying near stairs required to use The Wand of Flight? Default is false.

# Publishing You Map



When your map is published, other players can see it immediately in the Player Maps mode. You can still then edit and save the map, but the changes won't be applied to the save data of players, until they restart the game.

Published maps can't be deleted. Please test as much as you can before publishing. It is encouraging to share your map with the others, so they can help testing, or working out more fun based on your map.

#### **Events**

The names of events are case-sensitive;

The order of the properties does not matter;

If the event is on an NPC, interacting with the NPC will trigger it; if it is on a door, opening the door will trigger it; if it is on a monster, killing the monster will trigger it; if it is on a blank grid, it won't be trigger unless it is a Script event.

By default, events will disappear after triggering. By setting the property 'keep' to value 1, you can make the Start events and the Script events re-triggerable.

#### Events table:

Icon	ID-Type	Description	Properties ([] means optional)	Properties  Explanation
	1-Start	Set the hero's start point for the level to the tile this event is set on, no matter if there are stairs. It is generally used in the start level and hidden levels.	[scriptId]	The ID of the script to execute; Keep the event after triggering? Default is 0 (no)
8	2-Guard	Place this event on guards.  Killing all monsters of the same group will trigger the destruction of a group of objects, defined using the following event (3).	desId	The group ID of destruction.
	3-Destruction	Place this event on terrain tiles that you want to clear when all the guards of the same group are killed. The most common application is to place it on the green door which can't be opened by any keys.	desId	The group ID of destruction.
S	4-Script	Run the specified script.	id [keep]	Script ID;  Keep the event after  triggering? Default  is 0 (no)
T	5-Trap	Set the terrain tile of a grid when triggered. Can also be used to set monster/item on a grid.	x  y  [terrainType/monster  Type/itemType]	Target grid's X;  Target grid's Y;  The  terrain/monster/ite

				<u>m</u> type to set.
?	10-Dialog	Show the dialog popup.	text [buttonText]	The content of the dialog;  The text on the dialog's only button.  Default is  'Continue'.
<b>(2)</b>	11-Reward	Gift the hero some item(s).	text itemType count	The content of the dialog;  Item to give;  Number of the item(s);
<del>≤&gt;</del>	12-Purchase	Sell item(s) to hero.	text  itemType  count  gold  [repeat]  [rewardText]	The content of the dialog;  Item to sell;  Number of the item(s);  The TOTAL price in gold. If 0 is specified, the default price for the item will be used.  Is the purchase repeatable? Default is 0 (no).  Extra dialog to show after purchase.
3	13-Buy back	Buy item(s) from the hero.	text	The content of the dialog;

itemType   Item to buy;   count   Number of the   item(s);   gold     The TOTAL price in   gold. If 0 is   specified, the   default price for   the item will be   used.   Is the buy-back   repeatable? Default   is 0 (no).   Is the buy-back   repeatable? Default   is 0 (no).   The content of the   dialog;   dialog;   dialog;   dialog;   dialog;   dialog;   Target grid's X;   Target grid's X;   Target grid's Y;   Target grid's Y;   The content of the   dialog;   the hero.   life/attack/defence/e   tc.   The increase in   life/attack/defence   to be applied. If   the value is   between 0 and 1   (decimal), the   increment will   treated as a   percentage.   (Example: "attack=0.05" will   increase the   hero's attack by   5% of its current					
gold  [repeat]  [repeat]				itemType	<u>Item</u> to buy;
gold  [repeat]  The TOTAL price in gold. If 0 is specified, the default price for the item will be used.  Is the buy-back repeatable? Default is 0 (no).  14-Digging  Dig down the specified wall. Can also be used to clear other terrain type.  digX  digY  Target grid's X;  Target grid's Y;  Target grid's Y;  Target grid's Y;  The content of the dialog;  text  The content of the dialog;  The increase in life/attack/defence/e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by				count	Number of the
[repeat]  [gold. If 0 Is specified, the default price for the item will be used.  Is the buy-back repeatable? Default is 0 (no).  [Solve the default price for the item will be used.  Is the buy-back repeatable? Default is 0 (no).  [Solve the can also be used to clear other terrain type.]  [Solve the content of the dialog;  [Target grid's X;  [Target grid's Y;  [Target grid's Y;  [The content of the dialog;  [The increase in life/attack/defence/e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage.  [Example: "attack=0.05" will increase the hero's attack by				gold	item(s);
Secified, the default price for the item will be used.   Is the buy-back repeatable? Default is 0 (no).				[repeat]	The TOTAL price in
default price for the item will be used.  Is the buy-back repeatable? Default is 0 (no).  14-Digging  Dig down the specified wall. Can also be used to clear other terrain type.  digX digY  Target grid's X; Target grid's Y;  Target grid's Y;  The content of the dialog; Target grid's Y;  The content of the dialog; The increase in life/attack/defence/e tc.  The increase in life/attack/defence e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by				[1-2,000]	
the item will be used.  Is the buy-back repeatable? Default is 0 (no).  14-Digging  Dig down the specified wall. Can also be used to clear other terrain type.  digX digY  Target grid's X; Target grid's Y;  The content of the dialog; Target grid's Y;  If content of the dialog; The increase in life/attack/defence e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					specified, the
### 14-Digging Dig down the specified wall. Can also be used to clear other terrain type.  #### 15-Upgrade Upgrade some statistics of the hero.  ##### 15-Upgrade Upgrade some statistics of the hero.  ###################################					
Is the buy-back repeatable? Default is 0 (no).  14-Digging  Dig down the specified wall. Can also be used to clear other terrain type.  digX digY  Target grid's X; Target grid's Y;  Target grid's Y;  The content of the dialog; Target grid's Y;  The content of the dialog; The increase in life/attack/defence/e tc.  The increase in life/attack/defenc e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					the item will be
Interest in the hero.   Interest in the hero is attack=0.05" will increase the hero's attack by   Interest in the increase the hero's attack by   Itext is 0 (no).   Interest in the dialog;   Itext is 0 (no).   Itext is 0					used.
14-Digging   Dig down the specified wall.   Can also be used to clear other terrain type.   Can also be used to clear other terrain type.   Target grid's X;   Target grid's Y;   Target grid's Y;   Target grid's Y;   The content of the dialog;   The content of the dialog;   The increase in life/attack/defence e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					Is the buy-back
14-Digging  Dig down the specified wall.  Can also be used to clear other terrain type.  digX  Target grid's X;  Target grid's Y;  The content of the dialog;  Target grid's Y;  The content of the dialog;  The increase in life/attack/defence e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage.  (Example: "attack=0.05" will increase the hero's attack by					repeatable? Default
Can also be used to clear other terrain type.  digX digY  Target grid's X; Target grid's Y;  Target grid's Y;  The content of the dialog; The increase in life/attack/defence/e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage.  (Example: "attack=0.05" will increase the hero's attack by					is 0 (no).
other terrain type.  digX digY  Target grid's X; Target grid's Y;  Target grid's Y;  The content of the dialog; The increase in life/attack/defence/e e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage.  (Example: "attack=0.05" will increase the hero's attack by	V	14-Digging	Dig down the specified wall.	text	The content of the
other terrain type.  digY  Target grid's X;  Target grid's Y;  Target grid's Y;  Target grid's Y;  The content of the dialog;  The increase in life/attack/defence/e tc.  The increase in life/attack/defenc e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by			Can also be used to clear	diaX	dialog ;
### Target grid's Y;  ### Target grid's Y;  ### Target grid's Y;  ### The content of the dialog;  ### The increase in life/attack/defence/e  ### tc.  ### The content of the dialog;  ### The increase in life/attack/defence e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage.  #### (Example:  ### "attack=0.05" will increase the hero's attack by			other terrain type.	digit	Taraet arid's X·
15-Upgrade  Upgrade some statistics of the hero.  life/attack/defence/e tc.  The content of the dialog;  The increase in life/attack/defence e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage.  (Example: "attack=0.05" will increase the hero's attack by				digY	ranger gina 379
the hero.    life/attack/defence/e   tc.   The increase in   life/attack/defenc   e to be applied. If   the value is   between 0 and 1   (decimal), the   increment will   treated as a   percentage.   (Example: "attack=0.05" will   increase the   hero's attack by					Target grid's Y;
life/attack/defence/e  tc.  The increase in  life/attack/defenc  e to be applied. If  the value is  between 0 and 1  (decimal), the  increment will  treated as a  percentage.  (Example:  "attack=0.05" will  increase the  hero's attack by	<b>**</b>	15-Upgrade	Upgrade some <u>statistics</u> of	text	The content of the
tc.  The increase in  life/attack/defenc  e to be applied. If  the value is  between 0 and 1  (decimal), the  increment will  treated as a  percentage.  (Example:  "attack=0.05" will  increase the  hero's attack by			the hero.	life/attack/defence/e	dialog ;
e to be applied. If the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					The increase in
the value is between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					life/attack/defenc
between 0 and 1 (decimal), the increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					e to be applied. If
(decimal), the increment will treated as a percentage.  (Example: "attack=0.05" will increase the hero's attack by					the value is
increment will treated as a percentage. (Example: "attack=0.05" will increase the hero's attack by					between 0 and 1
treated as a percentage.  (Example:  "attack=0.05" will increase the hero's attack by					(decimal), the
percentage. (Example: "attack=0.05" will increase the hero's attack by					increment will
(Example: "attack=0.05" will increase the hero's attack by					treated as a
"attack=0.05" will increase the hero's attack by					percentage.
increase the hero's attack by					(Example:
hero's attack by					"attack=0.05" will
					increase the
5% of its current					hero's attack by
, , , , , , , , , , , , , , , , , , ,					5% of its current

		value); if the
		value is higher
		than 1, the
		increased will be
		applied as an
		absolute increase
		(Example:
		"attack=5" will
		increase the
		hero's attack by
		5).

# Scripts

The name of commands and parameters are all case-sensitive;

The order of parameters DOES matter;

A script consists of one or multiple commands. When being executed, each of its command runs one by one, until:

- 1. All commands have been run, or
- 2. Assertion fails, or
- 3. Run other script, or
- 4. The hero is teleported to another level.

The format of command and its parameters (The parameters in [] are optional)	Description	Example and its explanation
addMonster x y monsterType [fadeInTime]	Add a monster/NPC on grid (x, y). The fade-in time is in seconds, and its default value is 0.	addMonster 6 6 27  Add an Illusionist at (6,6)
addEvent x y eventType [properties]	Add an <u>event</u> at (x, y) with properties.	addEvent 6 6 4 {"id":"2_0"}  Add an event at (6, 6). When  triggered, it will run script  '2_0'.

attackHero monsterX monsterY	Let the monster at	attackHero 6 6
detackinero monsterx monsteri	(monster,monsterY) begins	ditack/ic/o o o
	to attack hero.	
	to attack hero.	
assertVar name [value] [elseScriptId]	Assert the value of variable	assertVar "_weaponType" 18
	'name' equals 'value'. If the	"2_3"
	'value' parameter is not set,	showDialog "You have got the
	then assert the variable has	Fire Sword!"
	never been set. If the	The Sworu:
	assertion fails, the script will	If hero's weapon is The Fire
	stop running, and the script	Sword, shows the dialog,
	'elseScriptId' will be	otherwise run script '2_3'.
	executed.	
	The list of build-in variables:	
	_item_{itemType}: the count	
	of hero's specified item;	
	_weaponType: the item type	
	of hero's weapon;	
	of hero's weapon,	
	_shieldType: the item type	
	of hero's shield;	
assertMonster x y [type]	Assert the type of the	assertMonster 6 6
	monster at (x, y) equals	
	'type'. If the 'type'	Assert that there's a monster
	parameter is not specified,	at (6, 6)
	the assertion will be 'any	
	monster at (x, y)'.	
annumation item Town I am 12	Damana harris ita (1) iii	an annual transfer
consumeItem itemType [count]	Remove hero's item(s) with	consumeltem 50
	specified count. The	consumeltem 51
	default count is 1.	
		consumeltem 52
		consumeltem 53
		Remove 4 fragments of The

		Fire Sword from hero (if any).
clearMonsters	Remove all monsters from current level.	
clearTerrain x y	Set the terrain type of grid(x,y) to 0 (space).	clearTerrain 6 6
<b>delay</b> duration	Wait for 'duration' seconds  before running next  command.	delay 1.5
fade color duration	Fade-in or fade-out the screen. The format of the 'color' parameter should be 'OxAARRGGBB'. ARGB is the	fade 0xfffffff 1.5  delay 1.5  fade 0x00ffffff 1.5
	hex notation of alpha, red, green and blue value.	delay 1.5
	Standard values:  0xffffffff – fade-out in white	Fade-out in white and then fade-in. The total seconds are 3.
	0xff000000— fade-out in black	
	0x00000000 – fade-in in black	
	0x00ffffff – fade-in in white	
	Note: 'fade' is an asynchronous command which mean the next command will run immediately after calling 'fade', no matter how many seconds of 'duration' are set. If you want to wait	
	some time, use 'delay' command with it.	

faceHero dir  finishGame  moveHero toX toY	Set the facing of the hero.  1=up, 2=down, 4=left, 8=right.  Finish the game and return to the main menu. This event has no parameters.  The hero moves to (toX,	fadeHero 2  Face hero to down (south)  direction.
moveMonster fromX fromY toX toY	toY).  The monsters at (fromX, fromY) moves to (toX, toY).	
pickUpItem itemType [count]	Pick up an item or multiple items if the count is set to a value greater than 1.	
pauseMusic	Pause the background music. This event has no parameters.	
playMusic id	Play specified music.	playMusic Arena
playSound id	Play specified sound effect once.	playSound earthquake
quickSave	Save the game immediately.  The save point will be used when player choose to 'Restart'. This event has no parameters.	
runScript id	Run specified script.	
removeEvent x y	Remove event at (x, y).	
removeMonster x y [fadeOutDuration]	Remove monster at (x, y).  The fade-out duration is in seconds, and its default	

	value is 0.	
setDarkness lightRadius [lightColor]	Make the vision dark and only show things in the range of 'lightRadius' (0-50).  If the 'lightRadius' is set to 0, clear the darkness.	setDarkness 50 0xff0000  Hide the map and show a red light source on player.  setDarkness 0  Clear the darkness and reveal the map.
setHero stats value	Set one of the statistics of the hero.	setHero attack 10  setHero defence 10  Set hero's attack and defence to 10.
setItemType x y type	Set the <u>item type</u> of grid (x,y).	setItemType 1 1 3  Place a red key at (1, 1).
setTerrainType x y type	Set the <u>terrain type</u> of grid (x,y).	setTerrainType 1 1 4  Place an upstairs at (1, 1).
setVar name value	Set the variable 'name' 's value to 'value'.	
shake duration	Shake the screen for 'duration' seconds.	
showDialog text [npcType] [title] [buttonText]	Show a dialog with 'text' as the content, 'npcType' as the avatar icon, 'title' as the title, and 'buttonText' as the text of the button.	
showMessage text	Show a message on the bottom.	showMessage "You wake up in a dark dungeon"
showOptions text options scripts	Show the options popup, with 'text' as the	showOptions "What do you want?" ["A sword", "A shield",

	description, 'items' as the array of option items, and 'scripts' as the array of script IDs. When an option is selected, the corresponding script will be executed.	"Nothing"] ["1_1, "1_2"]  Above command shows three options in the popup. When you select the first option, script "1_1" will be executed; when you select the second option, script "1_2" will run; nothing will happen when you select the third option since no script is assigned to the option.
spawnMonsters [density]	Spawn monsters on current level's space grids. The parameter 'density' represents the probability of a monster spawning on each space (default is 0.4).	spawnMonsters 0.2
stopMusic	Stop the music. This event has no parameters.	
stopSound id	Stop a sound effect from playing.	stopSound earthquake
teleport floor [x] [y] [hasGfx]	Teleport the hero to (x, y) at level 'floor'. The parameter 'hasGfx' decides whether to play the animation (default is 1). If (x, y) is not set, the hero will be teleported to the default start point.	teleport 1 0 0 0  Teleport the hero to the start  point of level 1  immediately.
calculateScore	for the zone and show the popup. This event has no	

parameters.	

# Appendix

# Hero's Statistics

Name Description

1ife

attack

defence

gold

yellowKeys

*blueKeys* 

redKeys

we apon Type

shieldType

Life draining

drainLife for each

attack(0-1).

# Terrain Types

ID Name

0 Space

1 Wall

2 Fake Wall

3 Invisible Wall

4 Upstairs

5 Downstairs

- 6 Steel Wall
- 7 Lava
- 8 Reserved
- 9 Script Trigger
- 10 Yellow Door
- 11 Blue Door
- 12 Red Door
- 13 Green Door

# Monster Types

- ID Name
- 1 Green Slime
- 2 Purple Slime
- 3 Rat
- 4 Black Spider
- 5 Skeleton
- 6 Skeleton Knight
- 7 Earth Elemental
- 8 Skeleton King
- 9 Bat
- 10 Red Spider
- 11 Headless Zombie
- 12 Cobra
- 13 Scorpion

14	Zombie
15	Vampire King
16	Orc Warrior
17	Goblin Warrior
18	Troll Warrior
19	Water Elemental
20	Lizard Warrior
21	Fallen Dwarf
22	Dwarf Captain
23	Magic Eye
24	Red Bat
25	Necromancer
26	High Mage
27	Illusionist
28	High Knight
29	Fire Elemental
30	Illusionist Lord
31	Scorpion King
32	Morenth
33	Archmage
34	Illusionist Lord
35	Imp
36	Hell Hound
37	Young Dragon

38	Ghost
39	Son of Zreluhm
40	Zreluhm's Horn
41	Zreluhm's Head
42	Zreluhm's Horn
43	Zreluhm's Wing
44	Zreluhm's Chest
45	Zreluhm's Wing
46	Zreluhm's Claw
47	Zreluhm's Feet
48	Zreluhm's Claw
49	The Lamp Genie

# NPC Types

128	Hero
129	<i>Elder</i>
130	Merchant
132	Upgrade Altar
133	The Lamp
134	Rogue
135	Dwarf A
136	Dwarf B
137	Dwarf Captain
138	Dwarf Smith

# Master

# 139 Dwarf King

# Item Types

ID	Name
1	Yellow Key
2	Blue Key
3	Red Key
4	Red Potion
5	Blue Potion
6	Red Diamond
7	Blue Diamond
8	Bronze Sword
10	Bronze Shield
11	Iron Sword
12	Iron Shield
13	Steel Sword
14	Steel Shield
15	Knight Sword
16	Knight Shield
17	Holy Sword
18	Holy Shield
19	Book of Monsters
20	Wand of Flying

21	Crystal Ball
22	Wand of Freeze
23	Cross
24	Lucky Coin
25	Ring of Antimagic
26	Tooth of Vampire
27	Cloak of Shadow
28	Dragon Slayer
29	Shovel
30	Scroll of Fly Up
31	Scroll of Teleport
32	Holy Potion
33	Bomb
34	Scroll of Fly Down
35	Golden Key
36	Scroll of Earthquake
37	Scroll of Chaos
38	Soul Stone
50	Fire Sword P1
51	Fire Sword P2
52	Fire Sword P3
53	Fire Sword P4
54	Mithril Armor