

Super-charging content production with Godot addons

Building a pipeline to produce
game content predictably.



@bitbrain

- German living in the UK
- working on a dwarven pixelart RPG! 💎🔨
- maintainer of **pandora** and **beehave** 🐝
- Godot = ❤️⭐

bitbra.in/slides/godotcon2023.pdf

Godot's Design Philosophy

“ [...] new features from the core developers often focus on what will benefit the most users first.“

source: https://docs.godotengine.org/en/stable/getting_started/introduction/godot_design_philosophy.html

Terminology

- **addon** = third-party code and assets (including plugins)
- **plugin** = a Godot editor plugin (requires `plugin.cfg`)
- **extension** = extends Godot's core via C++ through the GDExtension interface (requires `*.gdextension`)
- **module** = compiled with Godot's core

Plugins

Example: `addons/dialogic/plugin.cfg`

```
[plugin]

name="Dialogic"
description="Create dialogs, characters and scenes to display conversations in your Godot games.
https://github.com/coppolaemilio/dialogic"
author="Emi, Jowan Spooner, Exelia, and more!"
version="2.0-Alpha-10 (Godot 4.1.2)"
script="plugin.gd"
```

source: <https://github.com/coppolaemilio/dialogic/blob/main/addons/dialogic/plugin.cfg>

GDExtensions

Example: `addons/fmod/fmod.gdextension`

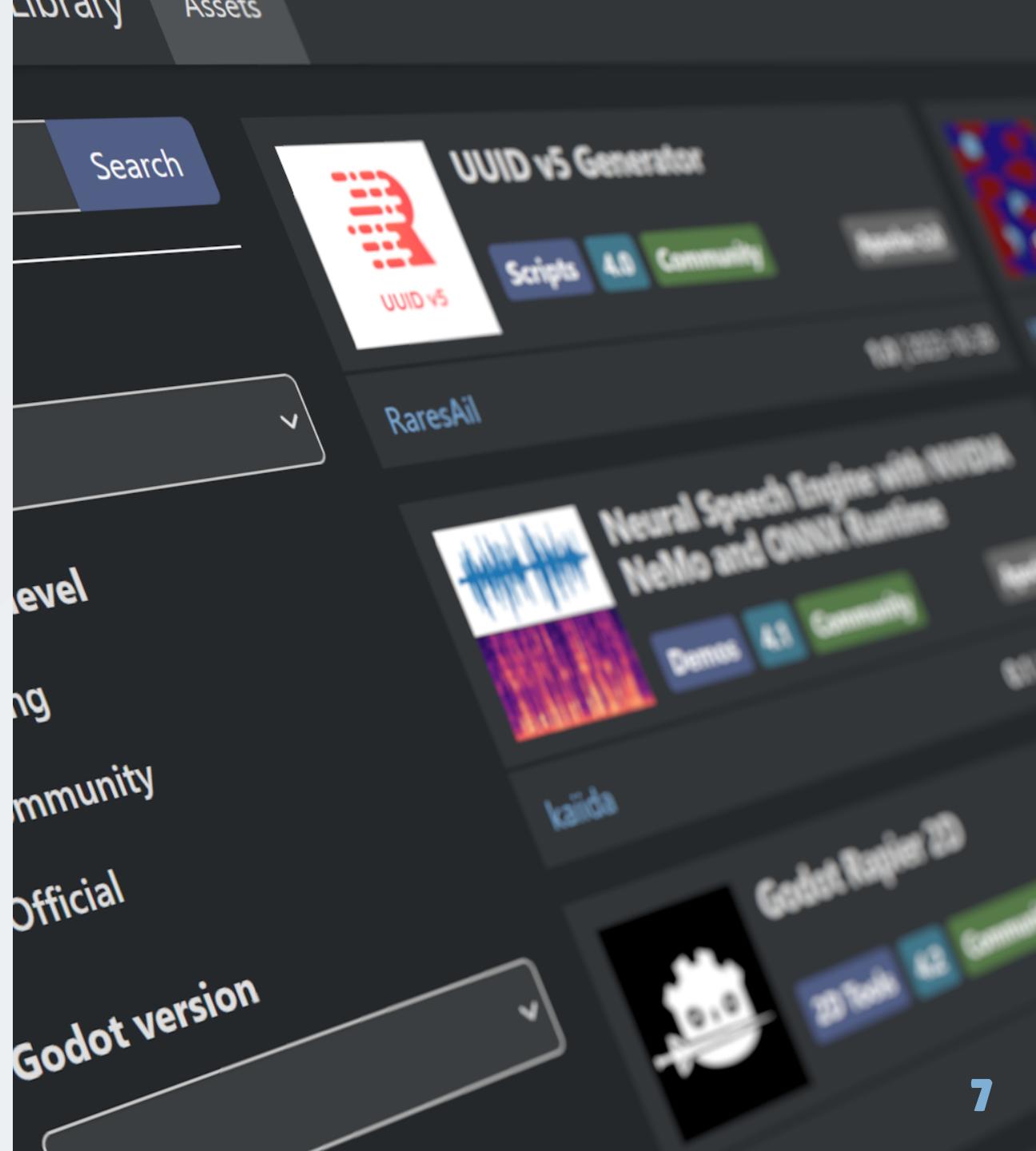
```
[configuration]
entry_symbol = "fmod_library_init"
compatibility_minimum = 4.1

[libraries]
windows.editor.x86_64 = "res://addons/fmod/libs/windows/libGodotFmod.windows.editor.x86_64.dll"
windows.debug.x86_64 = "res://addons/fmod/libs/windows/libGodotFmod.windows.template_debug.x86_64.dll"
windows.release.x86_64 = "res://addons/fmod/libs/windows/libGodotFmod.windows.template_release.x86_64.dll"
```

source: <https://github.com/utopia-rise/fmod-gdextension/blob/master/demo/addons/fmod/fmod.gdextension>

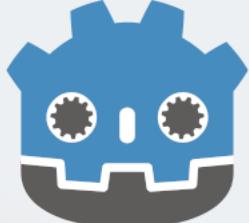
Addon Ecosystem

Exploring the categories of Godot addons.

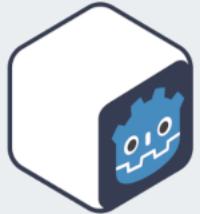


Dialogic

fmod® GDExtension



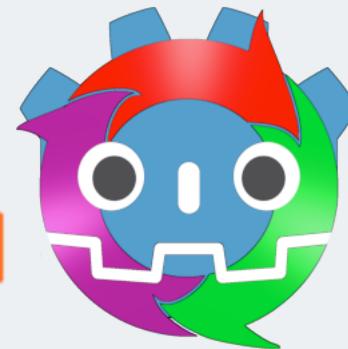
GDShell



Pandora



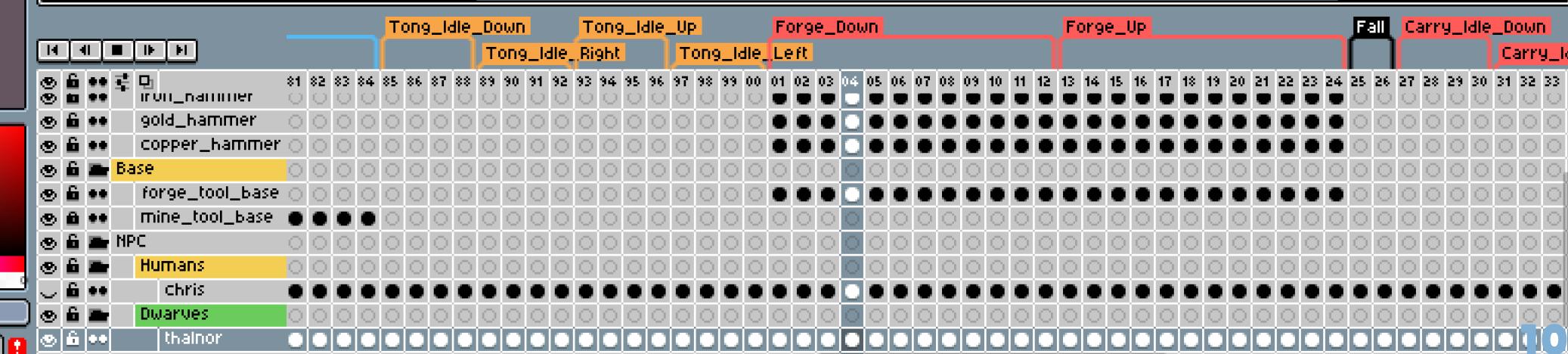
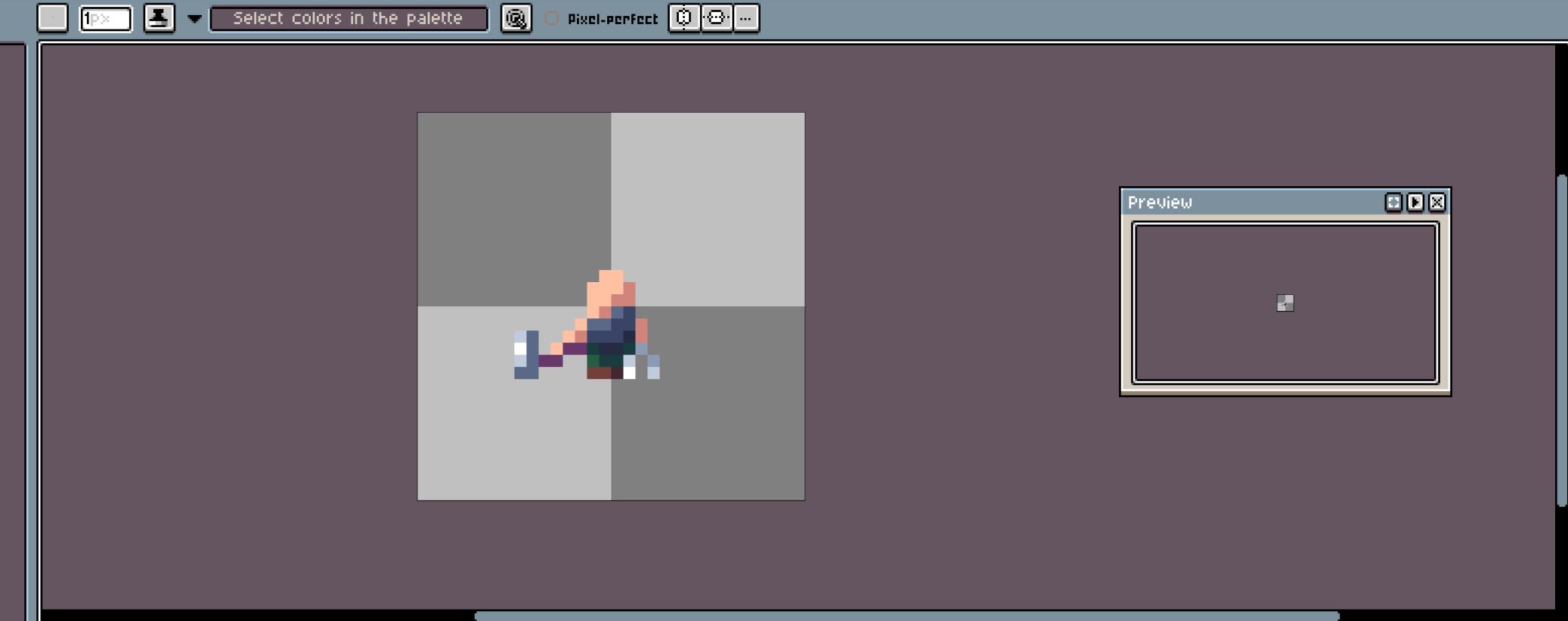
Beehave



Workflow addons

Accelerate and
automate common
processes.



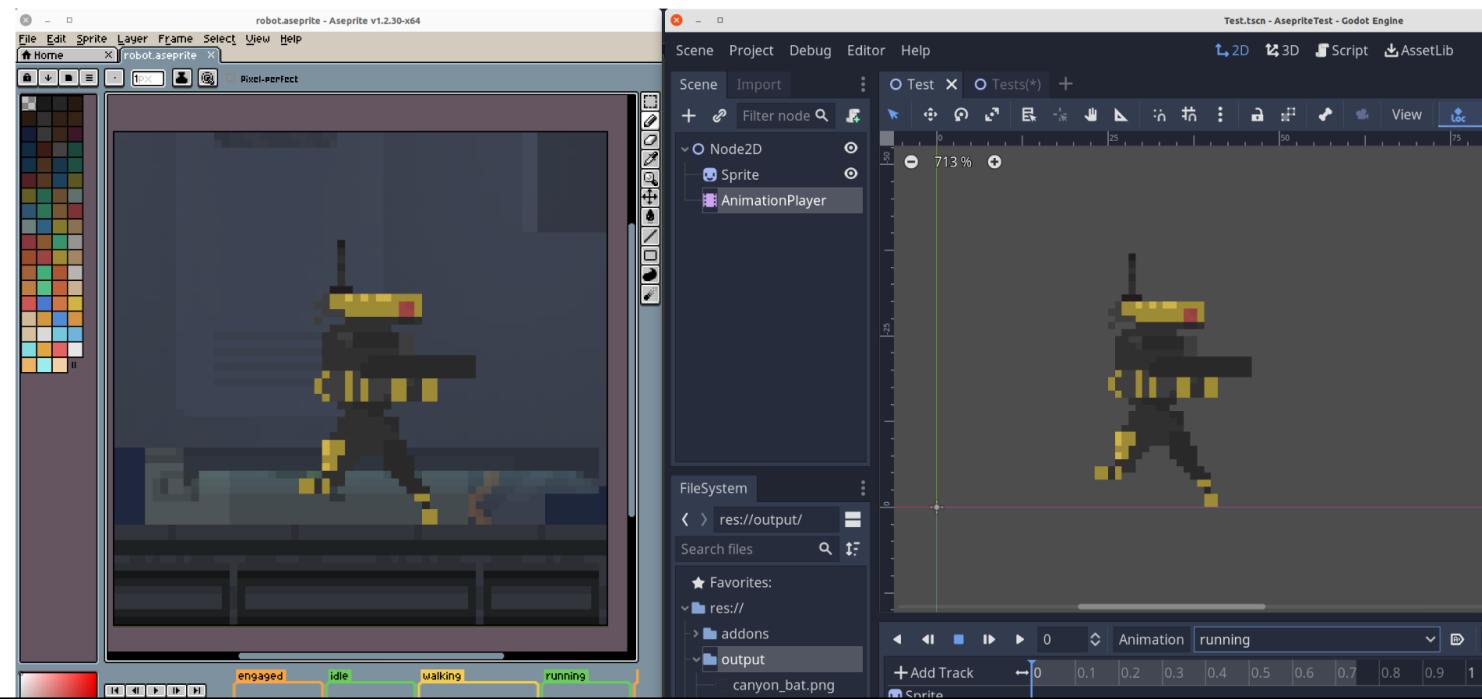


Godot Aseprite Wizard (Godot 4) [🔗](#)



Godot plugin to help import Aseprite animations to AnimationPlayers, AnimatedSprites 2D/3D and SpriteFrames.

This branch supports Godot 4. For Godot 3 docs and code check the [godot_3](#) branch. You can find more details about the differences between Godot 3 and Godot 4 on issue [#70](#).



Contributors 10

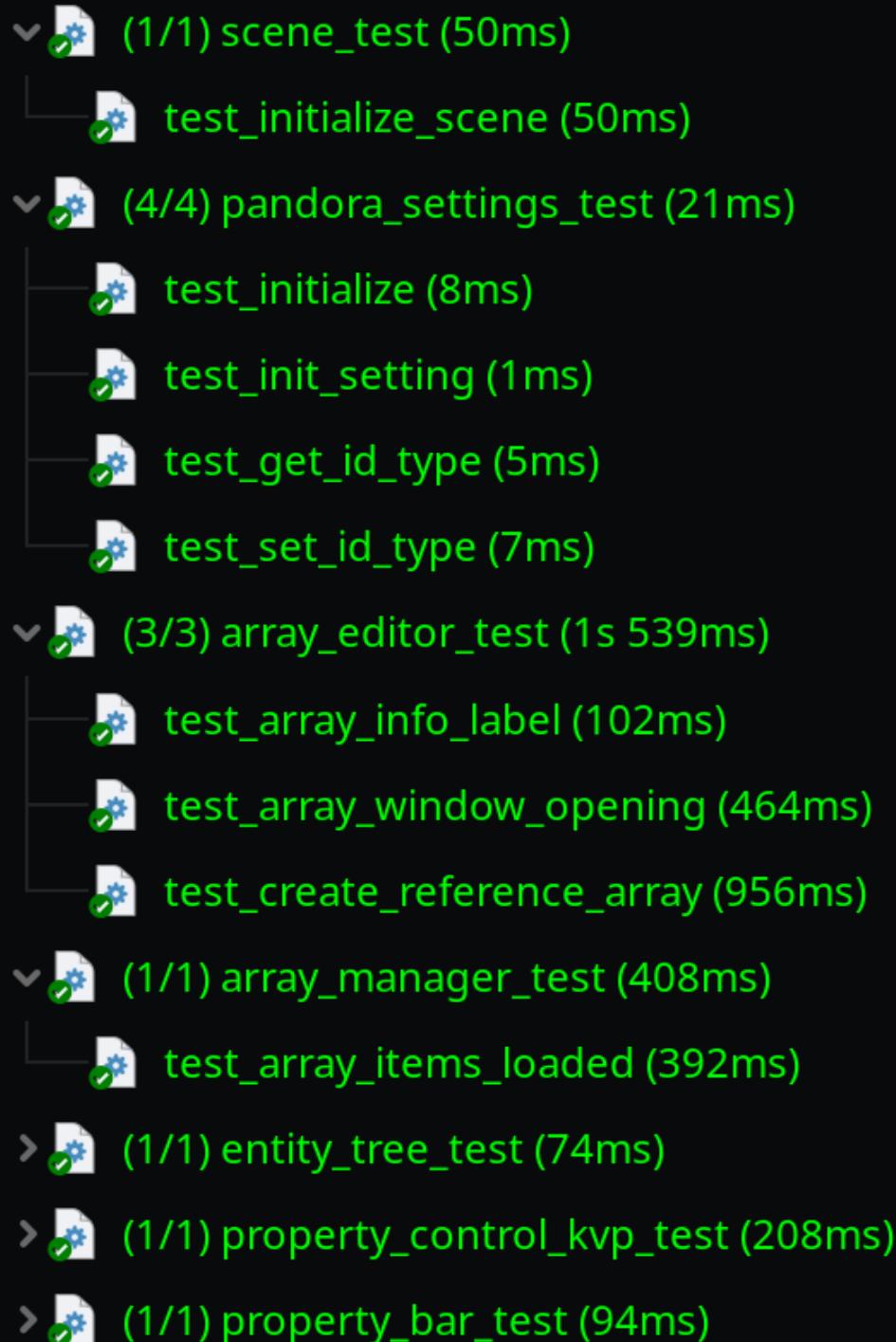


Languages

- GDScript 100.0%

Unit Testing

- bitwes/Gut
- MikeSchulze/gdUnit4
- Spycemyster/GDMUT
- watplugin/wat



Example unit test with `gdUnit4` :

```
# GdUnit generated TestSuite
class_name PropertyTest extends GdUnitTestSuite

# TestSuite generated from
const __source = "res://addons/pandora/model/property.gd"

func test_string_property() -> void:
    var property = PandoraProperty.new("123", "property", "string")
    property.set_default_value("Hello World")
    var new_property = PandoraProperty.new("", "", "")
    new_property.load_data(property.save_data())
    assert_that(new_property).is_equal(property)
```

Summary

Jobs

- ✓ CI on Godot 4.0.4 ^
 - ✓ Unit Tests
- ✓ CI on Godot 4.1.1 ^
 - ✓ Unit Tests
- ✓ Final Results

Run details

- ⌚ Usage
- 📄 Workflow file

CI on Godot 4.0.4 / Unit Tests

succeeded last week in 35s

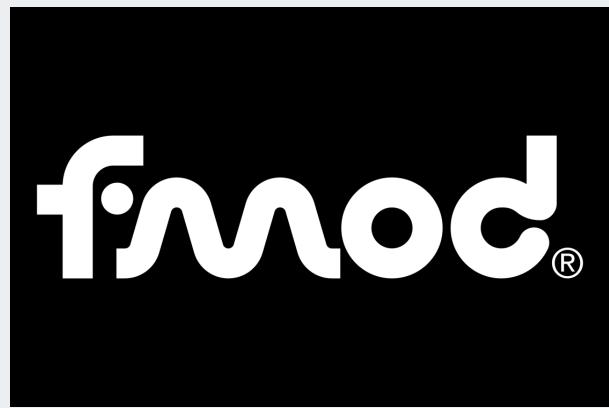
Search logs

- > ✓ Set up job 0s
- > ✓ 📁 Checkout Pandora Repository 2s
- > ✓ 🤖 Install Godot 4.0.4 3s
- > ✓ 💡 Update Project 12s
- > ✓ 💡 Run Unit Tests 11s
- > ✓ Post 🤖 Install Godot 4.0.4 4s
- > ✓ Post 📁 Checkout Pandora Repository 0s
- > ✓ Complete job 0s



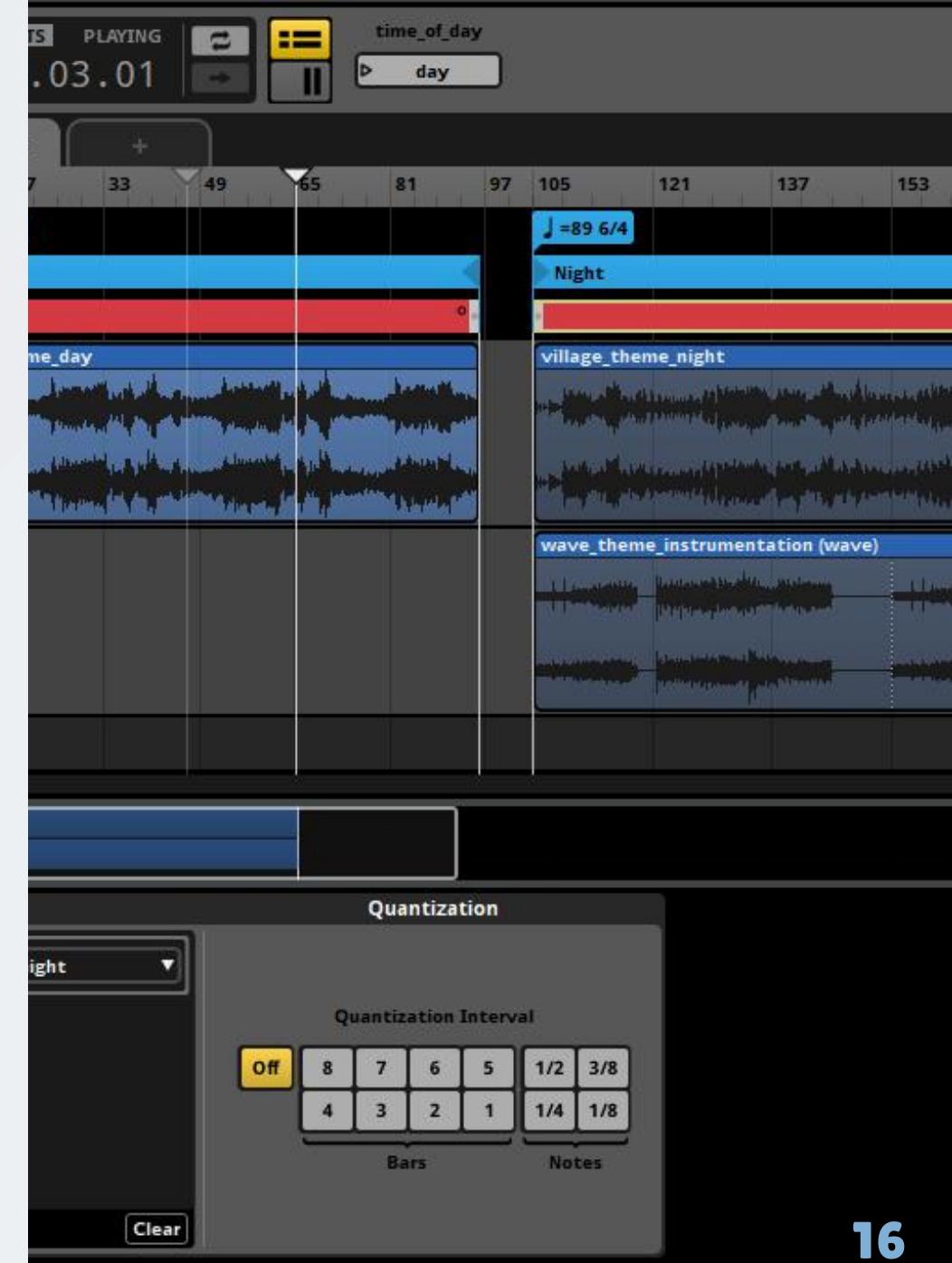
Integrations

Connect any tool directly
into Godot Engine.



utopia-rise/fmod-gdextension

alessandrofama/fmod-for-godot





Godot extension that integrates the Jolt physics engine.

[godot-jolt/godot-jolt](https://github.com/godot-jolt/godot-jolt)

- works with `CharacterBody3D` and other familiar Godot nodes out of the box (drop-in replacement)

Other types of addons

- editor extensions
- templates
- shaders
- custom nodes
- themes

Addon discovery

- Official: <https://godotengine.org/asset-library>
- Useful: <https://github.com/godotengine/awesome-godot>
- Goldmine: <https://github.com/search?q=godot%2Baddon>
- Supportive: <https://itch.io/search?q=godot%2Baddon>
- Bonus: <https://godotshaders.com/>

Is there an addon for that?

S	M	L	XL
fix translation	add new language	add voicelines	dialogue system
change color of sword	update sword animation	add new weapon type	itemization system
fix sound timing	add new sound effect	dynamic sound playback	integrating FMOD
fix level collision	rework existing level	add new level	procedural level generation



There is no silver bullet

- addons may become outdated
- addons may have bugs
- addons can have different design goals
- addons can break your game

“ You need to be twice as smart as the person who wrote the code in order to debug it.“

– Kernighan's Law

The DIY approach

- no external dependencies
- consistent standard & practices across all code
- any bug can be backtraced back to you (or Godot 😊)
- no docs to learn required

BUT

You need to know how to build it.

When to probably use addons

- You do not want to build it yourself
- You have no time to build it yourself
- You want to build games, not technical systems
- You like to explore how others have solved a problem
- You want to get a headstart (e.g. gamejams)

Properties of a good addon

A **good** addon should be:

- useful
- well-documented
- well-presented
- tested
- **maintained or archived**
- compatible

README.md

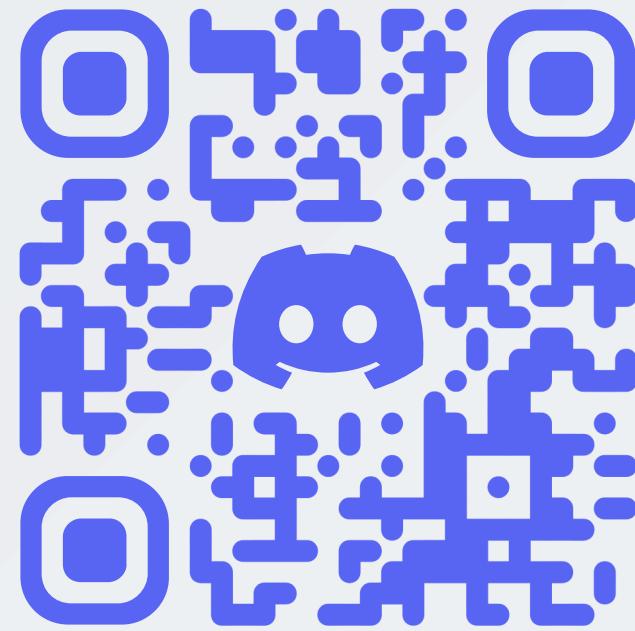
1. Recognizable Addon Logo
2. gifs and images showing what your addon does
3. how to install
4. compatibility matrix
5. how to contribute guide
6. wiki (e.g. via `docsify`)

Interesting Proposals

- #8114 Better discoverability of curated add-ons into editor
- #7925 add-on manifests
- #1205 New Add-On (sub-project) system
- #831 Add support for global plugins/universal addons
- #3367 Add ExtensionDevelopmentPlugin for in-editor native extension development

source: github.com/godotengine/godot-proposals

Questions?



youtube.com/@bitbraindev