

Software list

Here's a list of software we will be using for BUGJam.

Whenever possible, we will be using Free and Open Source Software (FOSS).

We can discuss using other software as needed, but in general we're going to avoid software from Adobe, Autodesk, or any other company that detracts from the FOSS ecosystem.

Operating Systems:

We're building our software stack to be cross-platform.

You can use any of the major operating systems to participate in BUGJam:

- **Windows**
- **Mac**
- **Linux** - Do it! Come join us! FOSS is boss!

Game Engine:

Required:

- [Godot 4.6.1](#) - The core of the game!

Code:

Godot supports multiple programming language extensions, however, we will be sticking with the native GDScript since it is well supported, easy to use, and easier to deploy to the web and other platforms. Python will be used for our tools and pipelines.

We will be running all code through an automatic code formatter. See more in [Coding Standards](#)

Required:

- [GDScript](#) + [GDScript Formatter](#)
- [Python 3.11](#) + [Ruff](#)

Optional:

- **Rust** - Not sure what we'll need it for, but Scott would be upset if I didn't list it here.

Banned:

- **C#** - Even though I love it, and one of my favorite game developers once said it was "[the best language ever invented](#)". The reality is the coding environment is made much more difficult to set up and deploy. C# also belongs to Microsoft and they are already: [enshitifying it](#)
 - NOTE: If we find third-party tools that we absolutely need C# for, then we can discuss adding that to the project. But our team should not be coding in C#.

Installing GDScript Formatter

- Open the project
- Open a script
- *In the code editor*, select **Format -> Install or Update Formatter**
- Reload the project with **Project -> Reload Current Project**
- Turn on auto formatting...
 - Go to **Editor Settings**
 - Enable "**Advanced Settings**" in the top right
 - Scroll to the bottom to find "**Gdquest GDScript Formatter**"
 - Enable "**Format on save**"

Source Control:

Required:

- [Git](#) - Our version control for code, art, and everything!- YOU WILL LEARN TO USE IT!!!
- [Git LFS](#) - Large file storage for art assets

Recommended:

- [SourceGit](#) - Still a little rough around the edges as it is in rapid development, but it's one of the best FOSS options.
 - Note: Doesn't have it's own merge tool.

Optional:

- [Sublime Merge](#) - Not FOSS, but easy to learn and use.

- Any other full-featured [Git GUI](#) you're comfortable with. - If you're new to Git you should use one of the two listed above.

Banned:

- **Perforce** - It's not FOSS, it's expensive as hell, and it can't be used interchangeably with Git.
- **GitHub Desktop** - It's too minimal for a Git GUI, and it tries everything it can to rope you into Microsoft's ecosystem and compromises what we're trying to do here.

Integrated Development Environment (IDE):

Required:

- Godot's built-in code editor. (**YOU MUST USE THE GDSCRIPT FORMATTER!!!**)

Optional:

- **VSCode** - (It's from Microsoft and gets worse all the time, but it's still one of the best options right now).
 - Extensions required:
 - [godot-tools](#) to actually connect to Godot
 - [godot-format](#) to use GDScript-Formatter
- **Zed** - Still an up-and-coming tool, but seems to be a great option, seems to be going for what VSCode once was.
 - Extension required:
 - [GDScript](#) (search "GDScript" in the extensions page)
 - [Follow instructions here to use GDScript-Formatter](#)
- **Sublime Text** - A great editor, but it's not FOSS.
- **Neovim** - A super customizable editor, but not easy to pick up.

Art Tools:

Our bread and butter for doing what we love in the Blender User Groups.

Required:

- [Blender 5.0.1](#) - Most of our art process will use Blender, but we may use external tools for materials and textures.

Optional:

- [Material Maker](#) - A Godot based material creation suite similar to Substance Designer.
- [ArmorPaint](#) - An upcoming alternative to Substance Painter.
- [Krita](#) - FOSS 2D art application.
- [Gimp](#) - Typically regarded as not as good as Photoshop, It is a FOSS option which had some major improvements recently.
- [Photopea](#) - Free browser-based Photoshop alternative.
- [Affinity Studio](#) - Not FOSS, free (for now) with a Canva account. Excellent software, could be enshitified any day now. :(
 - I would encourage you to try other options, but it's on this list because it really is that good, and Gimp just... isn't.
- [Inkscape](#) - FOSS Vector art, great for making logos, UI Elements, or SVG icons.
- [Graphite](#) - up-and-coming node based vector / raster art tool. Very exciting but the desktop app and raster support haven't landed yet.

Banned:

- Anything that uses AI to generate the "art" - NO SLOP.
- Anything that requires paying for a subscription.
- Anything that won't let you save the files locally and requires cloud-storage for the files.
- Anything from Maxon - That includes ZBrush, sorry.
- Anything from Adobe - That includes Substance Designer / Painter, sorry.
- Anything from Autodesk - not sorry.

Everything from here onward is handled for you, you don't have to read it. But, you can learn about what's running BUGJam behind the scenes here.

Server Software:

If you're curious of how the self-hosted server tools are being deployed, here are some links.

- [TrueNAS: Community Edition](#) - Operating system for running the server, storage, and apps.
- [Porkbun](#) - DNS records for registering the bugjam.dev website.
- [RackNerd](#) - Virtual Private Server (VPS) for hosting Pangolin offsite for secure connections.

- [Pangolin](#) (VPS side) / [Newt](#) (TrueNAS app)- Secure tunneling into the server.

Self-Hosted Project Management:

The project will be handled by a series of tools running on a self-hosted server.

We are self-hosting instances of these applications, but if you want to learn more about their official projects, here are the links:

- [Heimdall](#) - Home page for the server: <https://bugjam.dev/>
- [Forgejo](#) - CI / CD hosting service for the Git repositories: <https://git.bugjam.dev/>
- [BookStack](#) - Documentation for the project: <https://docs.bugjam.dev/>
- [Vikunja](#) - Project and task management: <https://tasks.bugjam.dev/>

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