TUTORIUM

Ein Einblick in die GODOT Game Engine

Lesson 02

Some of the most important Nodes and movement

More nodes!!!

Godot Example: Nodes

A few more nodes on the way:

- Timer
- Kinematic Body 2D
- Rigid Body 2D
- Sprite
- Collision shape
- Animation player 2D (will be covered in detail later)

Export Expert

https://docs.godotengine.org/en/stable/tutorials/scripting/gdscript/gdscript_exports.html

```
export var number = 5
export(int) var number
export(Texture) var character_face
export(PackedScene) var scene_file
export(String, "Thief", "Wizard", "Hexblade") var character_class
Etc…
```

Aufgabe:

- ***Mach eine 'export variable' checkbox (tip: true/false ist eine boolean)***
- ***Füge zwei Buttons ein, die verschiedenen Text ausgeben (Button1 und Button2)***
- ***Wenn die checkbox an ist, lass Button1 erscheinen aber nicht Button zwei, wenn die checkbox aus ist dasselbe umgekehrt***

Accessing children of the tree hierarchy in code:

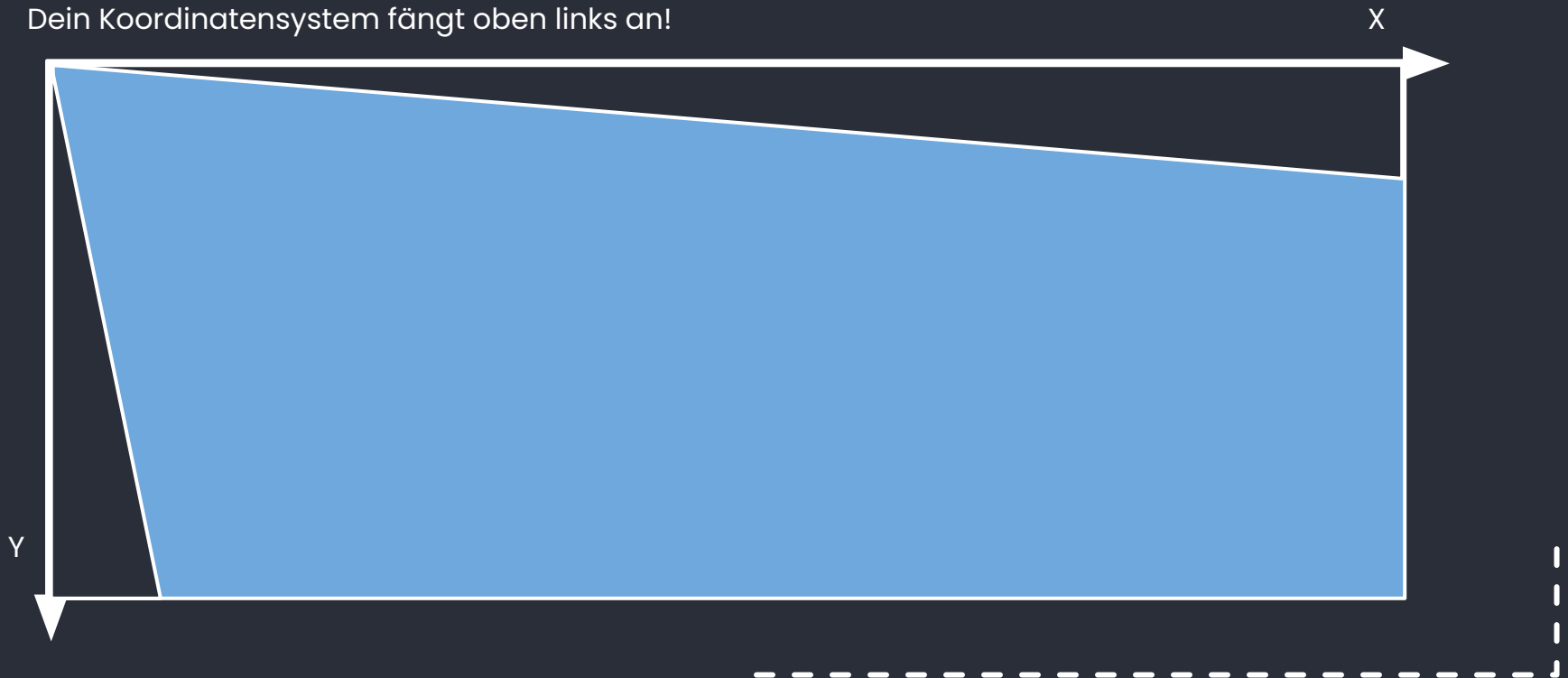
Use $ to access a child node (f.ex. $Button1)

Use . to access specific properties (f.ex. $Button.text)

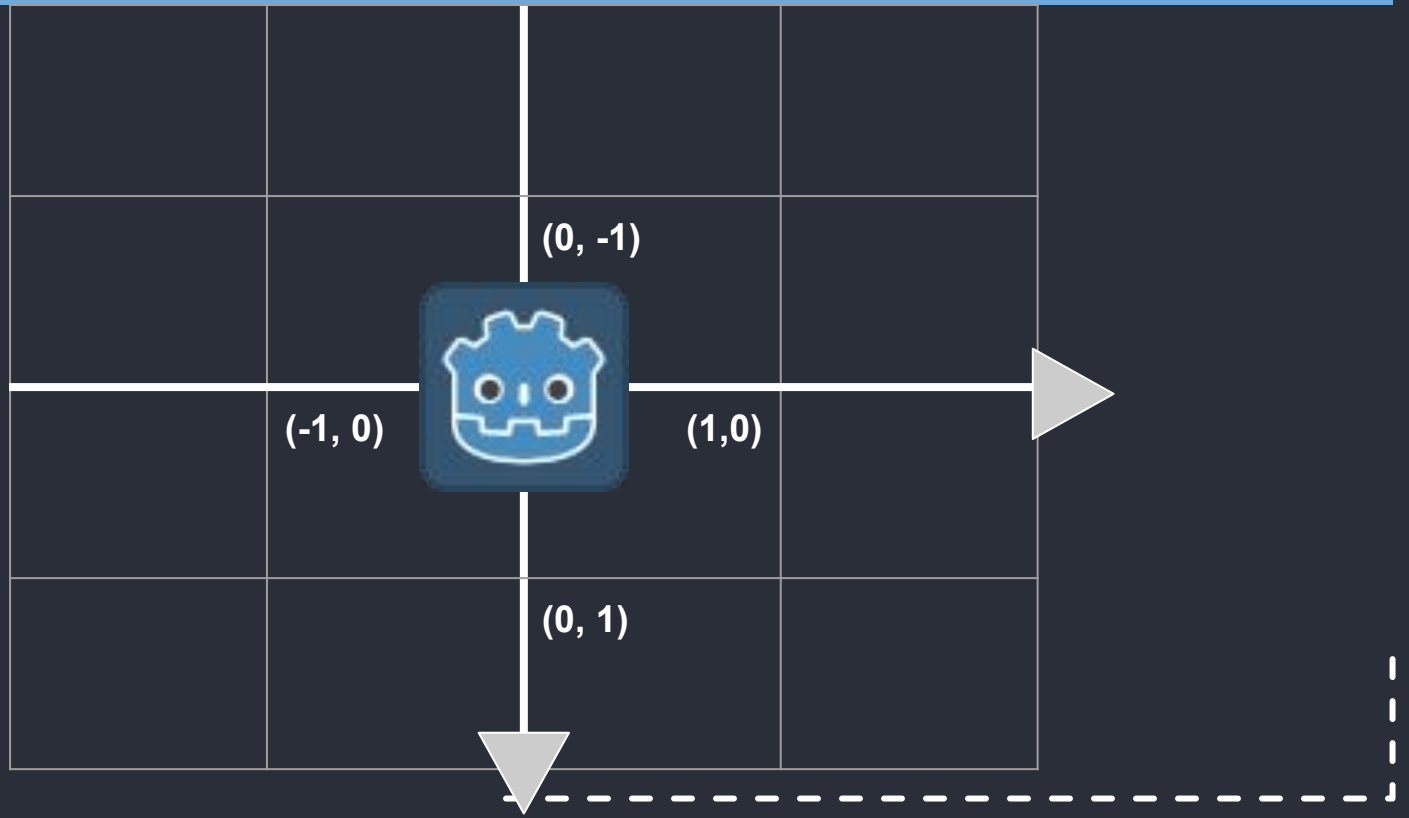
Change visibility of a node:
$MyNode.show()
$MyNode.hide()

Ursprung

Dein Koordinatensystem fängt oben links an!

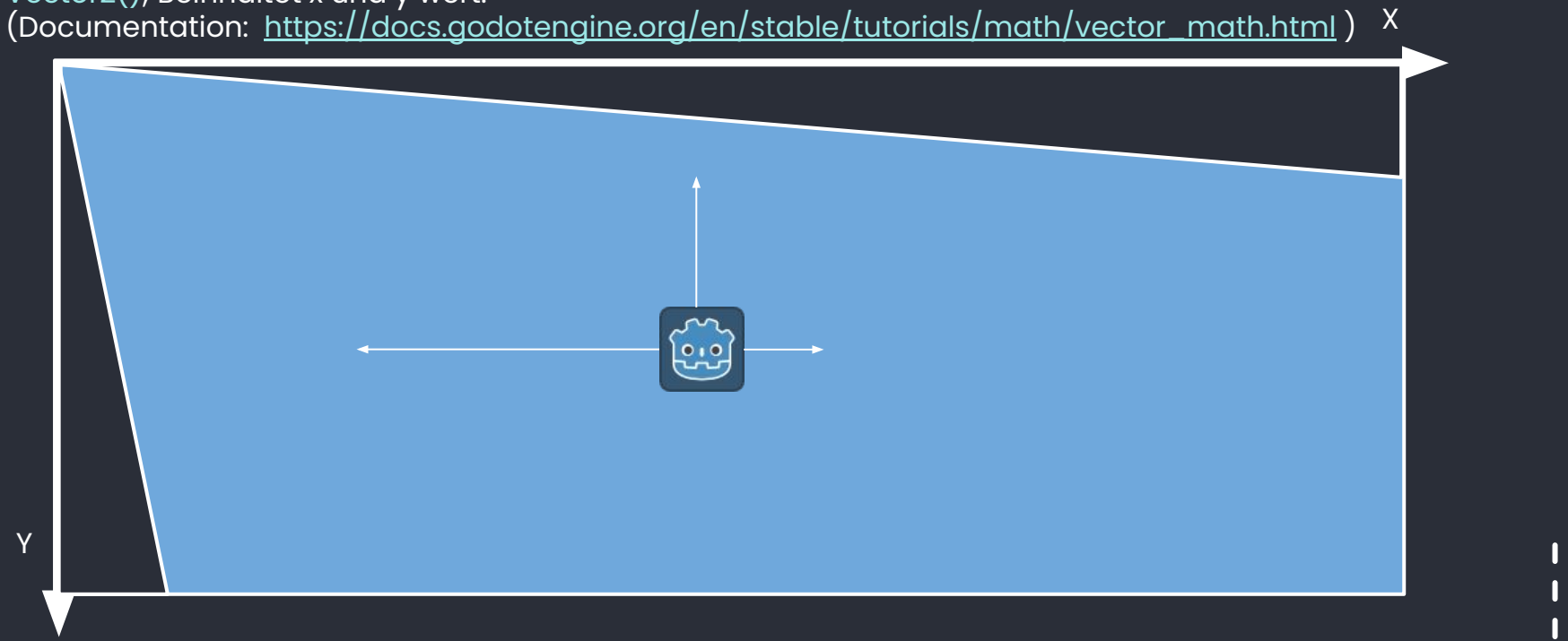


Vektoren



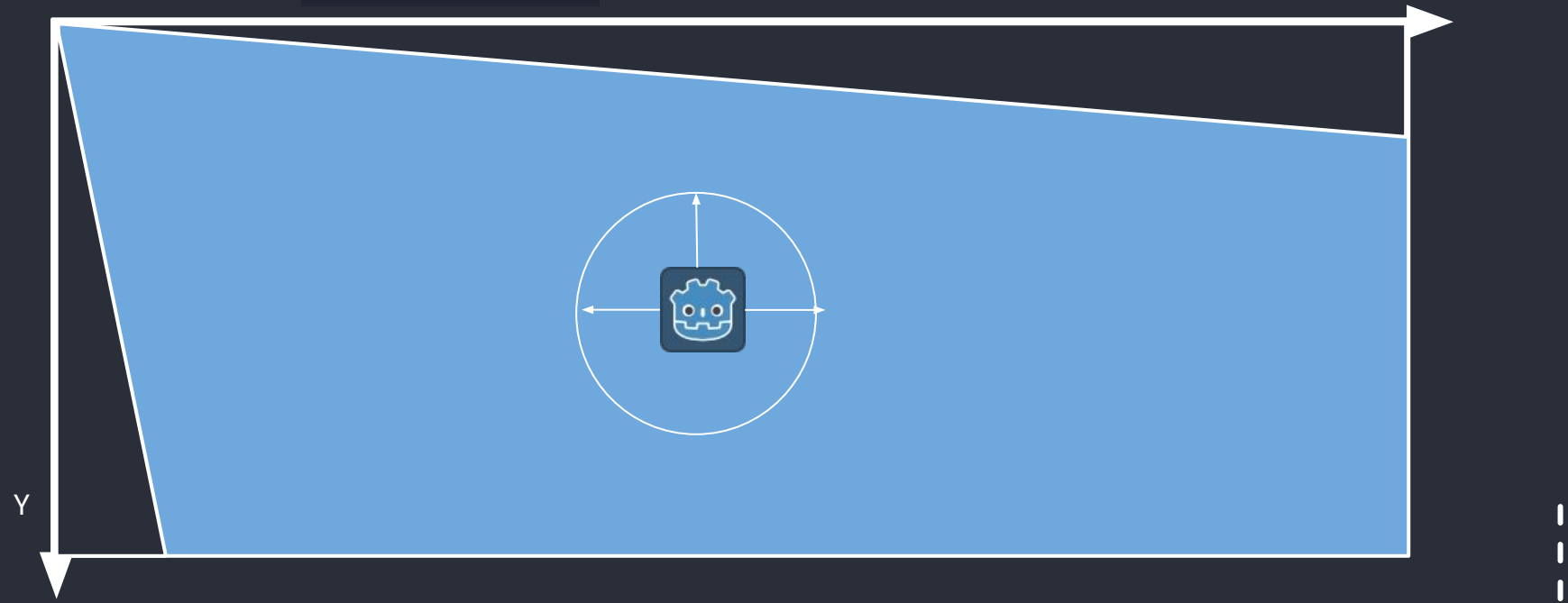
Ursprung

Vector2(); Beinhaltet x und y wert.
(Documentation: https://docs.godotengine.org/en/stable/tutorials/math/vector_math.html)



Ursprung

Normalisieren mit `a = a.normalized()` (Vektor3 und Vektor2)



Player movement

"Just make sure that the moment to moment feels good so that when someone's just sitting there with a controller, the room could be empty but they can move their character around - make *that* feel good."

– Noel Berry
Interview with Game Maker's Toolkit, 31 Jul 2019
https://youtu.be/yorTG9at90g

Let’s talk shrimps

Basic Movement (Explained with Shrimps)

This is a northern prawn.

Despite being named "*Pandalus borealis*", it has little to do with pandas.

However, I found it very useful, simply due to the fact you wouldn't expect a shrimp*. It will be your trusty companion sprite for testing movement.

Find it in the Github under

> Assets

*The author of these slides does not take any responsibility if you were expecting a shrimp.

The author just found over the years that a touch
Of semi-unexpected nonsensicality makes it easier to remember things.

If you indeed DID expect a shrimp: Why???

Exemplary Shrimp:
Make a shrimp that moves from left to right!

Called every frame: func _process(_delta)

Var x = x+1

Example: Shrimp01

- Make a shrimp appear after timeout
(Extra: then change its color after 5 seconds)

- Make a shrimpA move right across the screen.
Make it switch directions on buttonpress

- Make another shrimpB in the path of ShrimpA - which starts moving once the previous shrimp collides with it

- Make shrimpA face the proper direction it moves in

Task 01 - 15min

Exemplary Shrimps

Example: Shrimp02 - 05

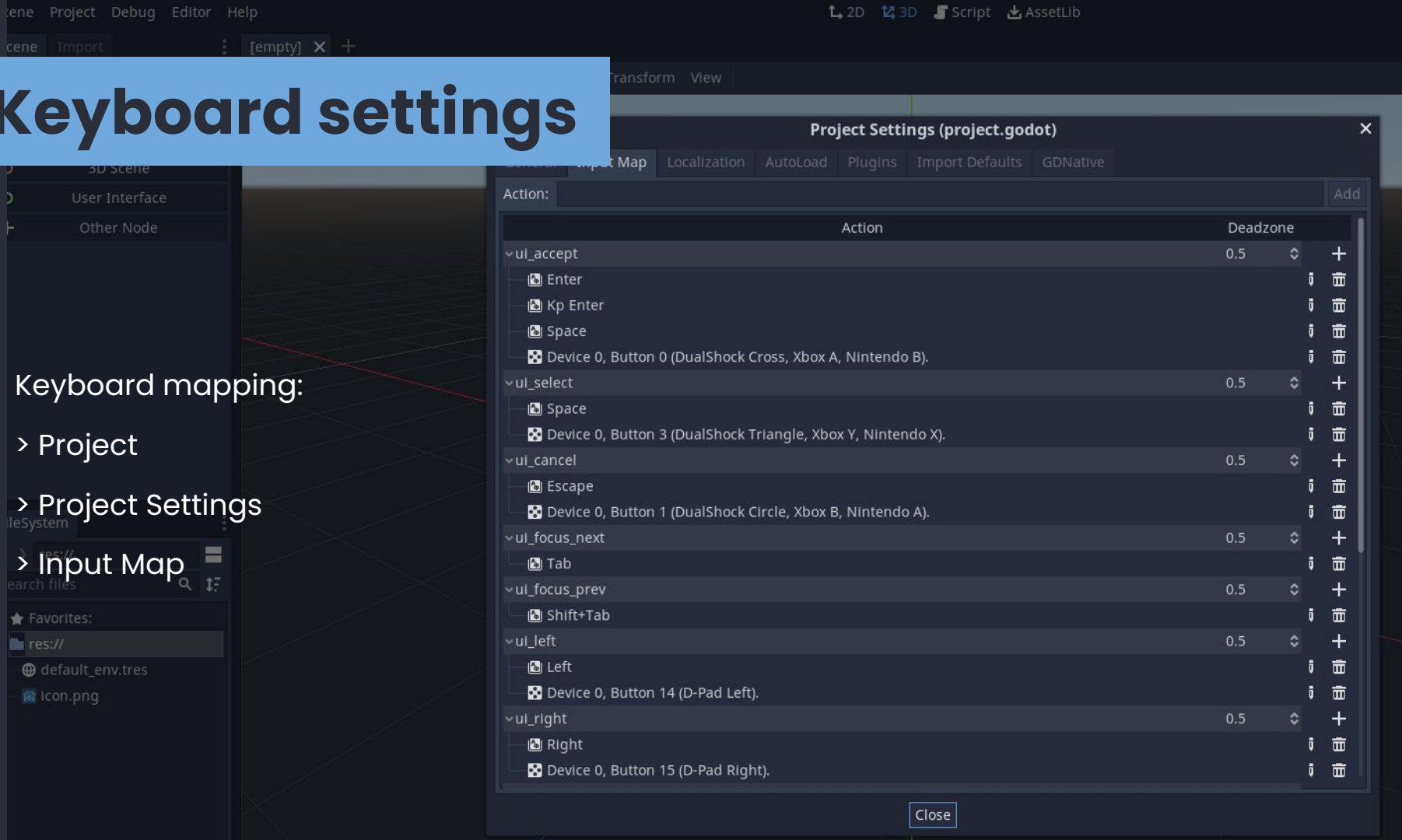
Keyboard settings

Keyboard mapping:

> Project

> Project Settings

> Input Map



Was könnte man an der Steuerung ändern für:

- Ein Auto mit drift
- Eine Rakete
- Einen Schlittschuhläufer
- Einen Gummiball
- Einen Schleim
- Einen Vogel
- Einen Würfel
- Eine scheibe Toast
- ???

Ein Problem, viele Lösungen

Nicht “DER” eine richtige Weg um PlayerControls zu gestalten

Nicht “DIE” richtige Lösung.

“Für jede Lösung ein Problem”

Terrible controls:

https://pr0crastigam3s.itch.io/wgj196-strangerecipe-kettle

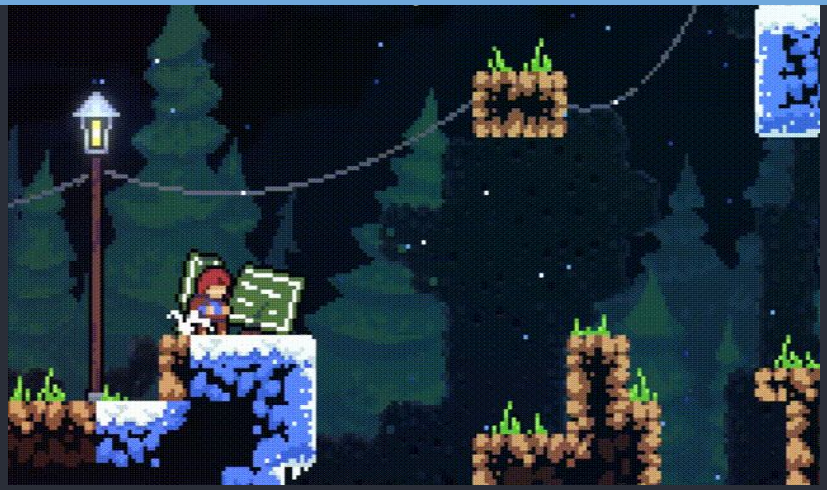
Make a 2D Platformer type jump with your current knowledge!

Praxisteil/Selbstaufgabe

Gut designt ist gut gelogen

Touhou

Die Hitbox des Spielers und der Bullets sind kleiner als der Sprite; Nur der weiße Kreis zählt als getroffen.



Celeste

“Coyote time”
Ein paar Frames nach Verlassen der Plattform kann man noch springen.

Spielspaß im Vordergrund!!!!

Interaktive Essay

https://gmtk.itch.io/platformer-toolkit