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## A. Welcome to *Knytt Stories* Level Editor!

With *Knytt Stories* Level Editor, you can create your own stories using Nifflas' acclaimed game engine. This guide explains everything you need to know to create quality levels equal to the original!

## B. Getting Started

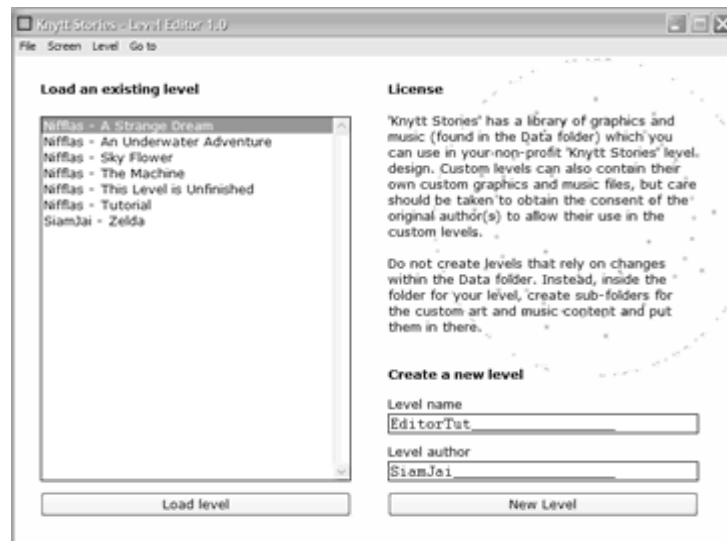
To build new levels for *Knytt Stories*, you will need at least two programs: *Knytt Stories.exe* (the game) and *Level Editor.exe* (the level editor). Both programs can be downloaded in one single file, from the *Knytt Stories* official website. (Click the address below to open the download page.)

[http://nifflas.ni2.se/index.php?main=02Knytt\\_Stories&sub=03Download](http://nifflas.ni2.se/index.php?main=02Knytt_Stories&sub=03Download)

Once you have downloaded and installed the game and the editor, you are good to go!

## C. Launching the Level Editor

To launch the Level Editor, go to your *Knytt Stories* folder and double-click the file titled *Level Editor.exe*, which will bring up the following screen:



Under **Create a new level**, fill in the *Level name* and *Level author* fields, and then click on the New Level button below. Alternatively, load an existing level from the list provided on the left of the screen.



## E. Features Explained

Although complex at first glance, the Level Editor interface is actually quite intuitive once you figure out where to look to get things done. This section will help you get familiar with each feature in detail.

### 1. The Menu

The menu is the place for all non-construction related features. Basic commands like *save* and *load* can be found here, as well as a couple more advanced features – see the table below for a detailed explanation.

Command	Function
<b>Save</b>	Saves changes you have made since the last save.
<b>Reset</b>	Reboots the program.
<b>Quit</b>	Closes the application.
<b>Copy</b>	Copies everything on the current screen.
<b>Paste</b>	Pastes copied screen to your current map position.
<b>Erase</b>	Turns the current screen blank.
<b>Settings</b>	Opens a file containing advanced settings in a raw text editor like Notepad.
<b>Folders</b>	Opens the folder your game is located in.
<b>Compress</b>	Compresses and exports your game in .bin format.
<b>Last save position</b>	Reverts to the last saved position.
<b>Start position</b>	Returns to the start position if you've selected one already.
<b>x1000y1000</b>	Returns to the center of the world map.
<b>Knytt Stories Manager</b>	Opens a 3 <sup>rd</sup> party extension tool for adjusting advanced game settings.

### 2. Sounds

You can add music and ambient sounds to your game. To do so, simply open your game's folder and create a subfolder titled *Music*, and another one titled *Ambiance*. Then place your sound files within these folders and instantiate them by specifying the file number from within the editor. Test your sounds by clicking and holding the "Play All" button.

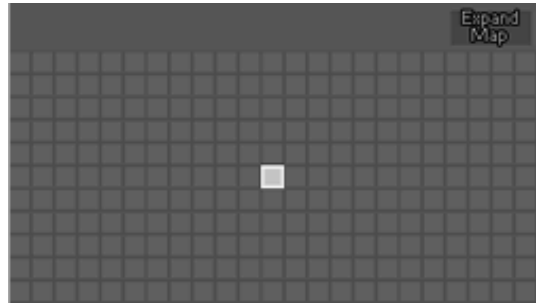


*IMPORTANT! The sound files must be in .ogg format, and must be named SongX.ogg and AmbiX.ogg for music and ambience sounds, respectively. "X" can be any number between 1 and 255.*

*Tip: If you want your music to loop, place the file in the Ambiance folder and instantiate it on every screen that you wish it to play through. The music will loop while the player is on any of those screens, and fades out when entering a screen that has different or no music specified.*

### 3. World Map

Game worlds in Knytt Stories are composed of screens placed on a grid. You can access any of these screens quickly using the world map feature of the Game Editor. Light blue squares represent screens with data on them, the rest are empty screens. Click any of the squares to jump to that particular screen; use the arrow keys on your computer keyboard to move one screen at a time, or SHIFT + arrow keys to jump ten screens at a time. (See the complete list of hotkey shortcuts on page 7 of this manual.)

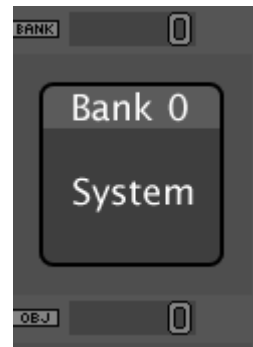


A few things to keep in mind:

- The grid has nearly unlimited screens; the default view shows only a few of these. Press **M** or click on the *Expand Map* button to get a wider overview of the world
- As you expand your level, it will be more challenging to find a particular screen. The coordinate indicator in the lower left corner of the editor will help you keep track of your location.
- Don't forget the "Go To" feature in the menubar!
- x1000y1000 are coordinates for the default start position.

### 4. The Object Library

Objects are the dynamic elements of Knytt Stories, and the Object Library provides quick access to them. Objects are organized into categories called "banks". Click inside the bank number field to select an object category and then click inside the object number field to scroll through the objects in the selected category.



Placing an object is just as easy: once you have the appropriate object selected, clicking on any of the tiles in the building area will place the selected object in that tile. (Note: you must be in layers 4-7 to place objects. To learn more about layers, go to page 7 of this manual.) Erase unwanted objects by placing an empty object over them.

There is a large variety of diverse objects included with the program; just experiment and see what each does. Below we provide a few tips to get you started:

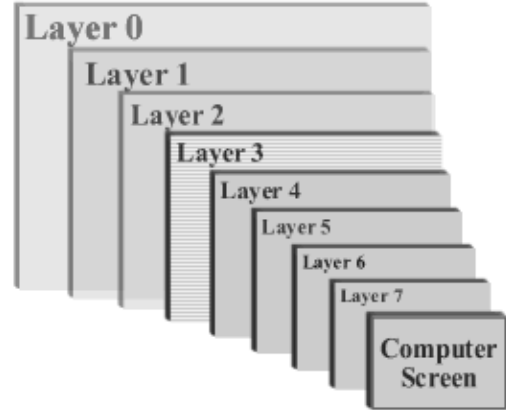
- right-click to select the previous object/category;
- shift-click to jump in increments of 10.
- The mark "s" on certain objects means that only a single instance of that object can be on the screen for it to work properly.
- Objects with the mark "dis" will disappear when the character gets close.

## 5. Layers



Layers provide a visual depth to this 2D game. Basically, you can think of layers as a z-axis addition to the normal x-y axes on the level grid. There are eight layers to choose from, numbered 0-7. The lower the number, the further that layer is from the screen, as illustrated below:

As you can see, Layers 0-2 are furthest from the player. These layers are used for tileset pieces that make up background scenery. Layer 3 is the contact layer: any tileset piece that need to be in contact with the character – including solid ground – must be placed on Layer 3. Layers 4-7 are object layers: items from the object banks should be placed there. Layers 4 and 5 are behind the character, while layers 6 and 7 are in front of it. In summary:



Layer No.	Description
Layers 0-2	Level background layers, tilesets only.
Layer 3	Contact layer, use tileset only.
Layers 4-5	Object background layers, objects only.
Layers 6-7	Object foreground layers, objects only.

Tip: Right-click any layer number to show/hide that layer.

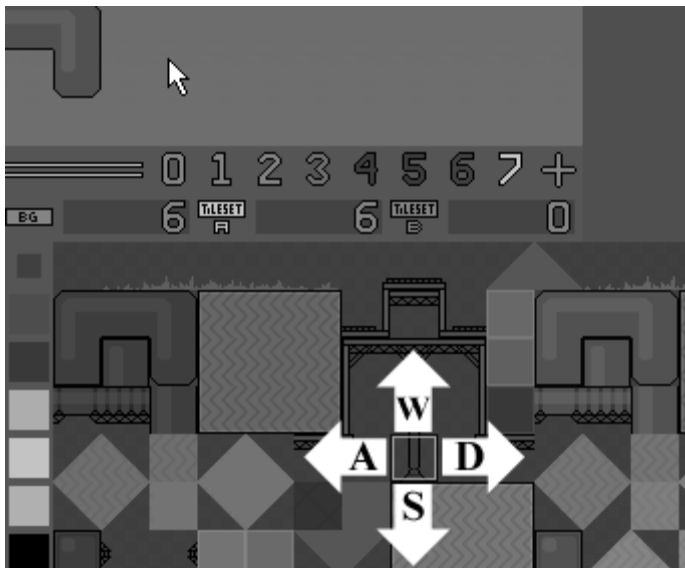
The + button in the Layers panel is used for activating a pair of guides to help navigation along the x-y axes. For more information on guides, see the Navigation chapter on page 8.

## 6. Tilesets



Tilesets are the static content of the game, the building blocks you use to construct your level. The tileset panel of the Level Editor has two functions: one allows you to choose the background gradient by specifying its file number in the window labeled *bg*. The other lets you browse among the 256 default tilesets by clicking on the number field near the labels *tileset a* and *tileset b*.

Sometimes you will see complex objects on the tileset. The easiest way to build them into your level is the following: click on the first tile you want to build with and place it on the level grid by clicking on a tile in the level editor window. From there on, use the WASD keys with your left hand to select different blocks on the chosen tileset, and place them on the level grid with your mouse (assuming that you're using the mouse with your right hand). You can also click-drag repeating blocks such as grass or water. Erase unwanted pieces by placing the blank tile over them.



**IMPORTANT!** One screen can contain elements from two tilesets only – no more.

## F. Hotkeys and Shortcuts

There are several hotkeys and a few practical shortcuts to make your game editing experience easier. The tables below list all hotkeys you can use in the Level Editor.

### Menu Controls

Save	Ctrl + S
Quit	Alt + F4
Copy	Ctrl + C
Paste	Ctrl + V
Erase	Ctrl + Del
Settings	Ctrl + E
Folder	Ctrl + F

### Map and Layer Controls

Go to Layer #	0-7
Expand Map	M

### Tileset Controls

Selector Up	W
Selector Left	A
Selector Down	S
Selector Right	D
Switch to Tileset A	E
Switch to Tileset B	Q

### Object Controls

Previous Bank	Z
Next Bank	X
Previous Object	C
Next Object	V

## G. Navigation

As you expand your level, it will become increasingly challenging to find a particular location in your game world. Skillful navigation thus becomes an essential tool for the experienced designer, so that less time is wasted searching and more time is spent creating.

The Level Editor makes navigation easy, thanks to the logical coordinate system it uses to pinpoint the location of any single element on-screen. Everything you need to know is displayed by the coordinate indicator in the bottom left corner of the editor screen:



As you can see, this system is composed of two sets of coordinates; the first set (“**Map**”) helps to locate a screen on the world map. Navigate the map using the arrow keys, press **M** to show a bigger section. Once a particular screen has been located on the world map, the second set of coordinates (“**Pos**”) determines the location of a single tile on that screen. Move your mouse cursor to highlight a different tile.

**Note:** Compared to the large number of world map tiles, a screen looks small; it’s composed only of a 24x9 grid of tiles. Keep in mind however, that layers effectively increase this number eight-fold. Thus, in theory you could have eight different elements layered on any single tile.

Tip: A pair of x-y guides helps you visualize your cursor’s position on the screen; to toggle it on/off, press the + button on the layers panel.

Tip: To retain your cursor position while changing map screens, move on the map with the arrow keys while having your cursor remain stationary over a selected screen tile.

## H. Useful Tips

The above chapters covered the essential steps of using Knytt Stories Level Editor. There are a few more things to be aware of:

- Save often! The program does not have an autosave feature, nor any confirmation screens; make sure you save your changes before you reboot or close the application.
- Save before testing your level. Unsaved changes cannot be tested.
- Make good use of layers. Get into the habit of placing certain elements consistently in a particular layer; this will make it easier to modify/remove them later on.
- Start small – gain experience with a smaller level first, so you will be ready to tackle your larger projects easier later on.
- Keep in mind that a few strategically placed creatures are more effective than many of them swarming the place – unless you’re building a zoo.
- Left-click/right-click on any number field to move one step forward/backward.
- Doing the same with the Shift key held will jump ten steps forward/backward.
- Use the scroll wheel while the cursor is over any number field to move one step forward/backward much faster.
- Doing the same with the Shift key held will jump ten steps forward/backward really fast!



# I. Knytt Stories Manager

Only the basic features of the Level Editor are accessible from the main screen of the application. However, the more advanced settings can also be edited easily, by launching a separate application called Knytt Stories Manager from the menu toolbar of the Level Editor\*. To do so, click the 3<sup>rd</sup> *Party Tools* option in the menu, and select the *Knytt Stories Manager (world properties)* option. This will bring up the starting screen of the Manager, seen below.

Although it may look daunting at first sight, the Manager is logically built around four major pages: *World Properties*, *Cutscene Editor*, *Custom Data Manager* and *Edit Screens*. These pages can be called up at any time from the upper right corner of the program window. (The Edit Screens page is also accessible from the 3<sup>rd</sup> *Party Tools* entry of Editor menu.)

The screenshot shows the 'World properties' configuration window. It features a 'Save settings' button at the bottom center. The main configuration area includes:  
- Name: EditorTut  
- Author: SiamJai  
- Description: A level demonstrating the Level Editor.  
- Size: Small  
- Category A: Tutorial, Category B: (empty)  
- Difficulty: A: Easy, B: (empty), C: (empty)  
- Clothes color: (empty)  
- Skin color: (empty)  
On the right-hand side, a vertical toolbar contains the following buttons from top to bottom:  
- Cutscene Editor  
- Custom Data Manager  
- Edit Screens  
- Change Icon  
- Info Screen  
- Preview  
- Change

Note: make sure that you save your changes on the current page before jumping to another! If you don't, your current page will reset to default and all your changes on that page will be lost. You can safely hit the Save button any time; it doesn't close the application.

## 1. World Properties

This page contains settings that allow you to specify basic information about your world, such as author's name, level name and short description, its size, category and difficulty. It's important to set these values correctly, because the game engine classifies your game according to the information you specify here.

Further below you can give a custom look to the main character by changing her skin- and dress color. To the right there are three options: the first one, *Change Icon*, lets you specify a custom image for the icon that shows up on the Level Select screen. The icon needs to be a 30x30 pixel .png file. You can also customize the initial Info Screen that appears when the player selects your game. Specify your 600x240 pixel .png image by clicking on the *Change* button, and test it by clicking on the *Preview* button.

Note: the Info Screen is not to be confused with Cutscenes: although both are .png files of the same dimensions, the latter one is for intro/ending purposes only. Also, Cutscenes can be composed of several images, while the Info Screen is a single image. Specify cutscenes in the *Cutscene Editor* page.

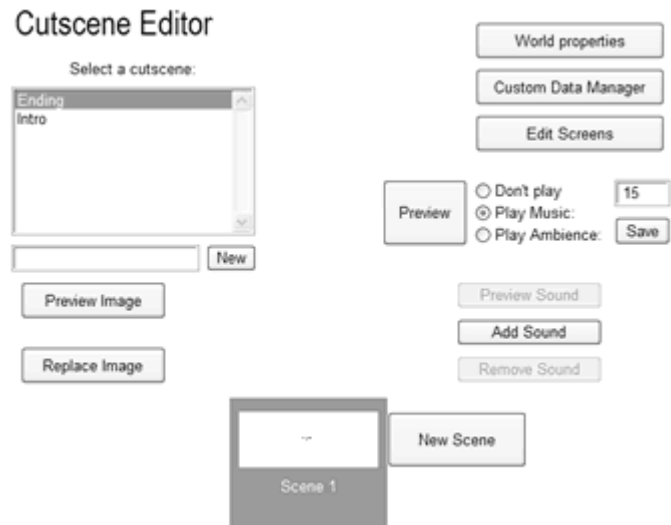
When you are satisfied with the settings on this page, click on the *Save Settings* button and then click on any of the other three buttons in the upper right corner, to specify further information about your level.

\*Alternatively, open your world's folder, locate the *world.ini* configuration settings file and edit it a raw text editor like Notepad.

## 2. Cutscene Editor

Another powerful feature of Knytt Stories Manager is its ability to insert cutscenes into your game. Generally used for introduction and ending, cutscenes can also be triggered at any point in the game.

Begin by selecting a cutscene to edit. “Intro” and “Ending” are available by default, and you can create custom cutscenes by typing their names into the text window. Clicking the *New* button will make new cutscenes appear on the list.



Once you selected the appropriate cutscene, change its initial image (Scene 1) by clicking on the *Replace Image* button. Browse to a 600x240 pixel .png image and click *Open*. Test the first screen of your cutscene by clicking on the *Preview Image* button. Afterwards, click on the *New Scene* button to continue your cutscene with the next image. Repeat these steps for each image that your cutscene is composed of.

**Sounds in your cutscene:** you can add music and/or background ambience to your cutscene by specifying its file number in the number field on the right of the Cutscene Editor screen. (Note: you must have a corresponding .ogg file placed in the Music or Ambience folder in your game’s directory for this to work. For more information on adding sounds to your game, check the Sounds chapter on Page 4 of this manual.)

## 3. Custom Data Manager

This feature of the Game Manager allows you to easily manage all types of custom-made data you can include in your game: tilesets, gradient backgrounds, music and ambience. First select the appropriate category from the top list of buttons. You can think of these as the folders in your game’s directory. If there is no data in your specified folder, the list screen will be empty, and only the *Add File* button will be clickable. Click that, and browse to a file with an appropriate extension (.png for tilesets/backgrounds; .ogg for music/ambience). Next, you will be asked to specify a number to the file you are adding. This number will be added to the end of the generated filename, as required by the game engine. For instance, a .png file in the Gradient folder with number 3 specified, will be titled “Gradient3.png”.



Once you have added files to your folder, four additional options will be available: *Preview* lets

you see the specified image; *Replace File* will open the browser window again; *Delete File* will remove the file from the folder (there is a confirmation screen), and *Rename File* allows you to change the number of the specified file.

Note: *Preview* works with images only; you can test sounds from the main Level Editor screen. For more information, see the Sounds chapter on page 4.

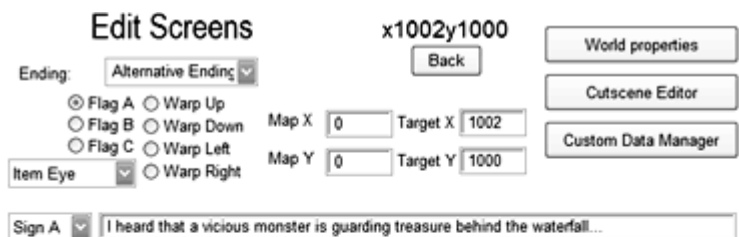
#### 4. Edit Screens

The most frequently used feature of the Game Manager is its ability to insert and edit dialogs, warp points and shifters. Clicking on the *Edit Screens* button on the main screen of the Game Manager will bring up a list of map positions on the left, and a coordinate input field on the right. If the list on the left is empty, that means that no screens contain data editable in this section of the Manager. In that case, use the coordinate input field to enter the map coordinates of the screen that you wish to edit.



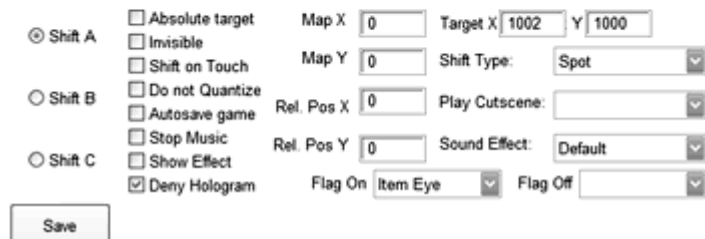
Next you will be taken to the screen where you can do the actual editing. This screen is composed of four major sections: Ending, Warp, Sign and Shift. Each are detailed below.

The *Ending* field lets you specify a cutscene that will be triggered when the character touches a “Win” block on this particular screen. Cutscenes that you have previously created with the Cutscene Editor will appear on this list.



*Warp* is the section where you can set up basic teleports in your game. First select the direction of movement (up, down, left, right). Next, specify the length of the warp by entering numbers into the “Map X” and “Map Y” fields.

(Note that in this case X and Y are not coordinates, but the number of screens the character will travel in the specified direction, relative to the starting point.) To go in the opposite way on the same axis, enter a negative number instead. You can also specify the world map x-y coordinates of the destination screen in the “Target” input field.



Note: You must have a Warp object on the specified game screen for these settings to take effect.

Note: You can add conditions to the warp event by enabling flags. Details about working with flags are discussed on page 13 of this manual.

Sign A, B, C let you set up dialog boxes that show up whenever the character reaches a “Sign” or “SignArea” block in the game. Select the desired sign and then type the text you want the player to see. Make sure that your text doesn’t exceed the 110-character limit.

Note: You must have a SignA/SignB/SignC tile on the specified game screen for these settings to take effect.

Tip: To have a smoother dialog popup effect, use a single “SignA” tile somewhere on the screen, and then place multiple “SignArea A” tiles in the dialog hotspot.

Shift A, B, C are settings that affect shifter blocks in your game. You may notice similarities between shifters and warps. One main difference between the two however, is that warps move the character, while shifters change the screen behind the character. You start setting up shifters like you do warps: the MapX/MapY and Area x/Area y settings work the same way as they do in Warps.

By default, shifters move the screen while leaving the character’s on-screen position on the same tile. There are two way to change this: the Rel. Pos. X/Y fields are useful to position the character on a different tile of the same screen, measured relative to the starting position. Checking the “Absolute target” option, however, makes a pair of Abs. Pos X/Y input fields to be available instead. Use these to specify absolute coordinates of the target tile, regardless of the shifter’s relative position.

The latter one is useful when you have multiple starting points in your map leading to the same target point. If you set absolute target coordinates, you don’t have to calculate the distance between the target tile and each starting tile; all shifters with this setting will lead to the same target, regardless of their relative position.

The table below lists the remaining shifter settings and their description.

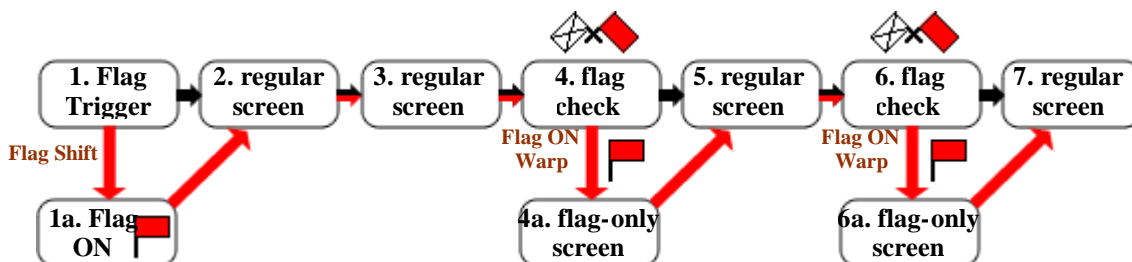
<b>Shifter Setting</b>	<b>In-game Effect</b>
Invisible	Shifter element cannot be seen.
Shift on Touch	Shifter activates upon contact.
Do not Quantize	Character will not be centered on the target screen.
Autosave Game	Game is automatically saved after the shift event.
Stop Music	All music will stop after the shift event.
Show Effect	A visual effect will accompany the shift event.
Shift Type	Specify the collision mask of the shift element.
Play Cutscene	The selected cutscene will play on the shift event.
Sound Effect	The selected sound will play on the shift event.
Deny Hologram	Placing the hologram disables the shift event.

Note: You must have a ShiftA/ShiftB/ShiftC tile on the specified game screen for these settings to take effect.

*IMPORTANT! : If you enable the “Play Cutscene” option on a shifter, make sure that you also enable the “Autosave Game” option as well! If you don’t, the game will resume from a previous save point after the cutscene is over.*

## 5. Working with flags: the conditional warp

You can create instances where a warp event occurs only if a certain condition is met. You set up the condition with a shift event on one screen by turning specific flags on/off during the event. On other, distant screens, you can then enable flag checks that will examine whether the character has met the previously specified condition (i.e. whether the player triggered the previous shift event or not). If the condition has been met, the warp event occurs. If the condition has not been met yet, the player will see the default screen. The following diagram shows a simple example of flags:



### A flag example

In the above scenario, we used one flag shift on the first screen, and two flag warps on screen 4 and screen 6. On the first screen the player can choose to trigger the shift event or not. If the shift event is not triggered, the flag will remain in the OFF position, and the player can only proceed linearly from screens 1-7. The flag checkers on screens 4 and 6 will “sense” the inactive flag position, so warping will not occur at those places.

If the player chose to trigger the shift event on the first screen, the flag will turn to the ON position. When the player reaches our first flag check on screen 4, the character will be immediately warped to screen 4a, because the checker “senses” the ON state of the flag. From screen 4a, the player can proceed to the next regular screen (5). This doesn’t happen automatically though: you have to set up a warp on 4a to make sure it will lead to the same place that the unchecked screen 4 would lead to.

The same thing is happening on our second flag check (6). Note that with the flag turned on, the player will reach the last screen completely bypassing the regular 4 and 6 screens.

Note: the above example presents only one variation of the virtually unlimited possibilities. You could make the first shift event turn on automatically when the player reaches it, for instance. Also, you can use flags without warping to another screen. Just experiment and see what works best for your situation.

### The use of flags

The obvious advantage of flags is that multiple warps can be activated with a single, distant shift. This enables major changes in the world without having to re-draw the entire level. Flags are also useful for turning cutscenes into one-time events. Finally, shifts with the flag option enabled can make the player gain/lose specified items.

### Flag mechanics

Each flag features twelve default and nine configurable conditions. One screen can contain up to three different flag triggers, and flag checks are prioritized in alphabetical order. This means that in the case of multiple flags, the condition of Flag A is checked first; if it triggers the warp, no other flags will be checked. If the player’s condition doesn’t trigger a Flag A warp, then Flag B will be checked, and so on.

## I. Workflow Example

In this chapter we will design a few game screens from scratch. Follow this tutorial step-by-step if you wish, but make sure to get the *concept* of using Level Editor in actual game design.

### 1. Brainstorming

Before you even start the Editor, take some time to plan ahead, because it will help you stay in focus during game development. Consider a few important questions:

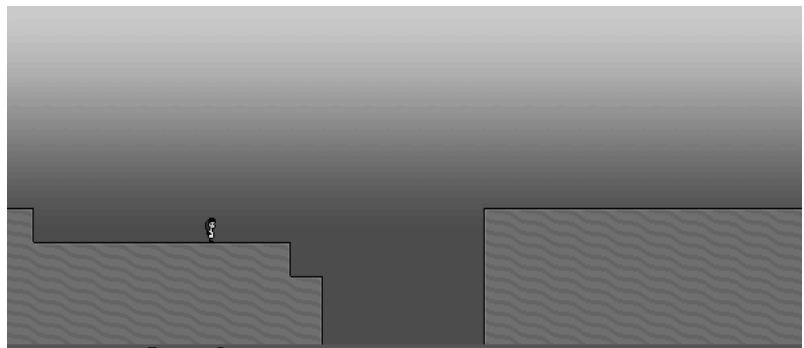
- *What is the ultimate goal?* Identify the central challenge you want the player to achieve, and build the rest of the game around this core idea.
- *What obstacles will you place in the player's way?* This is an important decision to make early on, because this will determine the category of your game. Will you make a jumping challenge, or test the player's wit with clever puzzles? Perhaps you'll want to create a twisting maze to explore, or a level with gorgeous environments that players can immerse themselves in.
- *How difficult will the game be?* Two things to keep in mind. One: the element with the highest difficulty will determine the difficulty of the entire game. Two: "difficult" does not equal "frustrating".

Once you figured the answers to these questions, bring it all together to create a story. For this short tutorial example, we will have the player obtain the high-jump powerup (main objective), placed in the middle of a waterfall with a monster guarding it from below (agility challenge). To avoid frustrating the player, we will place an easily accessible save point right before the challenge. We will also make the difficulty level "easy" by having only one enemy on the screen, and by having a dialogue that warns of the impending threat. Now let's make the level!

### 2. Building the Landscape

Begin by opening the Level Editor and fill in the Level Name and Level Author fields on the right side of the screen, and then click on the New Level button.

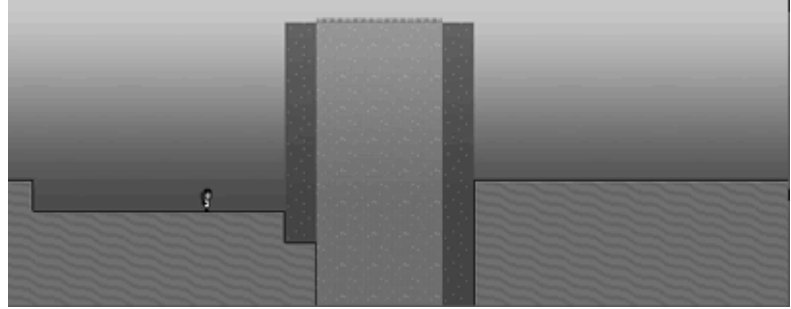
First press Ctrl+Del to clear the default elements from the screen. We will start building our level by constructing the basic outline of the landscape on Layer 3, the contact layer that the character interacts with. Let's select tileset #19 as our first tileset (Tileset A) and draw a simple landscape, not forgetting to leave some space for the waterfall.



You may note that the character was moved from the default position. Do so by clicking on the *Set Start Pos* button and then clicking on the desired location. You may also specify here what items the player will start with. Let's have the first two items on the list. Also, you can select a background gradient anytime by scrolling through the backgrounds in the *bg* number field. For this level, select background number 150. (Remember, shift-scrolling makes browsing faster.)

### 3. Adding the waterfall

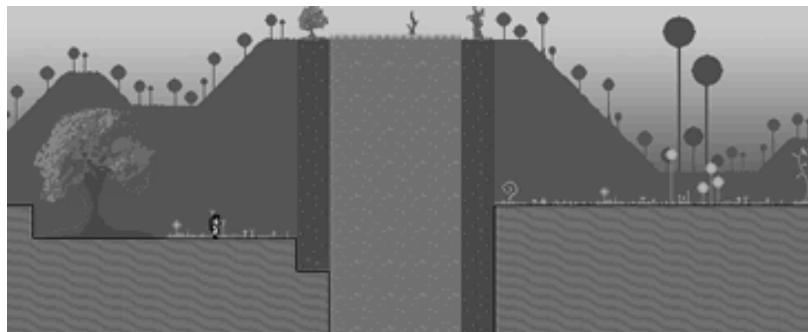
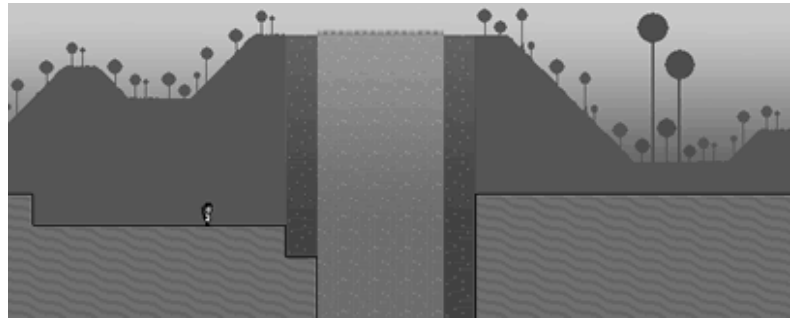
We are still building landscape, but this time, we are going to use objects. Select Bank 1 (Liquids) and choose Object 3 for the waterfall. Since we already know that there are going to be objects behind the waterfall, let's select Layer 6 to draw the waterfall into.



Fill four vertical lines in the middle of the landscape gap with this water color. For the two sides of the gap, use a darker waterfall color, Object 20 from the Liquids bank. This gives a sense of depth to the water. To finish this section of the waterfall, select Object 6 from the Liquids bank and draw a line across the top of the light waterfall. By now, your level should look like the image above.

### 4. Background scenery

That waterfall looks awkward just hanging from the sky. Let's create a cliff, flanked by smaller hills in the background. To do this, we will use some grey silhouette blocks in the lower left corner of the previously used tileset. Select a background layer, say, Layer 1, and draw something similar to the image on the right.

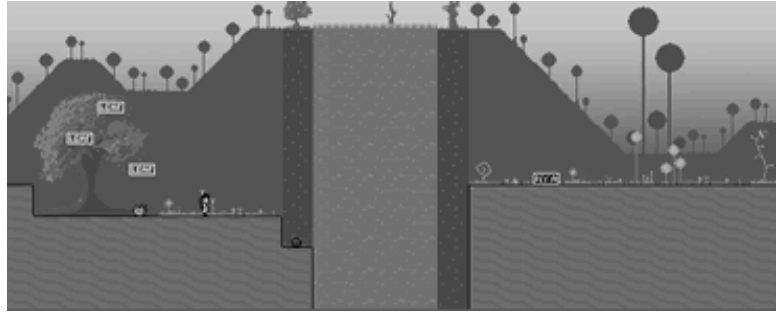


### 5. Vegetation

The fun part! Select Layer 2 and decorate the level with flowers, grass etc. from Tileset 19. We also used elements from Tileset 10. To use a second tileset, just specify its number on the Tileset B number field. To quickly switch between tilesets, use Q and E on your keyboard.

## 6. Animals and nature effects

Let's populate our new world with a few creatures, none harmful, to keep the level easy. Select Layer 7, and then place Object 43 (small cat) under the tree from the Knytt&Fluff bank, and a small dark blob (Object 10, Earth Beings) on the overhang. Also place a single FlyA object (Object 3, Flyers) on the other side of the gap. For nature effects, add some falling leaves if you have a tree (Object 6, Nature Effects).



## 7. Save point and dialogue

We are almost done, but a few essential elements are still missing. After selecting Layer 6, place a save point (Object 1 from the System bank) just below the overhang on the left of the screen.

Next, we're going to give a few lines of dialogue to the cat. To do so, place

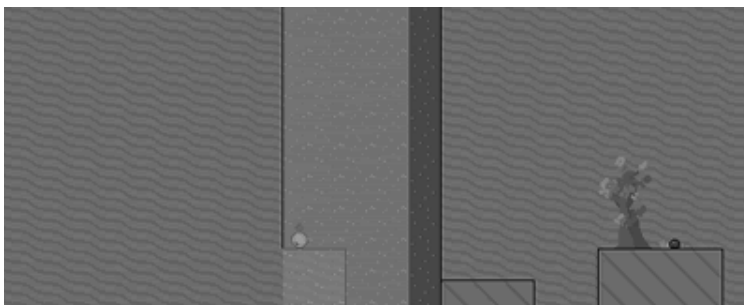
a couple of Sign A (Obj. 17, System) objects right over the cat, while making sure that we're still in Layer 6. Then click on *3<sup>rd</sup> Party Tools* in the menu, and select *Knytt Stories Manager*. This will bring up the application in a new window. In the Manager, click on the Edit Screens button in the top right corner. Now you will need to enter the coordinates of the screen that has the Sign A object. Back to the Level Editor, you will find these coordinates on the bottom of the screen (x1000y1000). Enter 1000 for both x and y values in the Manager window and click on the Go button.



On the next screen, mark Sign A to select it for editing, and then type a short text that you want the player to see upon passing the sign in the game. Once you're done, click Save and close the Manager.



## 8. Making the bottom of the waterfall



Now it's time to take all what you've learned in the previous chapters and put it into practice: design the lower part of the waterfall! First move one screen down on the world map (x1000y1001) and start constructing the level, layer-by-layer, as you've seen previously in the guide. Start by outlining basic landscape, then add

the waterfall, some vegetation, animals, the powerup and the monster. These latter two could be a bit tricky, so let's go through this part in a bit more detail. We want both objects to be behind the



waterfall, so we have to use a layer below 6. After constructing everything else, let's select Layer 5 and place Object 6 from the System bank on the x10y7 tile. Then select Layer 4, and put an Object 5 from the Traps bank on the same tile.

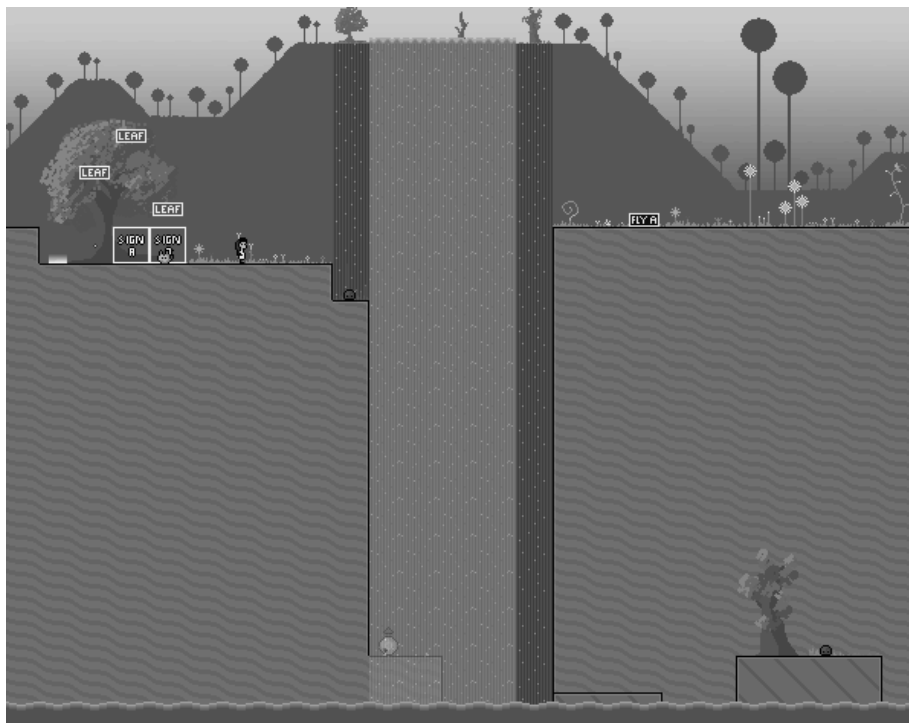
## 9. Testing your level

Now that everything is in place, it is essential that we test the level for playability. For the purpose of this tutorial, we will only test once at the end, but in real design, it's a good idea to test often. During testing, pay special attention to essential elements and to the correct use of layers. To initiate testing mode, click on the *Test level* button and then specify the character's items and position. The standard game screen will pop up, and you can play your level. (Note: you can't fullsize the game screen during test play).

Let's check important game elements: see if the dialogue plays correctly, the creatures don't walk on air, the save point is working, etc. Make the character slide down the left wall to the bottom of the waterfall and try to get the powerup without triggering the trap. Afterwards, see what happens in case of failure. Then jump around, see what happens if you fall in the water... you find yourself in a void screen, and that's not good.

Let's close the testing window for now and head back to the Level Editor. We need to fix the bottom of the second screen, so that players don't get into a void screen through the water. Simply place Object 10 from the Liquids bank into Layer 7 and drag it across the bottom of the screen. Testing the level again, you'll see that falling into the water now kills the character, preventing entry into the void. In regular play, the other three sides of the level must also be sealed in some way – preferably by something that fits naturally into the existing environment, like in this case.

... and that's how you work with the Level Editor.



## J. Credits

**Nicklas “Nifflas” Nygren** -- <http://nifflas.ni2.se>  
Creator of *Knytt Stories* and the *Level Editor*.

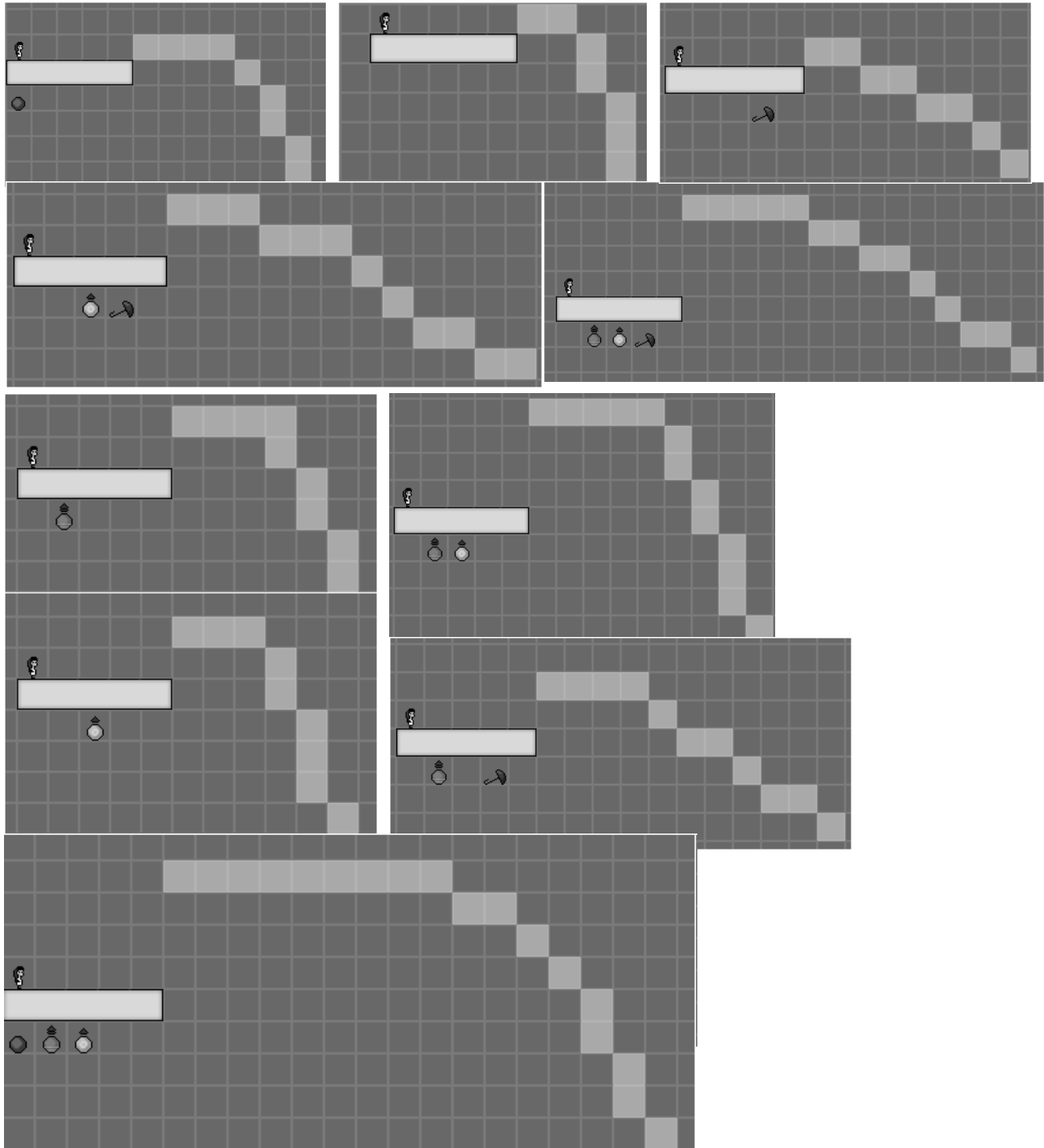
**Lennard Sprong** aka X\_Sheep -- <http://www.sheepinteractive.tk/>  
Creator of the *Knytt Stories Manager*, a user-friendly 3<sup>rd</sup> party extension for tweaking advanced settings in the world.ini file.

**Knytt Stories Forum Community** -- <http://nifflas.ni2.se/forum>  
A growing community of gamers and designers all enthusiastic about *Knytt Stories* and Nifflas’ other games. If you have questions about the games or the Game Editor, ask here! Particular thanks goes to *GSR* for making the very first online guide for the Editor; and *Panda* for creating the jump diagrams that appear in the Appendix of this manual.

**SiamJai** -- <http://design.thaiwonders.com>  
Writer and editor of this manual. Got questions, comments concerning the manual? Let me know by email: [webdesign@thaiwonders.com](mailto:webdesign@thaiwonders.com), or drop by at [forum.thaiwonders.com](http://forum.thaiwonders.com)!

## K. Appendix

Use the following jump diagrams to aid in your level design. The character's starting position is the white platform she is standing on; the icons below this platform represent the powerups currently in her inventory; the highlighted tiles mark the travelled jumping path with those powerups in possession.



**Appendix (cont)**

