Game Making Tools

We recommend approaching genre-specific game engine first if it fits your game vision. If you plan on creating a first-person walking simulator, or already know programming, general purpose 3D game engines are recommended as well. Otherwise, we recommend checking the general purpose 2D game engines, as they tend to be more beginner friendly.

Note: if there is no price listed next to a tool, then there's a free version. Also, if there is a Steam option, we recommend downloading/purchasing from the popular client, as it keeps the program up-to-date.

Text Adventure
- Twine - twinery.org (open-source!)
    - Tutorials - youtu.be/Wk6owRe6xho

2D Exploration
- Bitsy - ledoux.itch.io/bitsy
    - Tutorials - clairemorleyart.com/a-bitsy-tutorial

Visual Novel
- Ren'py - renpy.org (open-source!)
    - Tutorials - youtu.be/G9o8gHrVCik

Grid-Based Puzzle
- Puzzlescript - puzzlescript.net
    - Tutorials - puzzlescript.net/Documentation/rules101.html

Point & Click Adventure
- Adventure Game Studio - adventuregamestudio.co.uk (open-source!)
    - Tutorials - youtu.be/1Ml_DR76Cl4

Old-school, Turn-based JRPG
- RPG Maker MV ($80) - rpgmakerweb.com/products/programs (also on Steam!)
    - Tutorials - bit.ly/2xSJVTH

General Purpose, 2D
- Construct 2 & 3 - "scirra.com/construct2" & "editor.construct.net" respectively
    - Tutorials - "bit.ly/2R1NfEQ" & "bit.ly/2N4i0pt" respectively
- GameMaker Studio 2 - yoyogames.com/gamemaker
    - Tutorials - yoyogames.com/learn
- Scratch - scratch.mit.edu (open-source!)
    - Tutorials - scratch.mit.edu/tips

General Purpose, 3D
- Unity - unity3d.com
    - Tutorials - youtu.be/dawXz9bbpYg
- Godot 3 - godotengine.org (open-source, and also on Steam!)
    - Tutorials - youtu.be/TFZDeYs_gEl
- Unreal 4 - unrealengine.com
    - Tutorials - academy.unrealengine.com

Royalty-free Resources

Most game engines specialize in importing and connecting multiple media files to a cohesive whole; they're not very good at making art assets themselves. The list below provides repositories of free assets to add into your game, thus saving you a ton of time!

Note: any notes indicating registration is necessary means the site requires the user to create an account to access its resources.

- OpenGameArt.org
    - 2D, 3D art, sound effects, music
- Kenney Assets - kenney.nl
    - 2D, 3D art, sound effects
- Game-icons.net - game-icons.net
    - 2D user interface art
- Wikimedia Commons - commons.wikimedia.org
    - 2D, 3D art, sound effects, music
- Pixabay - pixabay.com (registration necessary)
    - 2D art
- MorgueFile - morguefile.com
    - 2D art
- Google Poly - poly.google.com
    - Low-poly 3D models
- Mixamo - mixamo.com (registration necessary)
    - 3D humanoid animations
- Autodesk Character Generator - charactergenerator.autodesk.com (registration necessary)
    - 3D humanoid character generator
- Jukedeck - jukedeck.com (registration necessary)
    - An AI that generates music
- Freesound - freesound.org (registration necessary)
    - Sound effects, music
- Sample Focus - samplefocus.com (registration necessary)
    - Sound effects
- Zapsplat - zapsplat.com (registration necessary)
    - Sound effects
- Youtube Audio Library - youtube.com/audiolibrary/music
    - Sound effects, music
- Unity Standard Assets - bit.ly/2QdKnU1 (registration necessary)
    - Unity-specific scripts, including first-person controller

Music

- Incompetech - incompetech.com
- Bensound - bensound.com
- NoSoapRadio.us - facebook.com/freegamemusic
- Purple Planet Music - purple-planet.com
- Dig CC Mixter - dig.ccmixter.org

Digital Art & Media Tools

Sometimes, the royalty-free resources above is simply not enough for your game. You need to make your custom graphics and audio!

Note: if there is no price listed next to a tool, then there's a free version.

2D Art
- Krita - krita.org/en/homepage (open-source!)
  - Tutorials - youtu.be/RpSnxwY1be0
- Paint.net - getpaint.net
  - Tutorials - youtu.be/fsL935G0VMM
- GIMP - gimp.org (open-source!)
  - Tutorials - gimp.org/tutorials

2D Pixel Art
- Piskel - piskelapp.com (open-source!)
  - Tutorials - youtu.be/VMkvVmAQBd0
- Aseprite ($15) - aseprite.org
  - Tutorials - youtu.be/Md6W79jtLJM

3D Art
- Blender - blender.org (open-source, and also on Steam!)
  - Tutorials - youtu.be/JYj6e-72RDs and youtu.be/eEiVDArcU7U
- 3DF Zephyr Free - 3dflow.net/3df-zephyr-free
  - Zephyr is a photogrammetry program that generates a 3D model when fed with many photos of the same object taken from different angles.

3D Voxel Art
- MagicaVoxel - ephtracy.github.io (open-source!)
  - Tutorials - youtu.be/Wqq-DDqQK7Q
- Goxel - guillaumechereau.github.io/goxel (open-source!)

Sound Effects Generator
- ChipTone - sfbgames.com/chiptone
- LabChirp - labbed.net/software/labchirp
- BFXR - bfxr.net (open-source!)
- Audacity - audacityteam.org (open-source, for recording and editing audio files)
  - Tutorials - youtu.be/xl-WDjWrTtk

Music Composer (aka Digital Audio Workstation, or DAW)
- Beepbox - beepbox.co
  - Tutorials - youtu.be/JVvgkRk6Tf4?t=34m50s
- GarageBand - apple.com/mac/garageband (Mac and iOS, only)
  - Tutorials - youtu.be/hQ4ylijK4NQ
- Acid Pro Express - acid-xpress.en.softonic.com
- Tracktion T7 - tracktion.com/products/t7-daw
  - Tutorials - tracktion.com/training/videos and youtu.be/H5s9FT6Gg7E
- Reaper ($60) - reaper.fm
  - Tutorials - reaper.fm/videos.php
- Fl Studio ($100) - image-line.com/flstudio
  - Tutorials - youtu.be/RQDvnfleST0

Project Management Tools

Tools to keep your plans and ideas organized.
Note: if there is no price listed next to a tool, then there's a free version.

Documentation

- Microsoft Word ($100/year) - products.office.com
- Google Docs - docs.google.com
- LibreOffice's Writer - libreoffice.org
- Apple's Pages - apple.com/pages (Mac and iOS-only)
- TiddlyWiki - tiddlywiki.com

Task Management

Some quick checklist websites to keep track of what you need to do next for your project.

- Remember the Milk - rememberthemilk.com
- Google Tasks - mail.google.com/tasks/canvas
- Microsoft To-Do - todo.microsoft.com
- Trello - trello.com
- Workflowy - workflowy.com
- Notion.so

Backups in Cloud Storage & Version Control Repositories

It's dangerous to go out there! Keep a backup with these tools…I mean, take this!
Note: the last two, both version control repositories, are a little more advanced. They provide infinitely long history to revert your work back to, and finer tools on what gets backed up and when.

- Google Drive - google.com/drive/download
- Dropbox - dropbox.com
- OneDrive - onedrive.live.com
- GitHub - github.com
- BitBucket - bitbucket.com

Version Control Clients

The tools below are to interface with the version control repositories; those using cloud storage won't need these.

- GitHub Desktop - desktop.github.com
- SourceTree - sourcetreeapp.com

Animated GIF Recorder

Useful tools to record and share an animation of your progress to social media (totally optional)!

- ScreenToGif - screentogif.com
- GIPHY Capture - giphy.com/apps/giphycapture (Mac-only)
- ShareX - getsharex.com (open-source, and also on Steam!)

Talks, Lessons, and Events

TVGS conducts a lot of educational events to help you learn making your game!

Progress Report Talks
- Oct 6 - Project Management
- Oct 13 - Starting a Business
- Oct 20 - Handling Workplace Abuse and Discrimination
- Oct 27 - Quality Assurance
- Nov 3 - Representation and Diversity

Orbit Mentorship & TVGS Events
- Oct 1 - Beginner Game Design
  - Covers Construct 2 & 3, Ren'py, and Twine.
- Oct 8 - Beginner Game Design
  - Covers Construct 2 & 3, Ren'py, and Twine.
- Oct 10 - IGDA Albany
  - Professional talk on the game industry. This month's topic: digital art.
- Oct 11 - TVGS Art Orbit (TAO)
  - Covers GIMP, Blender, and other digital art tools.
- Oct 15 - Beginner Game Design
  - Covers Construct 2 & 3, Ren'py, and Twine.
- Oct 17 - Lesson Night
  - A lesson on community-voted topic. This month's topic: HTML5
- Oct 22 - Beginner Game Design
  - Covers Construct 2 & 3, Ren'py, and Twine.
- Oct 24 - TVGS Community Night
  - Feel free to showcase your game to TVGS community here!
- Oct 25 - 3D Game Design
  - Covers Unity and Godot 3.
- Oct 26 - Interactive Showcase @ The Arts Center
  - Feel free to showcase your game to the Troy public here!
- Oct 29 - Beginner Game Design
  - Covers Construct 2 & 3, Ren'py, and Twine.

Online Resources
- Past TVGS Lesson Night materials - techvalleygamespace.com/learn
- Sorting Hat, a site providing personalized game making resources - sortingh.at
- PixelProspector, and how to become an indie dev - pixelprospector.com

Closing Ceremony Preparations

Each participant will be presenting their own game for about 5-10 minutes during the closing ceremony (November 10th). It is recommended that, to reduce accidents, the gameplay of your project is recorded in a video. Here are some tools below to setup your presentation.

Note: if there is no price listed next to a tool, then there's a free version.

Presentation
- Microsoft Powerpoint ($100/year) - products.office.com
- Google Slides - docs.google.com/presentation
- LibreOffice's Impress - libreoffice.org
- Apple's Keynote - apple.com/keynote (Mac and iOS-only)
- Prezi - prezi.com

Screen Recording
- Xbox (Pre-installed Windows 10 App) - xbox.com/en-US/xbox-app
- OBS Studio - obsproject.com
- Bandicam ($40) - bandicam.com

Video Editing
- iMovie - apple.com/imovie (Mac-only)
- Blender - blender.org (open-source!)
- Openshot - openshot.org (open-source!)

Publishing Sites
- Itch.io - itch.io
    - Web-portal and download.
    - Allows disabling comments.
    - Game can be marked for sale or accepting donations.
- GameJolt - gamejolt.com
    - Web-portal and download.
    - Does *not* allow disabling comments.
    - Game can be marked for sale or on ad revenue.
- Indiedb - indiedb.com
    - Download-only.
    - Does *not* allow disabling comments.
    - No form of income.