Game Mechanics/Genre Selection

Project & Portfolio IV

# Overview

The focus of this course (and the degree in general) is primarily on game programming not game design. However, for a game to exist it must have some mechanics and systems that must be designed.

To significantly reduce the design burden this month and to keep the workload/scope at a manageable level we will look to classic 2D arcade and console games of the past to drive our game’s mechanics.

Important: We will not be making a perfect copy of any game referenced in this document. A game’s art, music, sound FX, story, character designs, title and exact source code are all protected by copyright law.

<https://www.gamedeveloper.com/business/myths-and-facts-in-avoiding-copyright-infringement>

Instead, we will make games mimicking the genres and mechanics/systems used by these games. In most instances game mechanics are not protected by copyright law. For example: you cannot make a clone of a Simpsons™ Chess game, but you can make a Chess game with your own unique original characters or using public domain content.

<https://www.gamedeveloper.com/business/texas-court-affirms-game-mechanics-not-protected-under-copyright-law>

Be sure to provide your own art, music, sound FX and theme/title to the games you make (or use the generic names in this document). We also don’t expect you to be artists, sound designers or musicians either; leveraging public domain/creative commons content will be important to this project.

Programmer art is fine too, you should try to make a good looking and sounding game if possible but ultimately your final product will be judged on how functional it is not how aesthetically pleasing it is.

Select a style of game of appropriate difficulty for your team size below. Note the amount of effort needed for each type of project is a rough estimate and can vary greatly based on team skill/effort and communication. Projects estimated as < 4 weeks are only reserved/used for extenuating circumstances.

## Study the mechanics carefully

Make sure the specific game you select has the exact mechanics/systems the team wishes to implement. Your game will be evaluated based on how it compares mechanically to the original. For example: If the selected game has moving walls, then your game needs moving walls. If the chosen game has 3 types of power-ups your game needs 3 types of power-ups etc...

# \*Explore and find treasure (5+ Developers 4 Weeks)

A game of adventure, danger, and riches where you explore a dungeon and collect treasures while battling a variety of traps and enemies.

The team will aim to recreate these types of mechanics:

<https://youtu.be/WSGwL2xznfM>

\*Bringing a game like this into 3D in one month is much harder than it looks. Only suggested for large teams with an excellent work ethic and high confidence reading/using Blender collision data.

# \*Wreck The Level (4-5 Developers 4 Weeks)

Take control of a vehicle that can repel a destructive force. You fail if you let your primary weapon get away from you, defeat enemies and collect awesome powerups. You win/proceed when the level & all enemies are destroyed.

The team will aim to recreate these types of mechanics:

<https://youtu.be/Th-Z6QQ5AOQ>

<https://youtu.be/VXclo0eSimE>

\*Like the first game, the collision/levels for this game in 3D make it more challenging than first glance.

# Planetary Protection Event (3-4 Developers 4 Weeks)

You are tasked with guarding a planet from a dangerous invasion. Patrol the surface of the planet eliminating hostile forces.

The team will aim to recreate these types of mechanics:

<https://youtu.be/0FXDLtwz86E>

<https://youtu.be/dvuRYBg_lxc> (pick only one)

# Rotational Combat Zone (2-3 Developers 4 Weeks)

Use all three hundred and sixty degrees of your vehicle’s combat powers to dodge incoming fire and blast the enemy into the next dimension.

The team will aim to recreate these types of mechanics:

<https://youtu.be/bNqmS2MHKsw>

# Enemy Wave Assault With Barriers (1-2 Developers 4 Weeks)

An intense game where you face legions of enemies trying to destroy you from above. There are barriers between you and them but watch out! They can be destroyed too.

The team will aim to recreate these types of mechanics:

<https://youtu.be/8Rbi8cfDvVY>

<https://youtu.be/X6_gUEjrk6c>

# Flying Rock Destroyer (1 – 2 Developers 4 Weeks)

A game where you pilot a vehicle spinning in place shooting incoming objects that break into smaller objects trying to avoid damage/destruction.

The team will aim to recreate these types of mechanics:

<https://youtu.be/_TKiRvGfw3Q>

<https://youtu.be/dUo_bzA1ExM> (pick only one)

*The Following Games are only available in special circumstances. (Ex: losing your teammates):*

# Don’t Eat Your Body While Running (1 Developer 2 Weeks)

A game where you are required to keep moving, but as you move your body gets longer and longer. The area you can run in is limited so don’t run into yourself or anything else!

The team will aim to recreate these types of mechanics:

<https://youtu.be/Z18vpf0kODo> (pick only one)

# Don’t Miss The Ball (1 Developer 1 Week)

In this game there is a ball, it moves either at you or at your opponent. Get in front of it, don’t let it get past you!

The team will aim to recreate these types of mechanics:

<https://youtu.be/X1-8ofKGsvY>

# Any Other Options?

Not in love with any of the options presented in this document? Keep in mind this project is primarily meant to exercise your programming skills not your taste in game design. However, we do plan to add more games to the list over time. If you have a suggestion that you think would fit well with the rest of the examples on this list, feel free to send it to us via email.

Approving a game not on this list is possible but it takes precious time. We suggest picking an existing game immediately and making any new game requests for the benefit of future students only.

Speaking of, here is a website that hosts gameplay videos of a variety of classic & modern games:

<https://longplays.org/home.php>

Sites like this are one of the best ways to research design, gameplay and mechanics.

# How Do I Play These Games For Research?

Watching the long plays of games is a great and works if there are no other options. However, playing the game is the best way to test out mechanics you want to add to the game.

The Full Sail Library is a fantastic resource for all sorts of things. They have a game library you can rent and if they don’t have a classic compilation with the game you want to try, they can probably get it if you ask them nicely.

If you don’t mind shelling out a few bucks, most popular classic games are found on a variety of retro compilations available on PC/Console or even many mobile devices.

There are also websites online that let you instantly play many of the classic games above. I’m not going to link any here since it can be hard to tell which ones are legitimate. I prefer not to endorse any sites illicitly uploading/running illegal rom images.

# Summary

It’s a big decision what kind of game to make. Make sure you take the time to discuss with your team what they feel they can and can’t do. It is important that the whole team feels confident this is something they can tackle otherwise morale may take a hit.

At the end of the day, the most important part of this project is the journey. You will notice the rubric is setup to allow the final game to have some minor issues here and there. If you take care to add some polish to what you can implement, it should help patch over any rough edges.

Programming games is why you came here, so don’t stress too much about the decision. Gather your team, pick an inspiration and go make something awesome!

# Resources

Once the team has settled on the type of game they want to make, check out the links below to aid in the pre-production content search/creation this week.

## Audio:

[Free Music Archive](https://freemusicarchive.org/home)

[13 Great Places to Find Free Game Sound Effects - Buildbox | Game Maker | Video Game Software](https://www.buildbox.com/13-places-to-find-free-game-sound-effects/)

[FreePD.com - Free Public Domain Music Creative Commons 0 Completely Royalty Free](https://freepd.com/electronic.php)

[The 5 Best Websites for Public Domain Music](https://www.businessinsider.com/guides/tech/public-domain-music)

Full Sail students have access to the Westar Music and Sound Effects Library, just be aware the files cannot be used commercially so I would avoid this resource if you were thinking about publishing:

<https://one.fullsail.edu/support/knowledge_base_articles/administrative/657>

## Graphics:

[3D Models for Professionals :: TurboSquid](https://www.turbosquid.com/) (watch the polycounts carefully)

[OpenGameArt.org](https://opengameart.org/)

[Quaternius • Free Game Assets](https://quaternius.com/index.html)

[Share Textures | Free Seamless CC0 Textures](https://www.sharetextures.com/)

[Bounding Box Software - Materialize](http://boundingboxsoftware.com/materialize/)