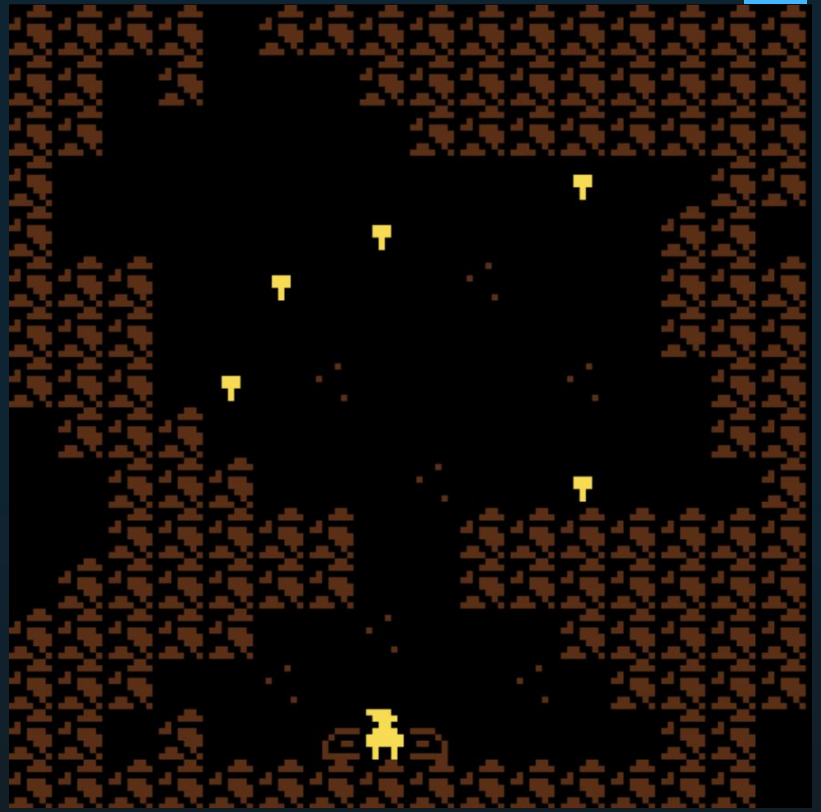
Creating a Bitsy Game

Hero's Awakening

Sebastian Grygorczuk

First, Let's Play!

Let's start by playing 'Hero's Awakening', and then we'll work on making a similar game with the same assets.
https://orczuk.itch.io/heros-awakening



What is Bitsy?

- Bitsy is a web-based game engine focused on creating 2D narrative experiences and was created by Adam Le Doux.
- You can access this game engine by simply visiting the website [https://www.bitsy.org/] and clicking 'make a game.'
- Alternatively, you can explore various games created in the engine by clicking 'play a game.'

Let's dive into making a game!

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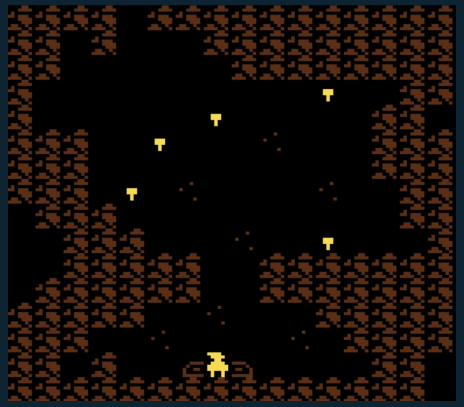
Plan of Action

We are going to create a small game inspired by the start of many Zelda games. As seen, this game has four rooms that will help you learn the basics of Bitsy:

1. A cave where you wake up and walk around.
2. A room with an animated sprite that you can interact with.
3. An outdoor area that requires an item to progress.
4. An indoor area that will end the game



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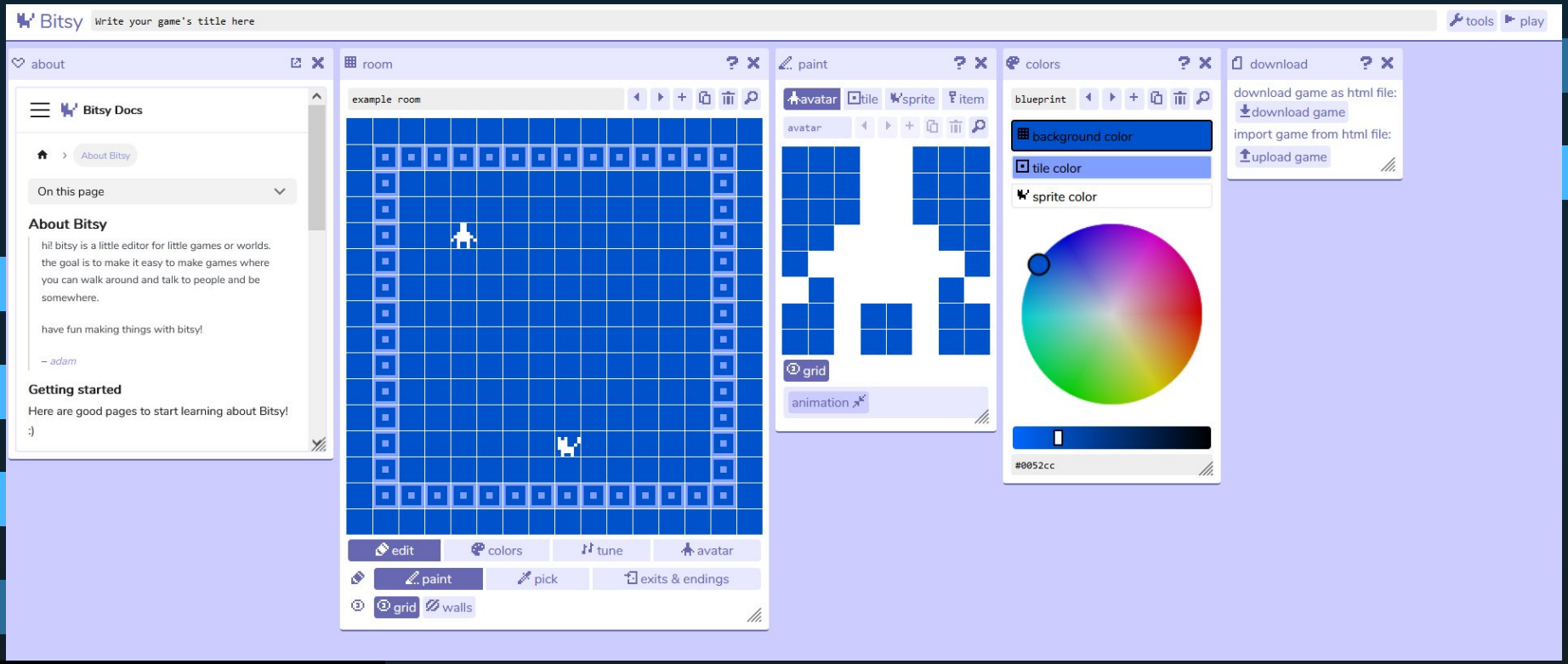
First Look Into Bitsy



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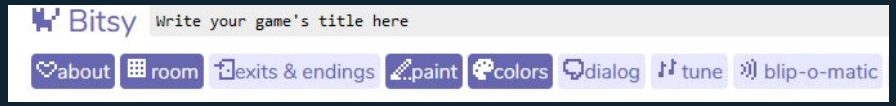
Action Bar



"First, let's focus on the bar at the top. At the very top, we have the name of the game, which you can change to anything you want.

Moving to the right, you'll see two buttons: 'Tools' and 'Play.' Clicking on 'Tools' will open a dropdown bar containing all the possible windows you can open. The purple ones are currently open, while the greyed-out ones are closed. We'll go through each of them.

Lastly, there's a 'Play' button, which will start the game and allow you to play-test it.

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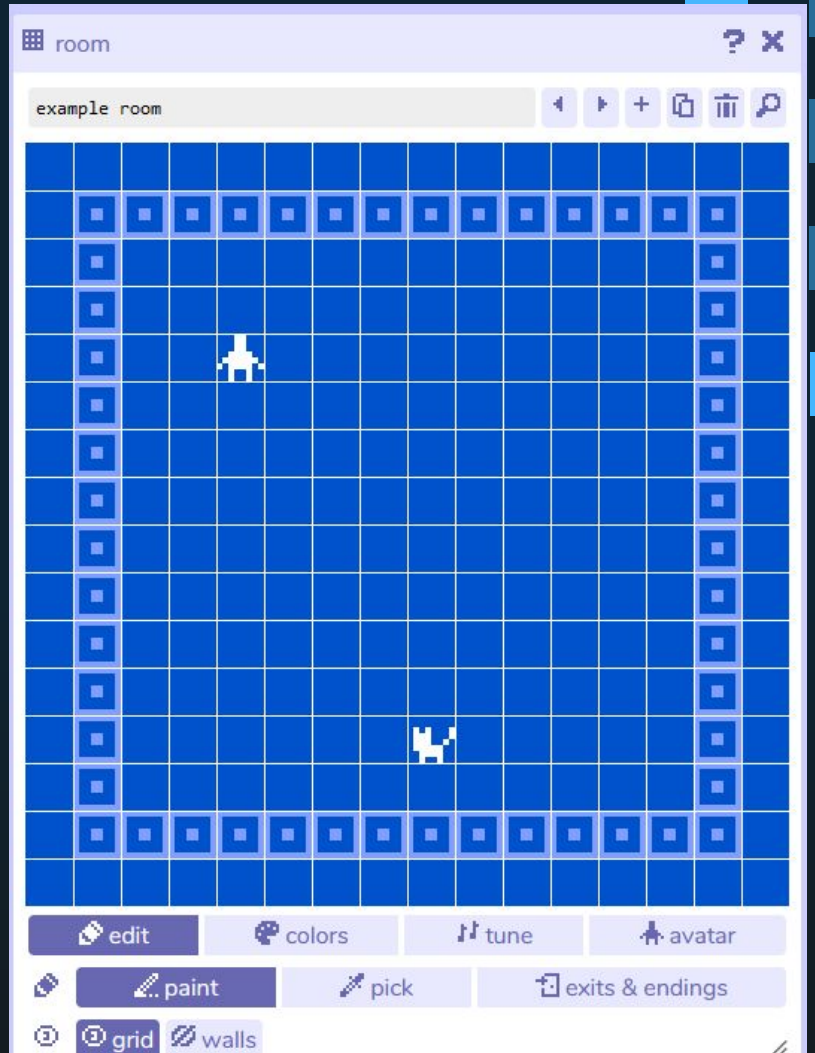
Room Window

The room window controls what the player sees and can interact with. Here, we can place our Avatar (player character), tiles (objects that serve as background or walls), sprites (objects the player can interact with), and items (objects which the player can pick up).

The game operates on a very simple on/off system. If you click on an empty spot, you can place an object. If there's already something there and you click on it, the object gets removed.



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Room Window

The room window contains several sub-tabs that give you control over the editing process.

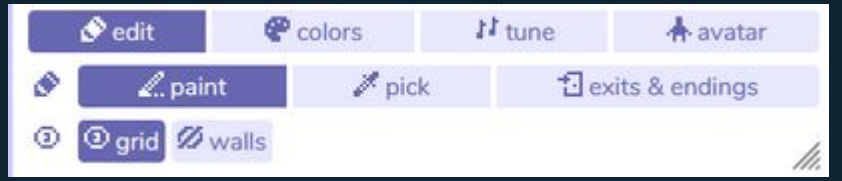
The primary and most commonly used tab is 'Edit,' which allows you to paint whatever you have selected in the paint window.

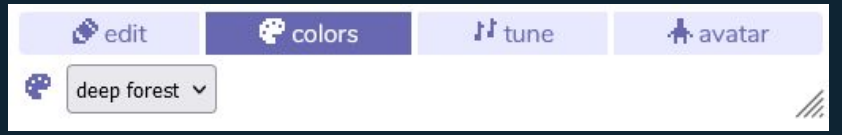
The 'Pick' tab will copy a tile from the room.

'Exit & Ending' enables you to set points to move between.

There are two view options:

- 'Grid' shows how the room is divided into tiles.
- 'Walls' blocks out parts of the level covered by walls.





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Room Window

The other tabs allow you to select different settings for the room.

'Color' enables you to set the color scheme that you've pre-created.

'Tune' lets you choose a pre-created tune to play in the background.

'Avatar' controls what the player looks like in this room.

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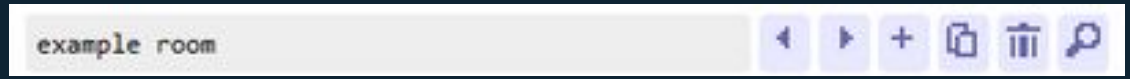
Window Navigation



Each window will have one of these navigation bars at the top.

The first thing you'll see is the name of the object, in this case, 'example room.' You can use the arrows to switch between different objects that exist within this window. At the moment, we only have this room.

The plus button will allow us to create a new blank object, while the two papers button will enable us to create an exact copy of the object we're viewing.

The trash bin will delete the object we're viewing.
Lastly, the search icon will open up the Find Window, allowing you to quickly find the object you're looking for.

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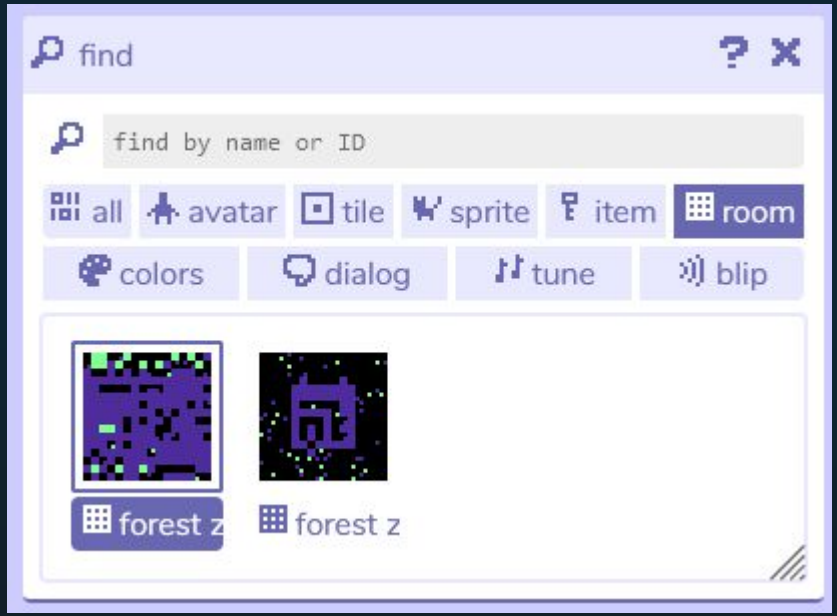
Find Window

The Find window allows you to search for what you're looking for.

You can view all the objects you've created, sort by specific types of objects, and even type the name of the item you're searching for.

This tool will be invaluable in creating the game.



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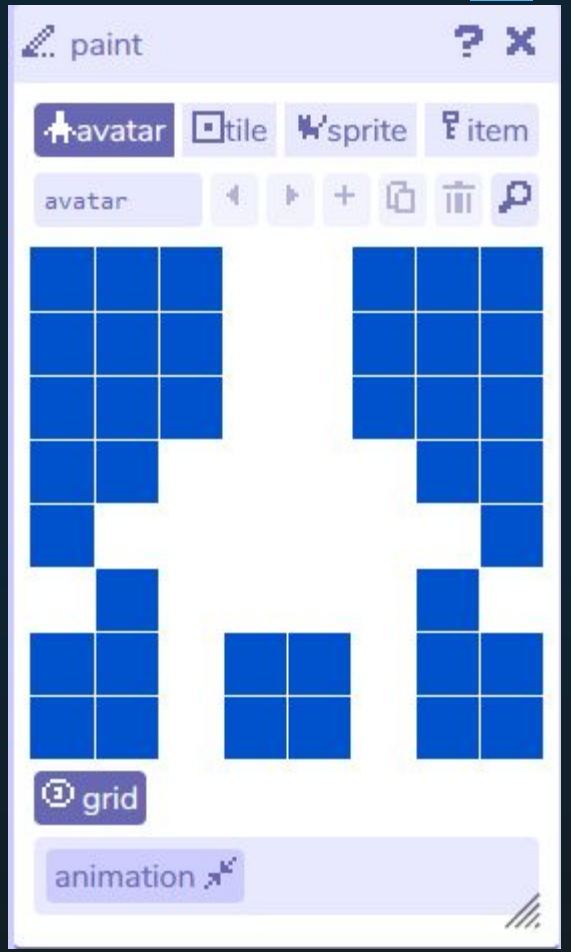
Paint Window - Avatar

The Paint window is divided into four types of items you can paint: Avatar, tile, sprite, and item.

We'll start with the Avatar. This represents the base appearance of your player character. You'll notice that you can only create one avatar. If you'd like to change the player's appearance between scenes, you can create sprites that will take their place later.



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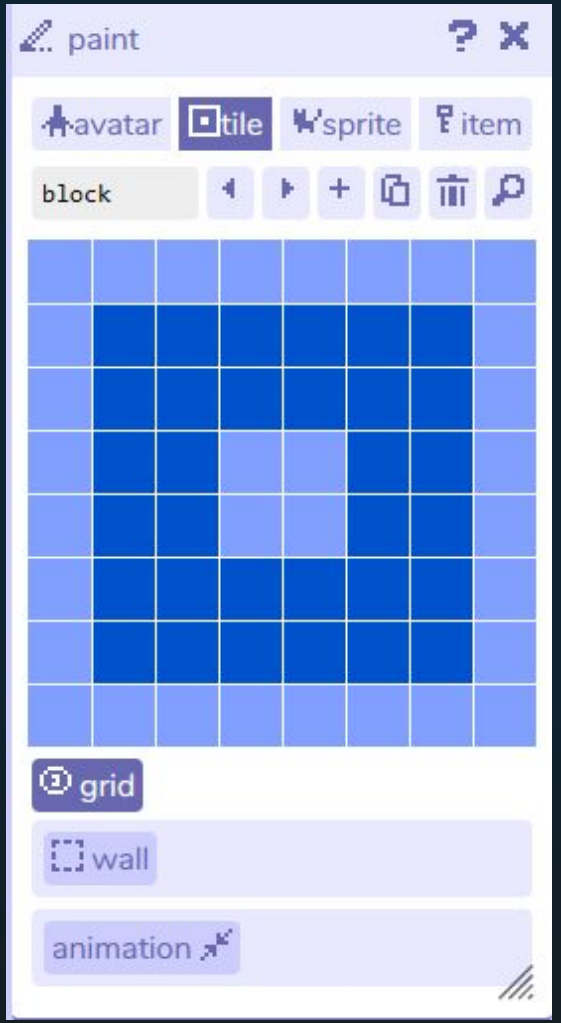
Paint Window - Tile

The tile tab enables you to create both background elements that the player can easily step on and walls that will prevent the player from moving past them.

You can have as many tiles as you wish; you just have to draw them. At the bottom, you'll see a toggle for 'wall.' If the toggle is grey/off, this tile is purely decorative. Otherwise, it will act as a wall and prevent the player from moving past it.



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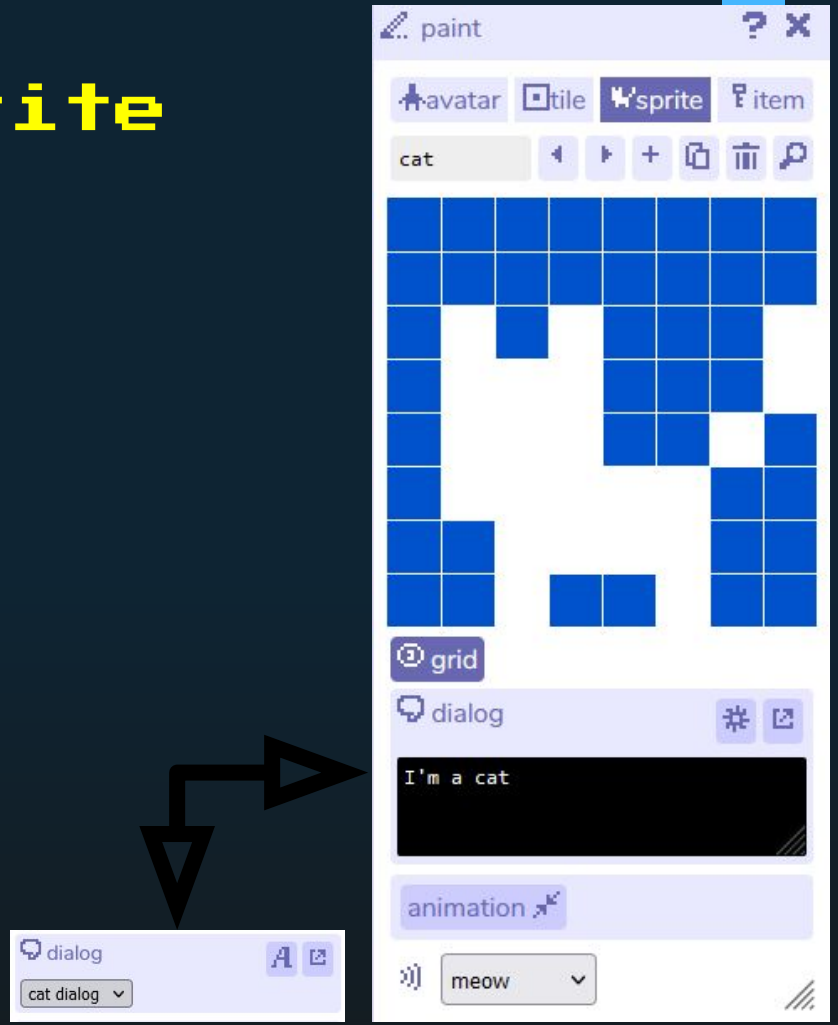
Paint Window - Sprite

The sprite tab allows you to create objects that the player will interact with by simply walking into the sprite during gameplay. Below, it has a dialog window where you can type in text.

Clicking on the little sun icon allows you to change it to any other pre-made dialogue objects.

Lastly, you'll notice it has a 'meow' sound effect attached to it. You can attach any pre-made sound effect to any sprite.



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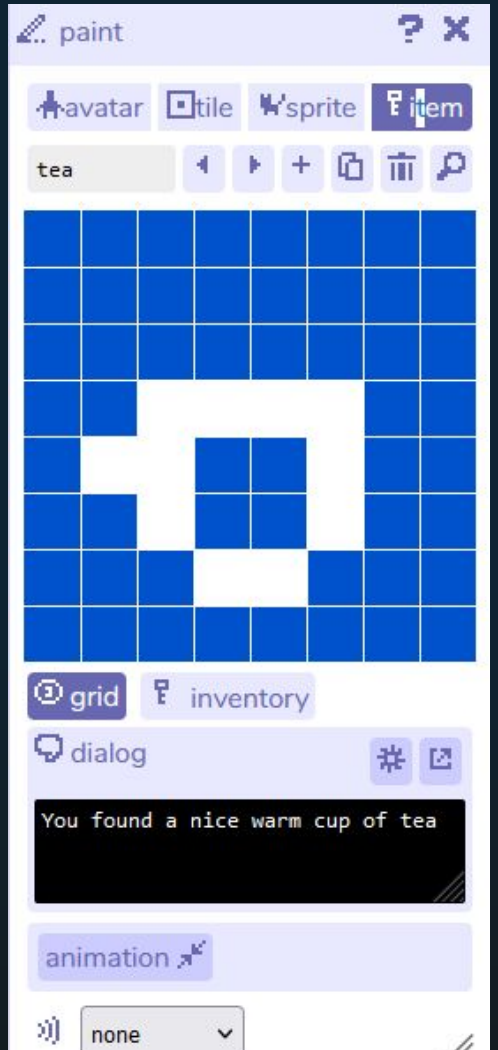
Paint Window - Item Inventory Window

The last object you can create is an item. Similar to sprites, items have dialogue and sound effects, but when the player walks into them, they will disappear and become part of the player's inventory.

We can use the inventory to control the player's progression and NPC dialogue choices.



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Color Window

The color window breaks down the three colors that each room will be made up of:

- Background color: the color that the room will be.
- Tile color: the color the tile will be.
- Sprite color: the color that the player and sprite will be

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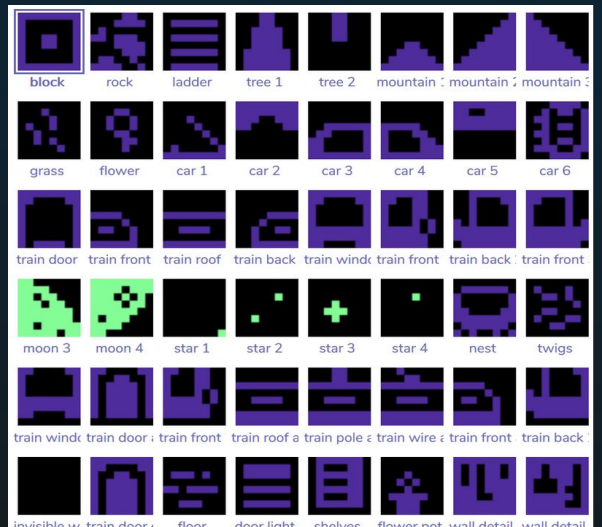
Art Tile Set

Before we delve into creating the game, let's gather some assets. While we could draw everything ourselves, for the sake of efficiency, let’s acquire a tile set (a collection of images) from Adam Le Doux.

Specifically, we'll utilize the 'Forest Zone Bitsy Tile Pack,' providing us with 96 different tiles to populate our game.



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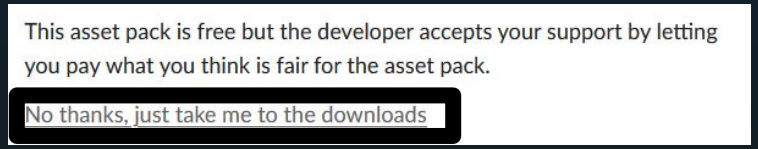
Download

Go to https://ledoux.itch.io/forest-zone-bitsy-tile-pack and download the tile pack.

When prompted, simply click 'No thanks, just take me to downloads.'

This should result in a 'forest_zone_tileset.html' file in your downloads folder



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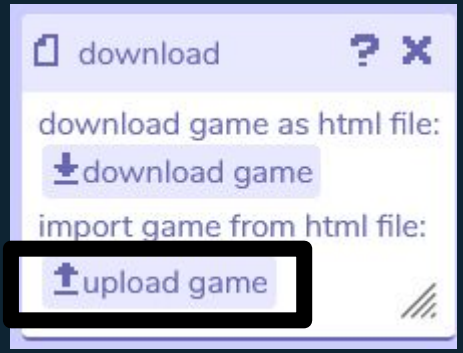
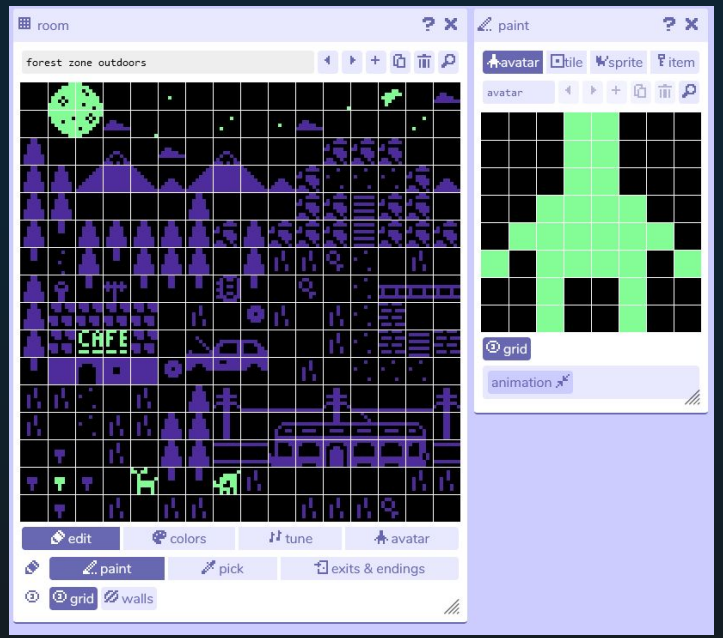
Download Window

Through the download window, let's upload the game files from the downloaded file.

This action will override any changes you may have made as it replaces the whole game.

Once completed, you should see your room window displaying the example image





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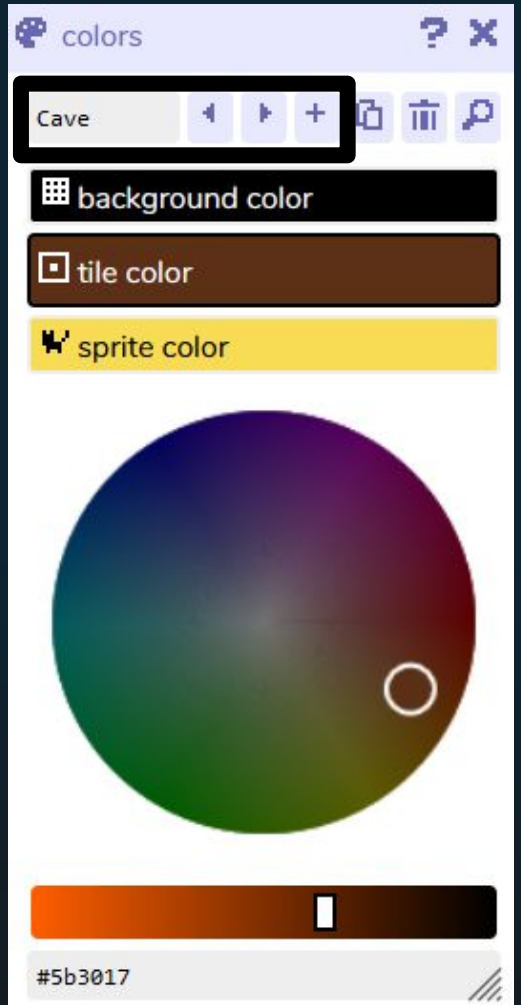
Creating Cave - Color

To begin, let's create a color palette that will evoke the feeling of being inside a cave. Click the plus button in the Color Window and name this new palette 'Cave.'

For this palette, let's set the background color to black, the tile color to a darker brown, and the sprite color to a yellowish hue. Here are the hex codes for precise replication in the game:

- Black: #000000
- Brown: #5b3017
- Yellow: #f7dc54"



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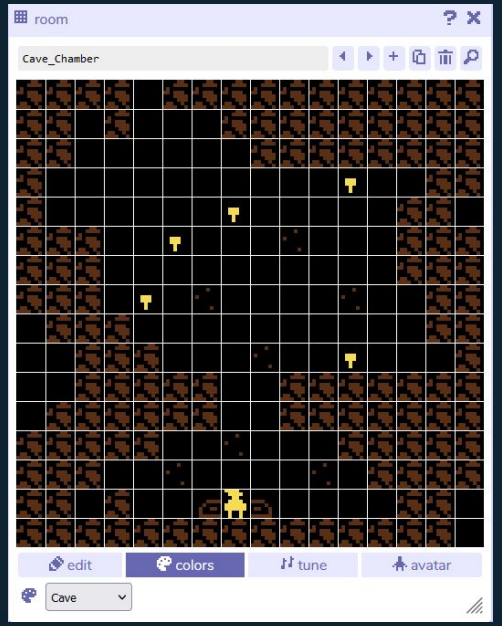
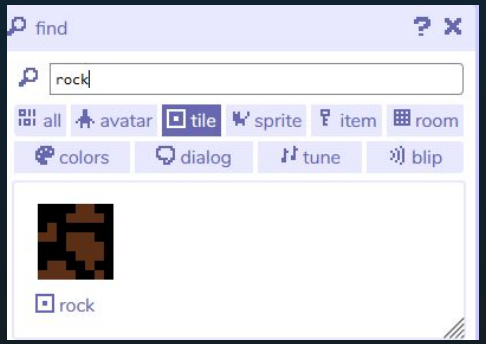
Creating Cave - Room

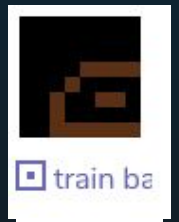
First, let’s create a new room called 'Cave_Chamber' and set the color to the 'Cave' palette we've created.

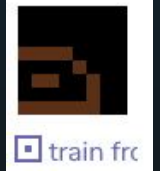
Next, let’s add some tiles to our room. Using the Find tool, search for 'rock,' 'dirt,' 'mushroom,' and 'train.' The rocks and mushroom will act as walls, while the train will be used as a bed where our player awakens.

Lastly, make sure to add the avatar.









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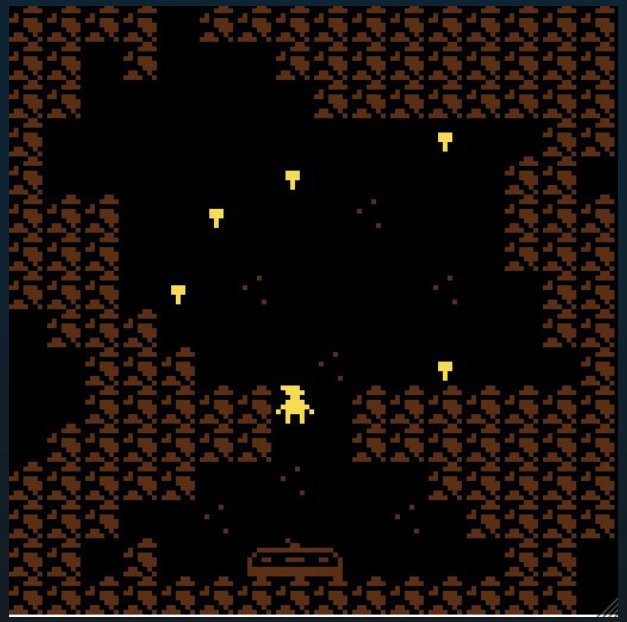
Testing the Level

Now that we've built a level, let's try it out.

When we press the play button, we might encounter a black screen displaying 'Forest Zone Tileset.' We'll need to fix that shortly.

In the meantime, you can now freely explore the cave you've created



Dialogue Window - Title

To change the title, we can simply edit what's written in the text bar at the top of the screen. But let's take it one step further.Let's open the dialog window.

Here, you'll see the title, and you can also add more content to it. Clicking the 'add' button allows you to perform different actions while the dialogue is occurring.

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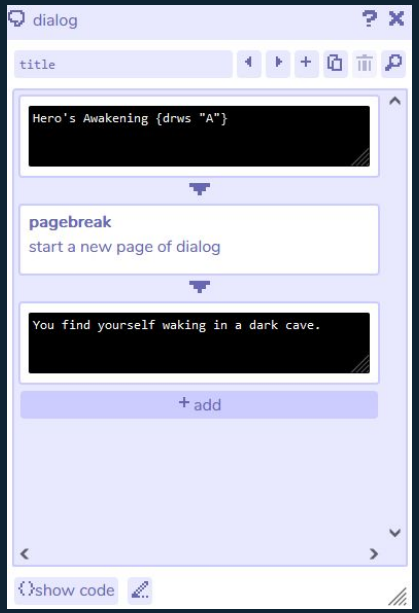
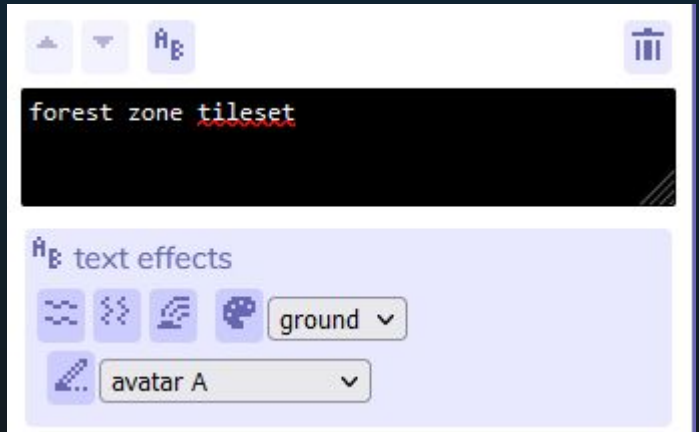
Dialogue Window - Title

Click 'dialog' and add a page break followed by another dialog box. The page break will prevent more text from appearing and create a separation between the two paragraphs.

Now, let's edit the text itself. Clicking on the text box allows you to type whatever you want. You'll also notice that you can apply effects around parts of the text and even insert images you've created.

Lastly, you can use the up and down arrows to control the order of text boxes and delete them using the bin icon.





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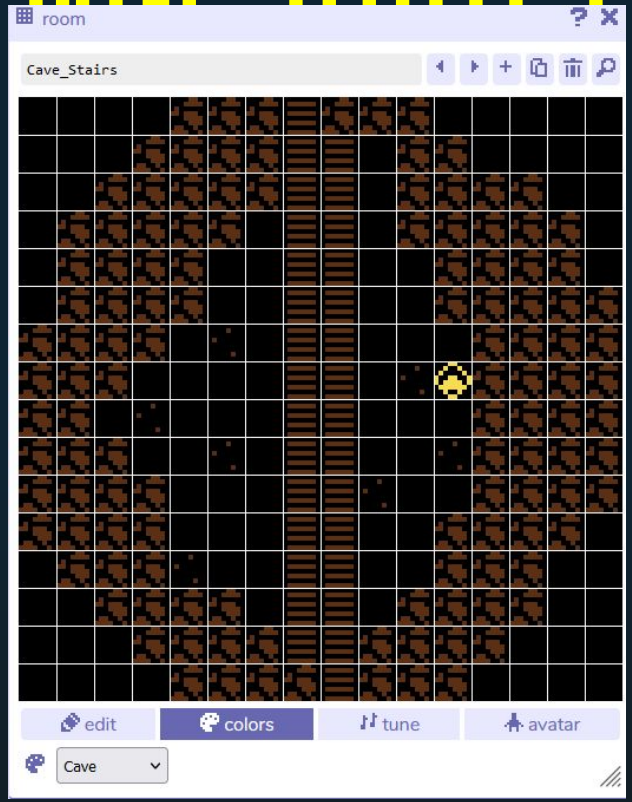
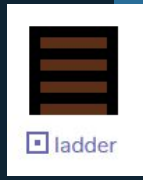
Creating Room - Cave Stairs

Let’s move on to creating the next room. We'll design a small cave with a path leading to the outside world, housing a sprite the player can interact with.

Use the tiles we used before, and add the ladder tile this time.

There's no need to place the avatar in this level as it's not our starting room. We'll decide where the player will enter and exit using the exit window.





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Creating Strange Symbol

Let’s create a sprite that the player can interact with.

Open the Paint Window and navigate to the Sprite tab. Create a new sprite and name it 'Strange Symbol.'Now, let’s give this sprite an animation.

Bitsy only allows for two frames of animation, meaning we'll have two images that the object will swap between on a given interval. We can create a triangle and a triangle inside a circle for this animation.

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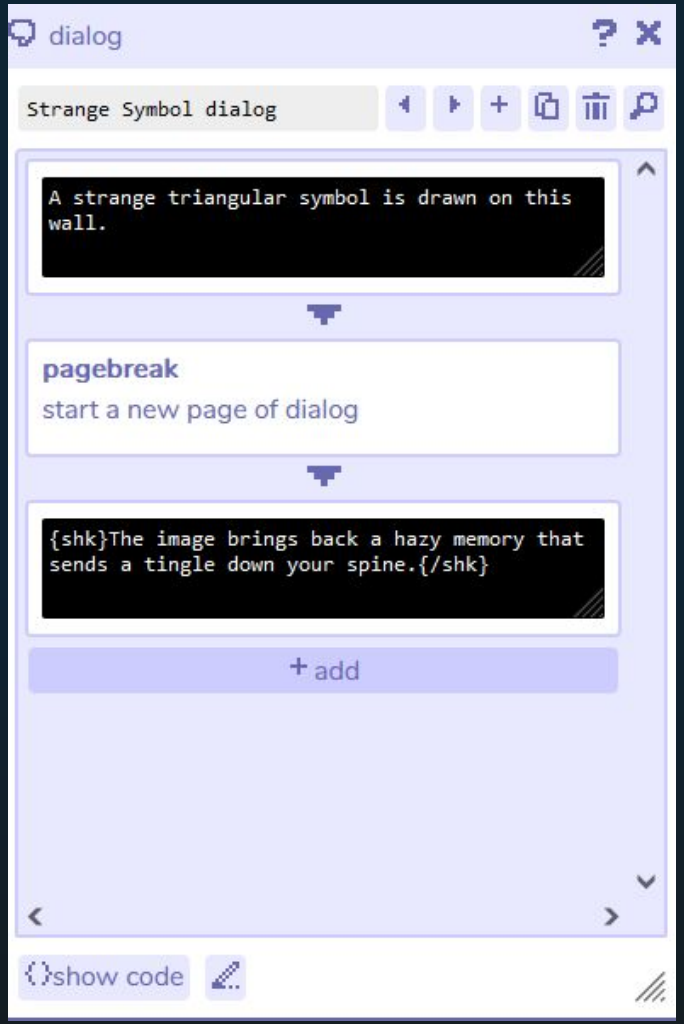
Strange Object Dialogue

Click on the button that expands the dialogue window and let's create a page break and a new textbox. We're going to apply one of the text effects to it.

You'll notice that the bottom text box has '{shk} {/shk}' at the start and end of the sentence. This means that when the player walks up to the object, that text will be animated to shake."



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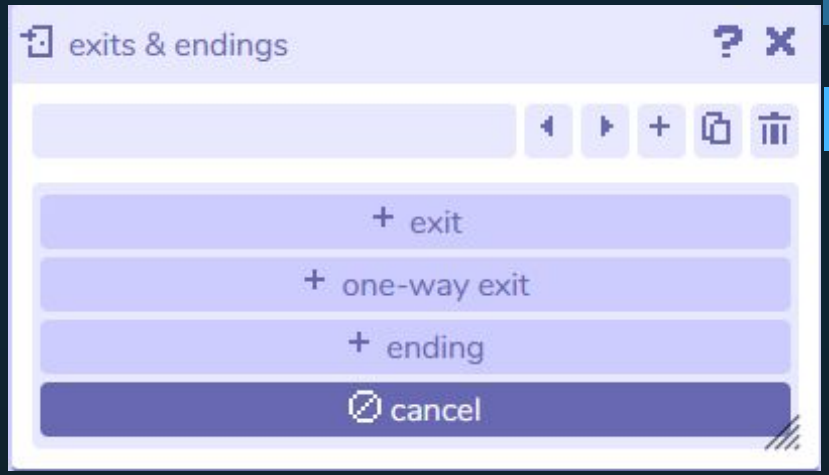
Exits & Endings - Caves

We've created these two rooms, but the player has no way to get between them. Let’s open up the Exits & Endings window and create a connection.

Initially, the window will be empty. When you click 'Add,' you'll be presented with a choice:

- 'Exit': Allows the player to walk back and forth between the two screens.
- 'One-Way Exit': Means the player cannot go back to the previous screen.
- 'Ending': Ends the game



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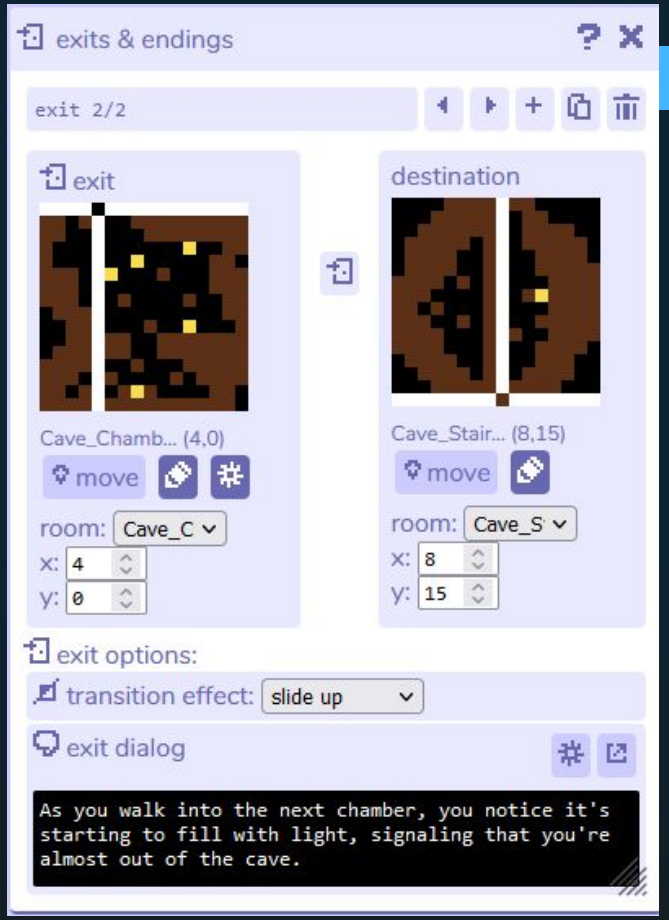
Exits & Endings - Caves

Let's create a one-way exit for now. On your left will be the room you are exiting, and on your right will be the room you are entering.

You can place the exit by using the 'Move' button, allowing you to click on the room tile, or you can use the coordinates. For reference, (0,0) is at the top left and (15,15) is at the bottom right.

When the player exits, you can choose a transition to accompany it, as well as add some text.



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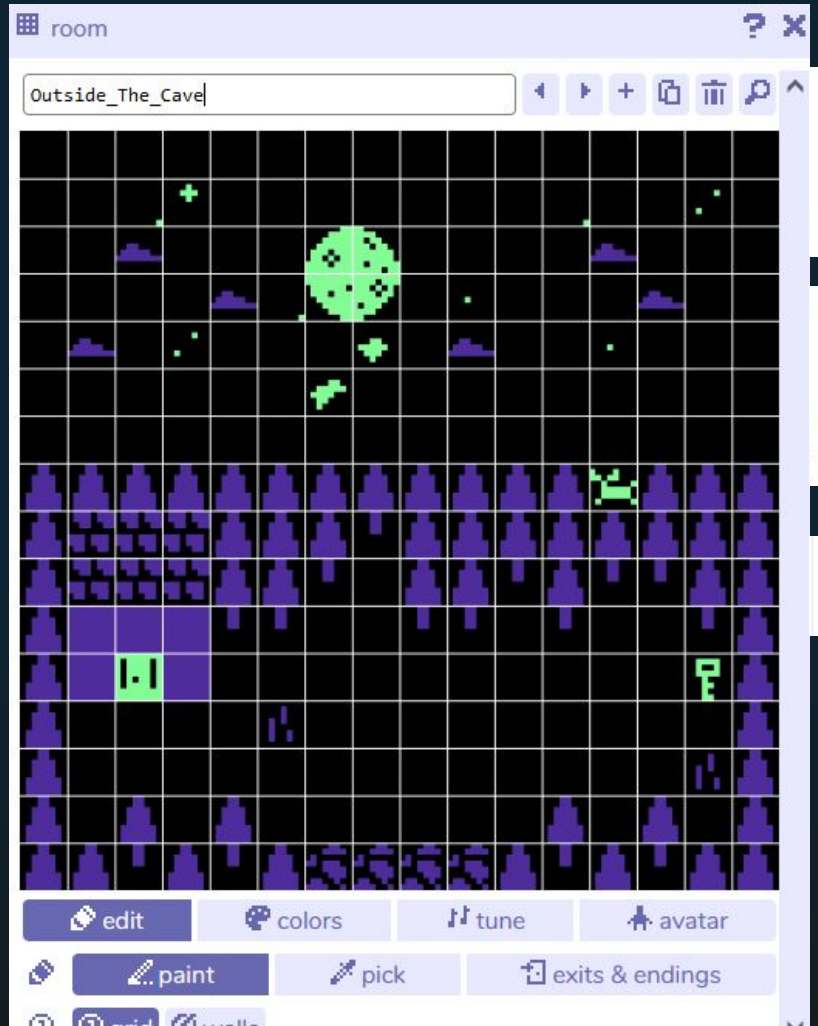
Creating the Outdoors

Let's create a level using some new tiles.

Use the Find tool to search for tiles such as 'tree,' 'wall,' 'roof,' 'moon,' 'cloud,' 'star,' 'bird,' 'deer,' 'rock,' and 'grass.'

Then, draw a level resembling this layout.Remember to go to the Colors tab and use the color palette that the game came with.



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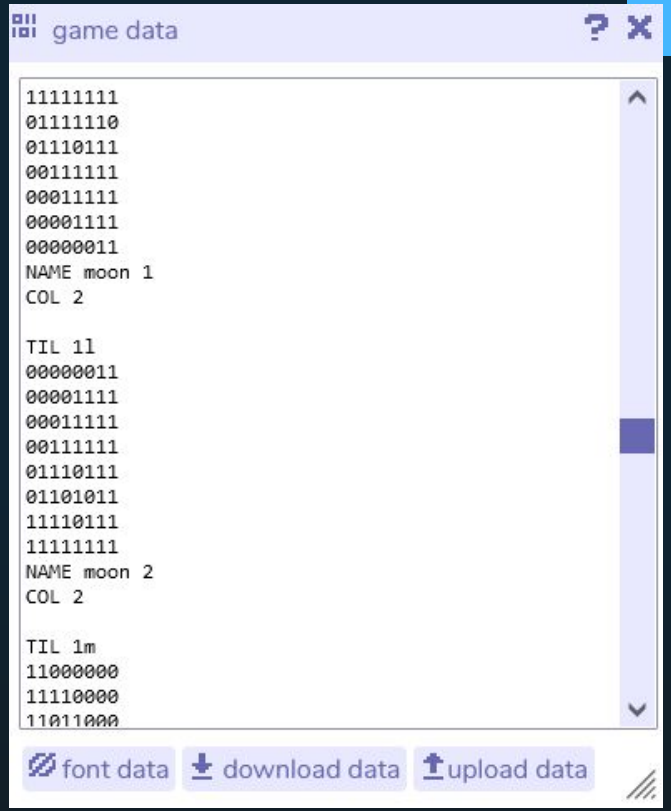
Tricky Colored Tile

You might have noticed that some tiles aren’t following the color rules set by the color palette. The moon, birds, stars, and similar objects actually use the sprite color instead of the tile color.

Why is that the case?
If you open up the game data window, you'll see how each object is saved. Scroll down to the object named 'moon,' and you’ll notice that it has 'COL 2' at the end. This indicates that it should use the second (sprite) color instead of its default color.



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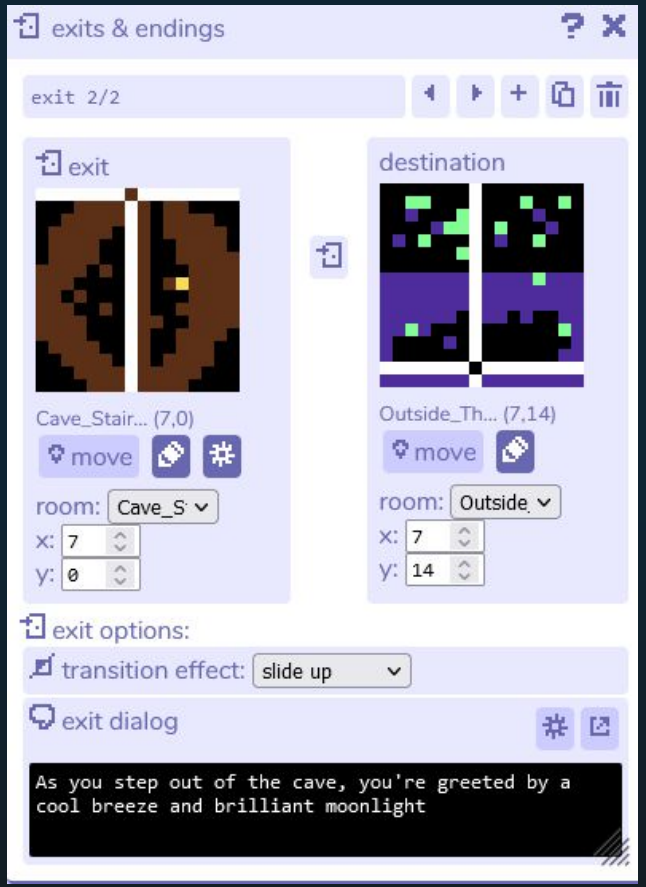
Exting to Outdoors

Now that we have a level, let's create a simple transition, similar to before.

We'll make a one-way exit from the cave stairs to the outside room.

I suggest using a 'slide up' transition, especially when the two rooms have different color schemes as there will be a color-changing effect in play too.



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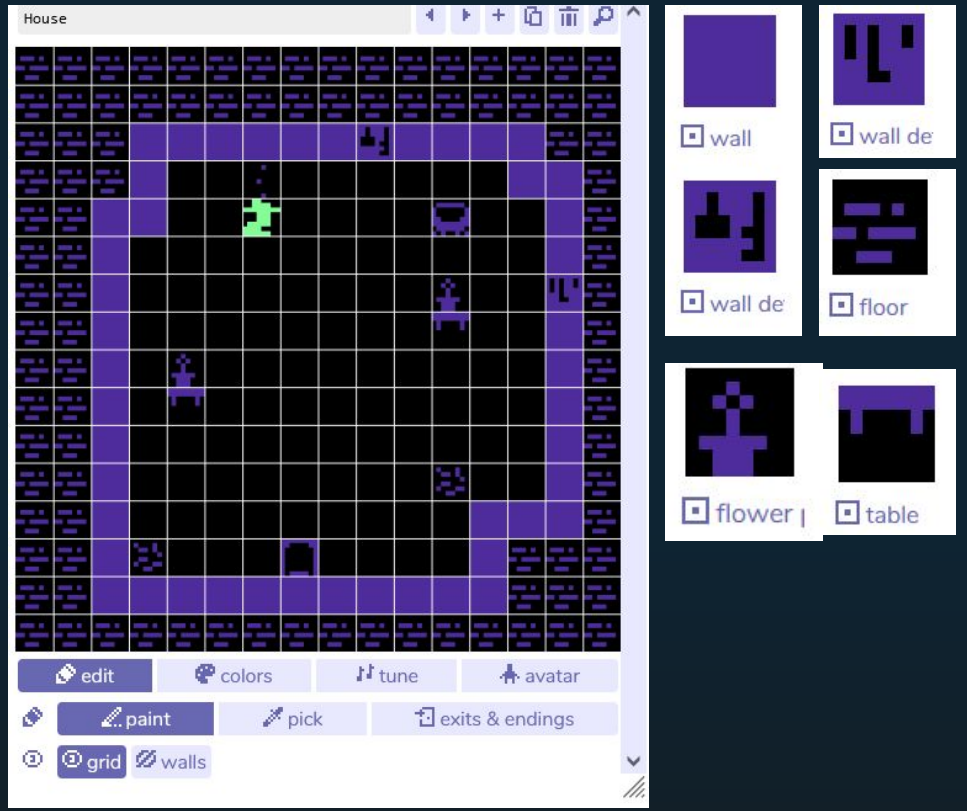
Creating House

For our last room, let's create the inside of the house, where the wizard will teach our hero about their destiny.

Use the Find window and look up 'wall,' 'floor,' 'table,' 'flower,' and 'nest' to design this interior scene.



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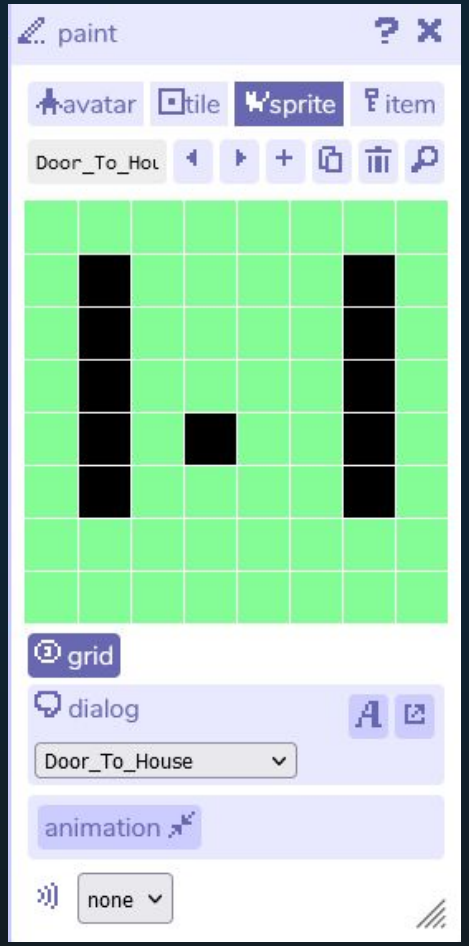
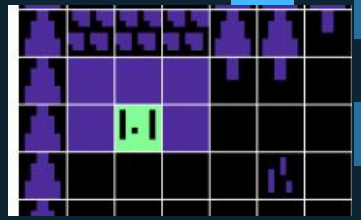
Locked Door - Drawing Sprite

Next, we're going to create a new sprite that will have more control over dialogue.

This sprite will determine if the player can move forward to the next room.

To start, let's create a new sprite and draw a door.





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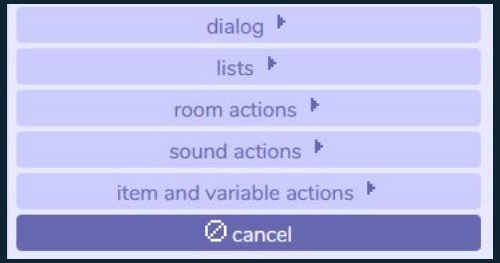
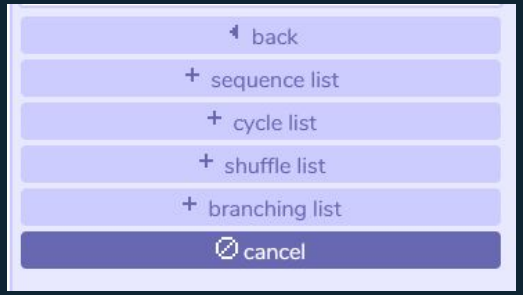
Locked Door - Dialogue

Next, let's open up the dialogue window and create a new box.

We're going to navigate to Lists, then Branching List, which will enable us to create a check.

This check will lead to different dialogues based on whether the player meets specific requirements. In this case, we will check if the player has picked up any key items.





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Locked Door - Branching Path

We'll set up the dialogue in a way that if the key counter in the inventory is greater than or equal to 1, the door will display the message 'Door Opens.' However, for now, nothing more will happen.

If the key counter in the inventory is less than 0, the door will display 'Door is Locked.'

Additionally, there is an 'add' button at the top, which allows us to add two more actions to the door opening.

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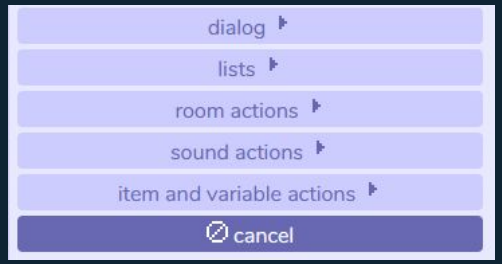
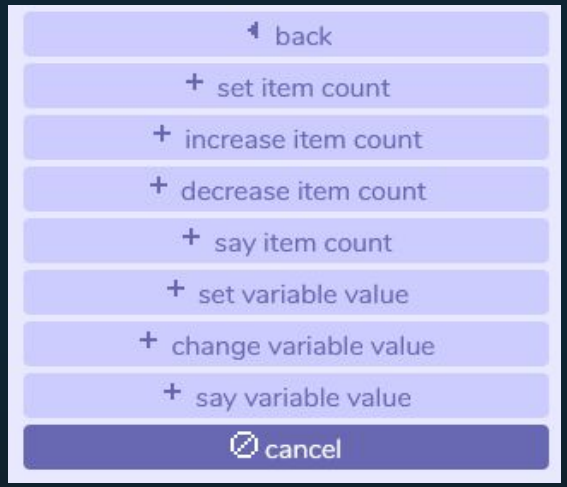
Locked Door - Key Counting





First, let's navigate to item and variable actions. If the player has indeed obtained a key and is now using it, we'd like to remove it.

This ensures that in the future, if a similar puzzle is attempted, the player can't reuse the old key they collected.

To achieve this, we're going to decrease the item count. We'll set the key count to be equal to key minus 1, effectively decreasing the count by 1

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Locked Door - Room Exit

Lastly, we'll want to move the player to the next room once the door has been used. To do this, we will go to room actions -> exit.

From there, we can select the room we want to transition to, which is the House, and designate the position where the player should appear.

Additionally, we can choose the transition effect we'd like to use.

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Locked Door - Complete

At the end, the setup should appear as a branching statement.

The player gets informed if they have a key or not. If they do have a key, we decrease the key count in the inventory, and then we move the player to the next room.

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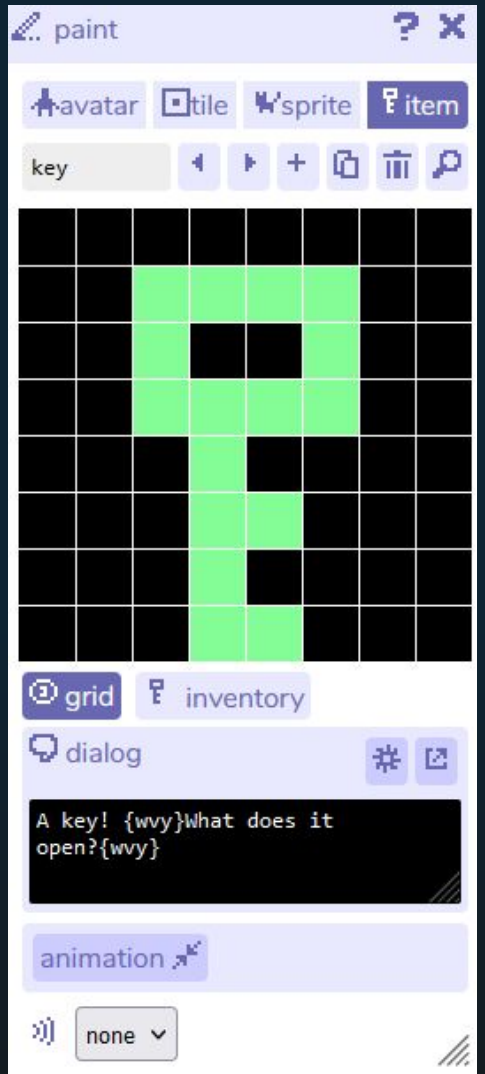
Placing a Key

Getting the keys is a simple job. Every Bitsy game comes loaded with two items: a tea cup and a key.

To place the key on the map, go to the Paint section, choose the Item tab, and select the key.

When you place the key on the map, it will automatically have the code to increase the inventory count when the player touches it, given that it's an item.



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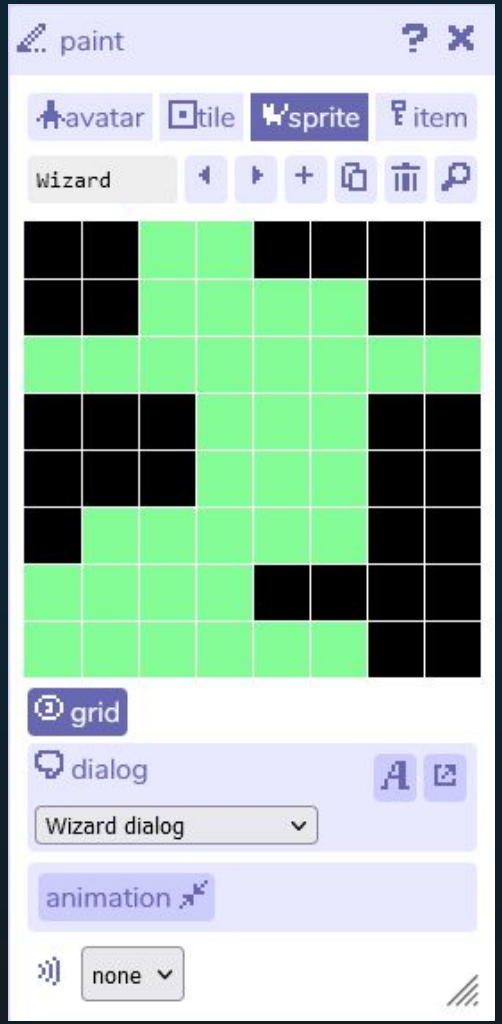
Creating Wizard

We're going to create a wizard. He's going to be built very similarly to our door. But before we delve too deeply into it, let's start by drawing him



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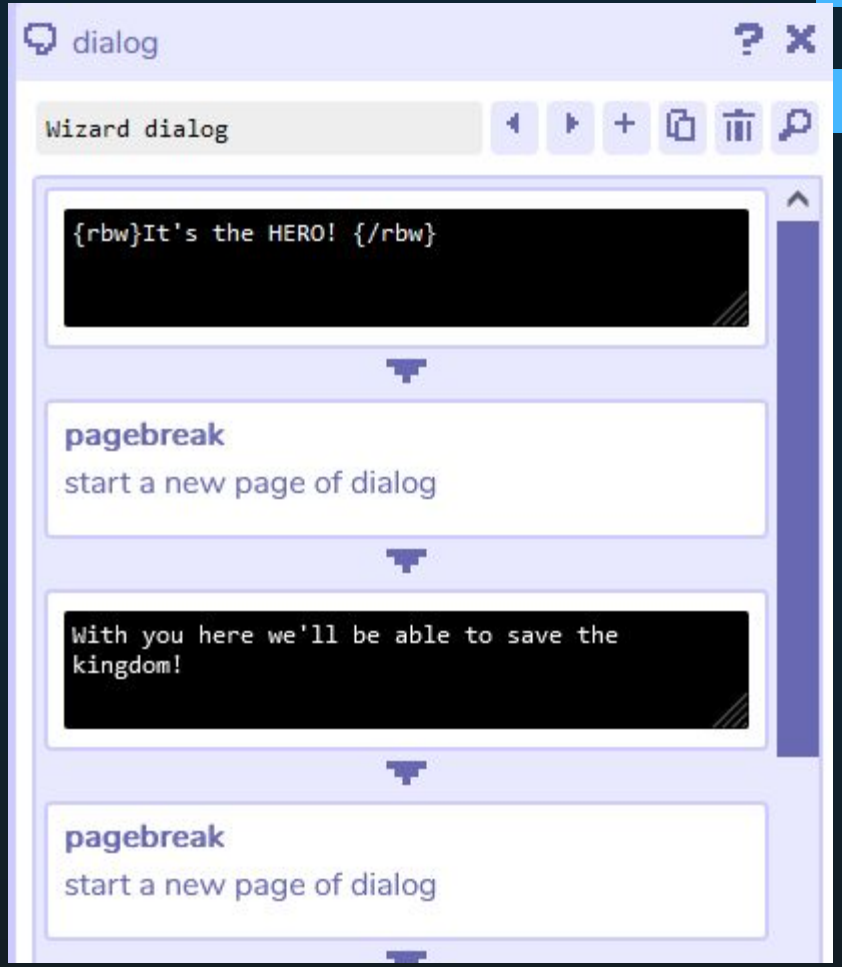
Wizard Dialogue

First, let's start with some dialogue. The wizard will say a few lines, with the first one having a text effect applied to it.

Use page breaks in between the lines.



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Wizard - Ending

Next, let's add an ending to the game. This informs the game that it's over. We do this by going to room actions -> end. 4

There aren't many options to adjust here.

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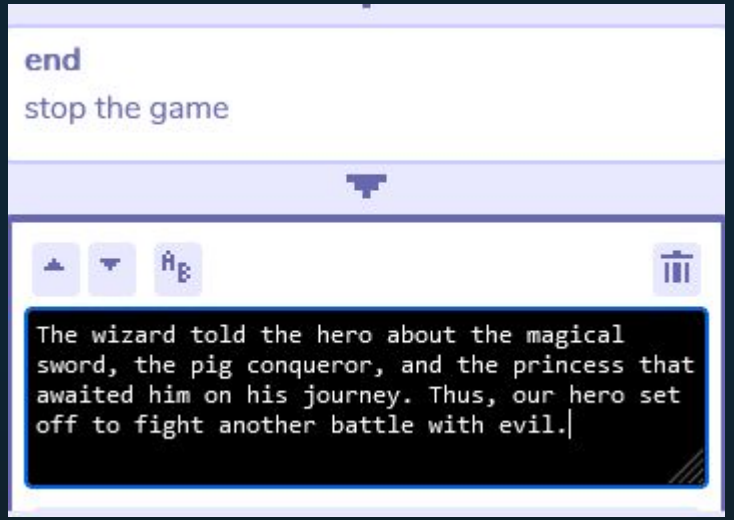
Wizard Credits Dialogue

Lastly, we can place one more text box after the end to provide the player with some closing thoughts about what will happen next in the story.



Sebastian Grygorczuk

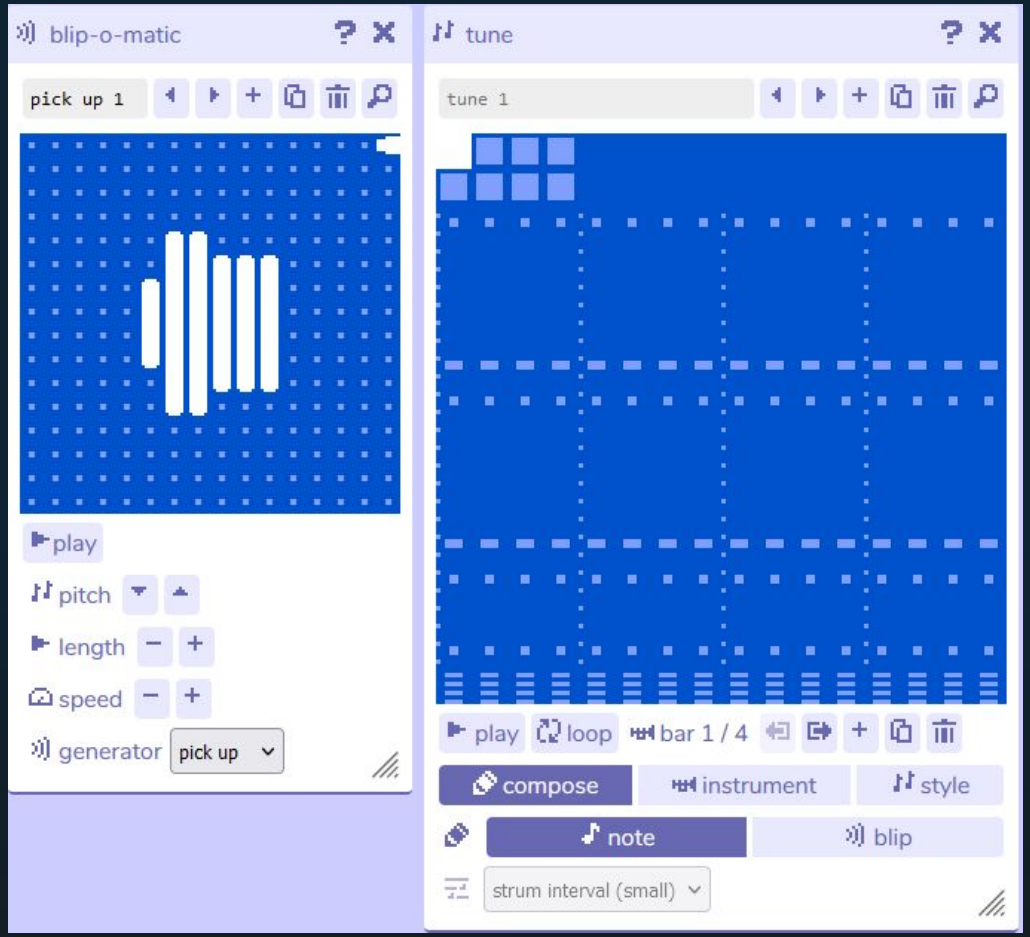
You did it! You made a game!

Sebastian Grygorczuk

Music and SFX

We briefly mentioned it but didn't delve too deeply into it. Bitsy offers the ability to create your own music and sound effects.

While I don't possess the skill to craft something pleasant to the ear, I highly encourage you to explore these systems if you're gifted in that area.



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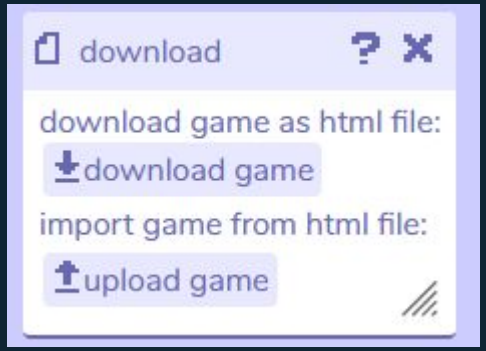
How to Share Your Game

The first step to doing that is simply opening the download window and clicking 'Download Game.' This will create an HTML file. You can double-click it, and the game will be ready to play on your computer.

However, the only way you'll get your friends to play it is by sending them that file.But there's a better way.



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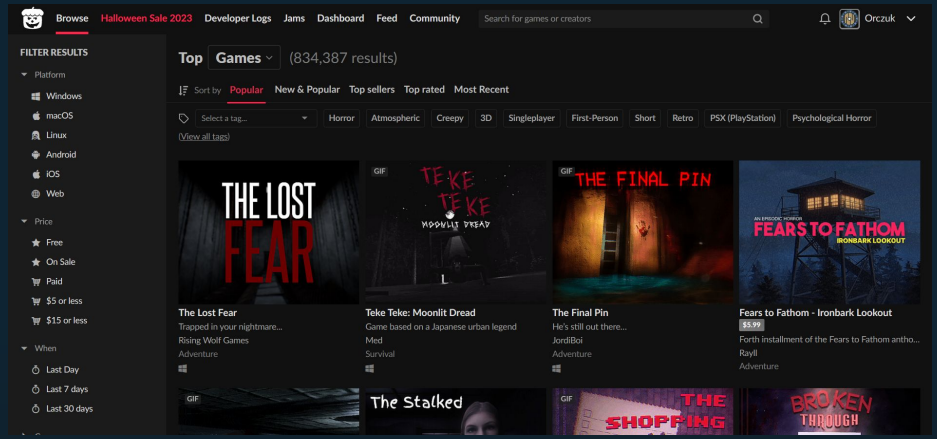
itch.io & Game Jams

itch.io is a website that hosts independent games, assets, and game jams. This is where we'll be hosting our game.



https://itch.io/

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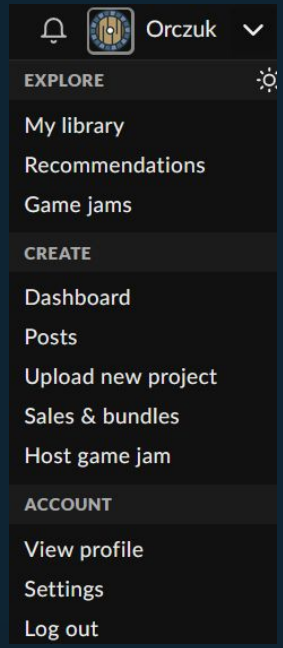
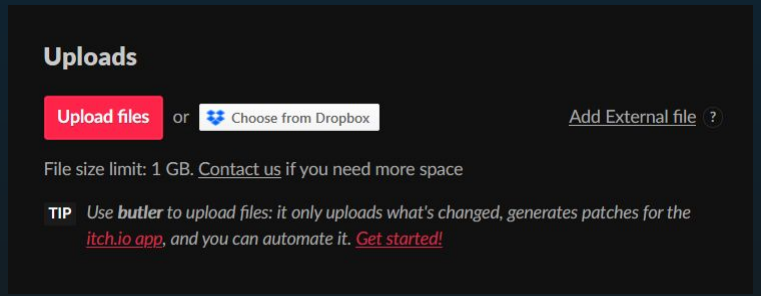
Creating New Game

Once you have an account with Itch.io, you can click the 'Upload New Project' button. This action will take you to the project's settings page. Look for the upload section and proceed to upload your HTML file there.





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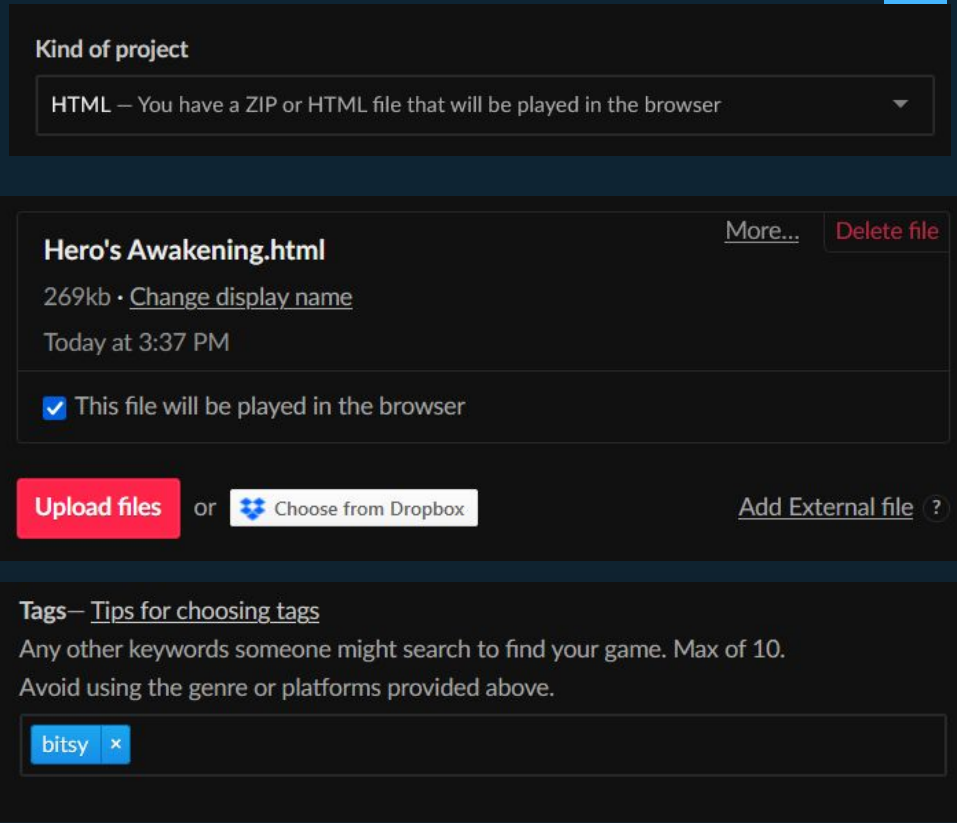
Settings

To ensure that anyone can play the game on the web, scroll up and set the 'Kind of Project' to HTML.

Once you do that, a toggle will appear next to your upload, allowing you to set the project as playable in a browser.

Lastly, navigate to the 'Tags' section and add a 'Bitsy' tag so that your game appears among all other Bitsy games.



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Additional Resources

Bitys Documentation

I highly recommend looking further into Bitsy. I've used these three resources to learn how to use Bitsy.

Dan Cox

Rob Duarte