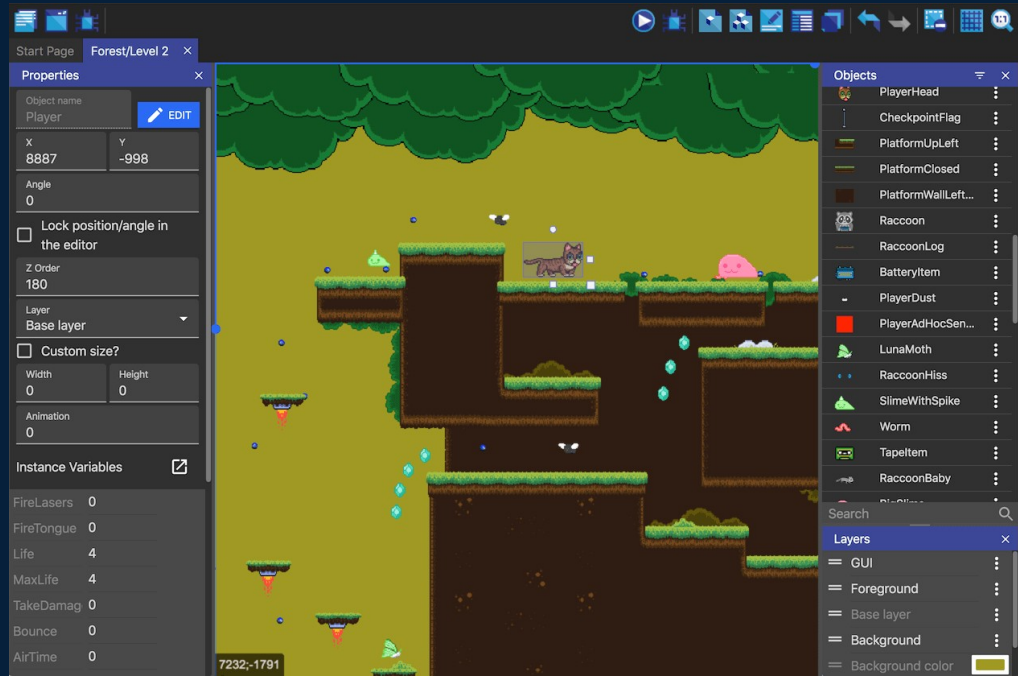# Game Design Workshop

A POSTERIORI

Play · Experience · Learn

What we will be doing...

1) Learn a little about the Game Development Process

2) Hands-on building of games

* We'll be mixing things up for 1 & 2, so that it don't get too dry

Hands-on building of games

- One type of games; **Casual**
- Free tutorial for **RPG** that you can try on your own
- Using the GDevelop game engine

- Step-by-step instructions (...easy to follow)
- Challenges at the end (...not so easy)

THE LEGEND OF
GELDA
START

17

Game Engines

Unity

GDevelop

Unreal

Godot

- What is a game engine?
  - Software that helps in game creation process
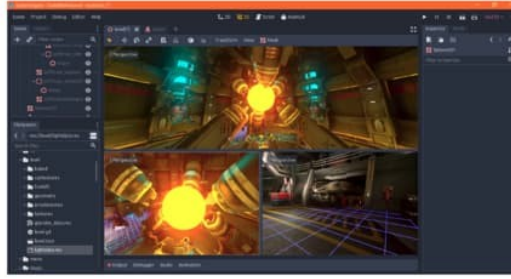
Game Engines

- Provides...
  - Common game operations (eg. Moving player)
  - Rendering to screen (2D, 3D, or both)
  - Game authoring tool (eg. map creator)

© Primitive Survival Tool

Building games without game engine...
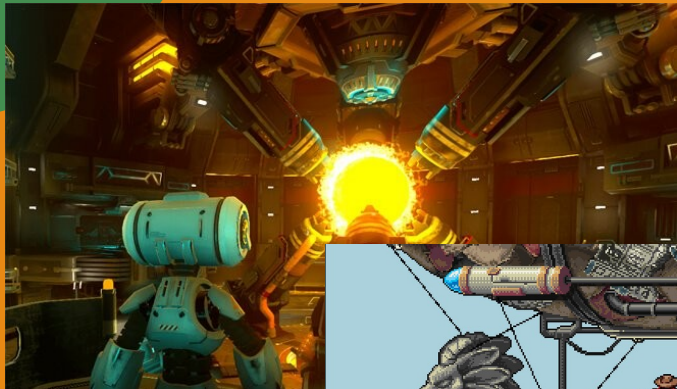
..vs using a game engine

Unity

- Most popular game engine

- 2D and 3D

- Large community

- Program in C#

Unreal

- Popular for big-budget AAA games
- High-end 3D graphics
- Supports 2D, but not popular for this
- Program in C++

Godot

- Free and Opensource
- 2D and 3D
- Rising popularity with indie developers
- Intuitive design
- Program in GDScript, C#, C++, or others

GDevelop

- Free and Opensource
- 2D only
- Designed to be easy to program
- Low code, graphical programming

RPG Maker

- Designed for 2D RPG only

- Easy to use for 2D RPG...

- ...useless for anything else

Game Engines

- The Good...
  - Less skills required
  - Saves time and effort
  - Tuned for high performance

- The Bad...
  - Limitations in what game engine can do
  - Possibly poor performance if you're doing unusual tasks

Are Game Engines Essential?

- No.

- Minecraft doesn't use a game engine

- Game mechanism is unique, and not suited to any engines

Scratch, Tynker, MakeCode?

- These are tools for learning coding

- You can make games with them, but that's not their primary purpose

- Lacks capabilities required for a proper game

Game Genres

Platform, Shooter, Fighting, Beat 'em up, Stealth, Survival, Rhythm, Battle Royale, Survival horror, Metroidvania, Adventure, Text adventures, Visual novels, Interactive movie, Real-time 3D adventures, Role-playing video games, Action RPG, Massively multiplayer online role-playing games, Roguelikes, Tactical RPG, Sandbox RPG, First-person party-based RPG, JRPG, Monster Tamer, Construction and management simulations, Life simulation, Vehicle simulation, 4X, Auto battler, Multiplayer online battle arena, Real-time strategy, Real-time tactics, Tower defense, turn-based strategy, Turn-based tactics, Wargame, grand strategy wargame, Racing, Sports, Competitive, Sports-based fighting, massively multiplayer online game, Board game, Casino, Casual, digital collectible card game, Gacha, Horror, Idle, Logic, Party, Programming, Social deduction, Trivia...

Too many to list!

Our Genre

- Casual: Lesson

- Role Playing Game (RPG): Online Tutorial

Casual Games

- Relatively simple to code

- Just need **ONE** innovative and catchy game mechanics

Casual Games

Flappy Bird
- Made in 2-3 days
- 50 million downloads

2048
- Made in 1 weekend
- 70 million downloads

Cookie Clicker
- Made in 1 night
- Peak of 1.5 million players per day

Role Playing Game (RPG)

- Only slightly more difficult to code

- Focus on story and graphics

- Good for developers who are great at writing and drawing

- Much longer to develop, mainly because of graphics and story

Role Playing Game (RPG)

Bastion
- 4 writers / artist
- 2 coders
- 3 million copies sold

Stardew valley
- 1 developer
- 15 million copies sold

Oxenfree
- 4 writers / artist
- 1 coder
- 3 million copies sold

Other Genre Popular for Indie Developers

- Deck Builder
  - Easy to build
  - Hard to balance

- Rogue-like
  - High replay value, different everytime
  - Can be difficult to code

- Turn-based Tactics
  - High replay value, many strategies to try
  - AI can be hard to code

- Platformers
  - Niche appeal
  - Hard to design good levels

Gdevelop
(Hands-on)
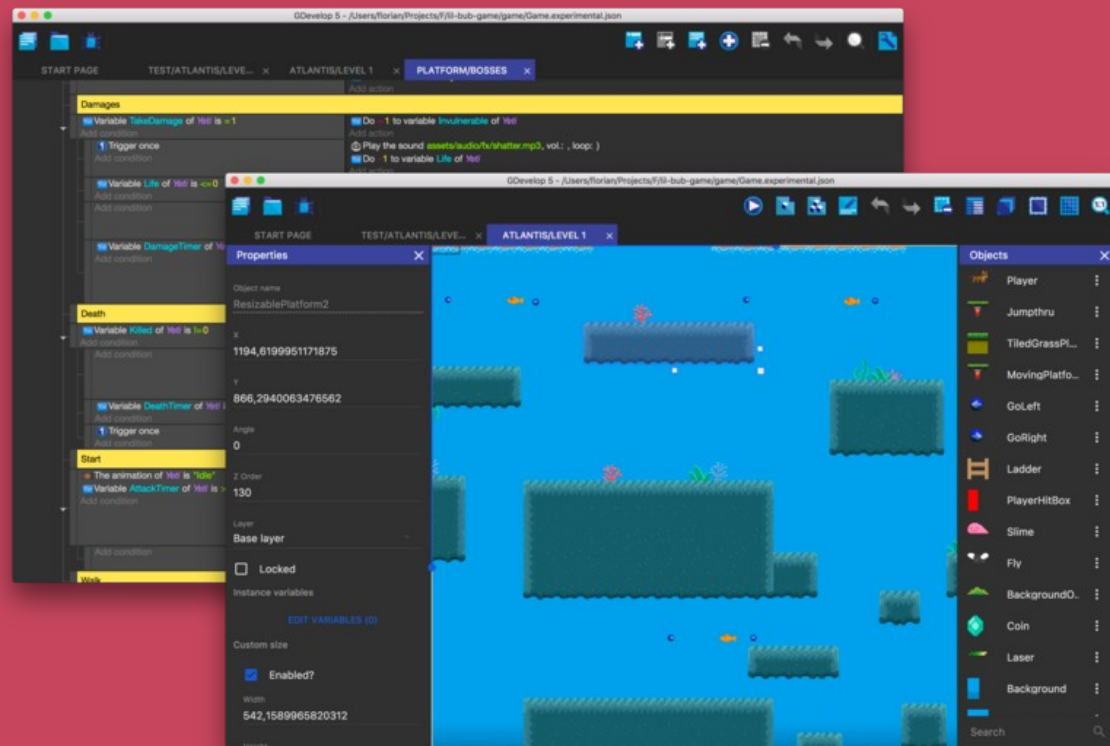
Running GDevelop

Prerequisites

- Google Drive account
  - – Web-editor can only save and load from Google drive

- Any Email Account
  - – Needed to register a GDevelop account
  - – Needed to share your games with others

Open Game Tutorials Site

- Visit http://a9i.sg/chij
- Click on the GDevelop link

Lessons Materials
- Slides
- Game Tutorials
  - GDevelop
  - Game 1 : Dodge the Creep
  - Game 2 : Gelda

Game Development World

Mainstream Studios

Indie Developers

Mainstream Studios

- Big budget (...average of $60 to $80 million per game)

- Huge number of staff (...hundreds)

- Each member plays a single, highly specific role (eg. facial animation designer)

- Risk adverse. Focus on...
  - Sequels
  - Trendy and popular genres

- Labor of love (low or no budget)
- Small team (~3 to 6 pax)
- Sometimes only one developer
- Each developer plays many roles
- Focus on...
  - Innovative concepts
  - Novel art design
  - Engaging story
  - Retro gameplay

Indie Developers

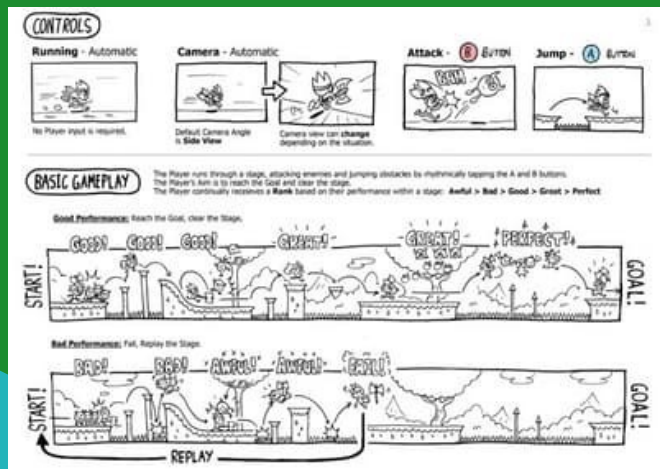# Innovative Concept

Novel Art Design

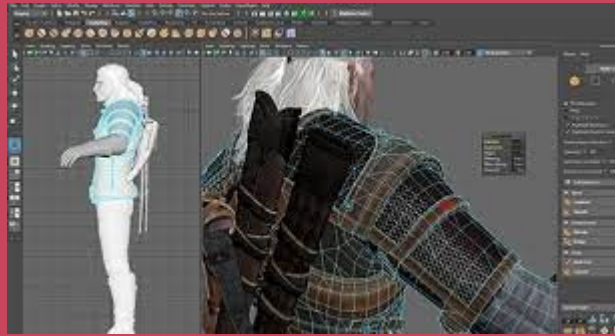# Engaging Story

Retro

Game Development Roles

- Game Designer
- Graphics Artist
- Programmer

- Writer
- Level Designer
- Sound Designer

Game Designer

- Main architect of the game
- Creates Design Document
  - Theme & Setting
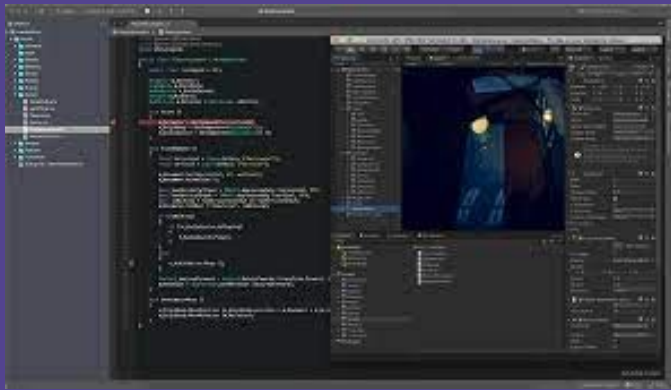 - Game rules & mechanics
  - Characters
  - Missions
  - Game feel

Graphics Artist

- 2D or 3D

- May use computer software, but some uses pencil / paper / paint / clay

- May be highly specialized in large teams (eg. UI artist)...

- ...or a single do-everything guy in small teams

Programmer

- Implements the logic of the game
- Often require skills in math and algorithms...
- Less math needed for some genre (eg. RPG) and some engines (eg. RPG maker)

- Writes the story and dialog for the game

- May be non-existent for some games (eg. Tetris)

- ...or may be the focus for others

- Small game developers often focus on a good story to differentiate themselves

Writer
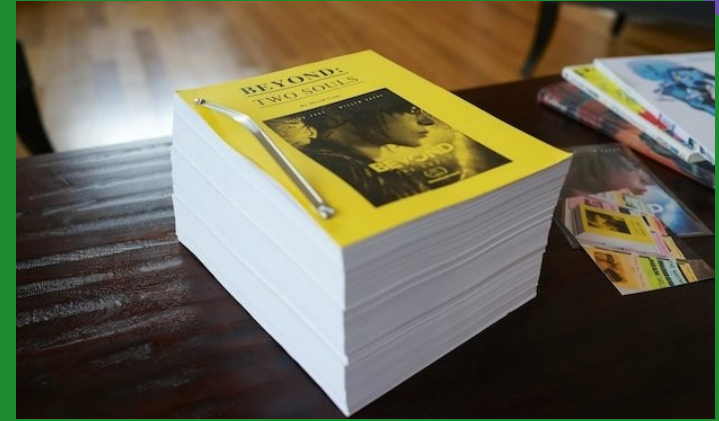
- Create a balance between...
  - Challenge
  - Beautiful, interesting, and immersive environment
  - Avoid confusion and idling
  - Multiple paths
  - Prevent exploitative tactics

Level Designer
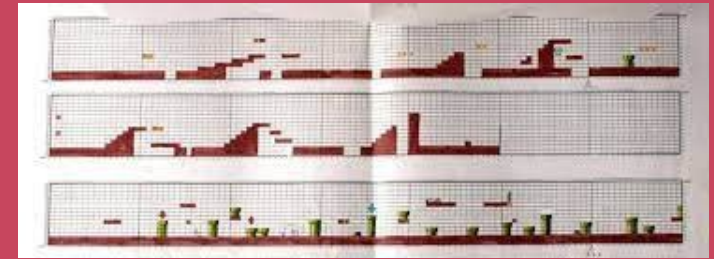
- Create sound effects
- Compose music
- Oversee voice acting
- Manage recordings
- Often outsourced partially or fully, even for small projects

Sound Designer