**Welcome to Day #4 of CGCC!**

Every day we will have a GitHub repository page that outlines each day and the activities that we will complete. We will also provide all homework on these pages.

Feel free to browse the other days to see what is coming up!

As always, let us know if you need any help or have any questions.

*Link to Camp GitHub*: <https://github.com/paigerodeghero/ClemsonGameCodingCamp/tree/master/2021>

**Day 4: Game Narrative Development**

**SCHEDULE:**

* Instructors start video call and recording
* Reviewing work from Day 3
* What is Prototyping + video
* Application Prototyping
* Final Project Brainstorming
* Find some basic assets
* Final Project Prototyping

**INSTRUCTION**: Reviewing yesterday’s scene/character creation (approximately 5 minutes)

Have each student group review each other's scenes and characters (2-3 minutes each)

**INSTRUCTION**: What is prototyping? (approximately 10 minutes)

* Game prototyping is an important component in the game development process. This involves creating a method to test the concept of the game, to see if the idea of the video game can be put into practice before investing too much money and time in the project. (<https://starloopstudios.com/rapid-game-prototyping-why-is-it-important-in-game-development/#:~:text=Game%20prototyping%20is%20an%20important,and%20time%20in%20the%20project>.)
* Discuss why it is important we try to prototype games before development starts. (<https://www.uxpin.com/studio/blog/paper-prototyping-the-practical-beginners-guide/>)
  + Rapid iteration
  + Inexpensive
  + Increased creativity
  + Less of an up-front learning curve
  + Etc.
* Different ways to prototype:
  + Paper
  + Digital
  + Native
  + Any others or ‘subdivisions’ of the above methods (like sticky notes)?

**INSTRUCTION:** Summarize with a prototype video (7.5 minutes)

* <https://www.youtube.com/watch?v=JMjozqJS44M>

**ACTIVITY:** Create a paper prototype of a common application such as Spotify or YouTube (~20 min) (pairs)

* Draw this application with marker/paper/scissors/ whatever you feel is necessary.
* List all the functions of this application and how each element of your design is used to do this function (A play button plays the music)
* Take a picture of your design and upload it to (#WHERE\_TO\_UPLOAD)
* Share with your partner why you chose to include certain elements. Where there any that you decided to leave out? Why?

Discuss what having too many features can do to an application. Where do we draw the line on what is a good, useful feature and what is meaningless clutter?

10 Minute Break

**ACTIVITY:** Brainstorm Final Project Game (~40 min)

* Characters: (10 min)
  + The Fighter: A hero who fights the enemy with their fists, feet, or weapon.
    - Examples: Street Fighter, Karateka, Mortal Kombat
  + The Big Bad: A dastardly villian who appears to be stronger than the hero, but has a hidden weakness.
    - Examples: Gannon, Donkey Kong
  + The Sage: A mystic, an odd character allied with the hero who provides helpful hints at crucial times during the game.
    - Examples: Legon of Zelda, Skyrim, Metal Gear Solid
  + The Sidekick: A companion to the hero who provides comic relief or aids the hero in solving their quest.
    - Examples: Luigi in Mario Bros, Yoshi in Mario World, Sonic 2's Tails.
* Narrative: (15 min)
  + Overcoming the monster: The hero must flight and slay the monster that threatens their community.
    - Examples: Beowulf, Dracula, King Kong, Pacman, Mario Bros., Space Invaders, Asteroids, Galaga
  + Rags to Riches: An insignificant person is dismissed by others. Something happens to elevate them, revelaing that person to be exceptional.
    - Examples: Ugly Duckling, Aladdin, Superman
  + The Quest: The hero must set out on a long hazardous journey to battle obstacles until they are triumphant.
    - Examples: Lord of the Rings, Harry Potter, Wizard of Oz
  + Voyage and Return: The hero travels out of their normal world into the unknown and overwhelming, before escaping back to the safety of their home.
    - Examples: Alice in Wonderland, Finding Nemo, Gulliver's Travels, Legend of Zelda, Super Mario Bros.
  + Rebirth: The hero falls under a dark spell (e.g. sleep, sickness, enchantment) before breaking free and being redeemed.
    - Examples: Sleeping Beauty, Beauty and the Beast
  + The Neverending Story: A repetitive story with infinite challenges that get more and more difficult to beat
    - Examples: Donkey Kong, Q\*bert, Tetris
* Rules: Defines how the characters can move through the game world and describes the actions they can take and their effects. (15 min.)
  + Navigation
    - Walking, Running, Swimming, Flying
    - Constraints to only walk up/down, left/right
  + Information
    - Reading a scroll
    - Listening to a character
  + Inventory
    - Picking up an item
    - Choosing to use an item
    - Dropping an item
    - Losing an item
  + Obstacles
    - Jumping
    - Running through
    - Punching at
  + Fighting
    - Punching at
    - Jumping on top of
    - Kicking
    - Running through
    - Round-off back handspring
  + Dying
    - Getting run over
    - Getting hit
    - Jumping into a pit
    - Running into yourself
  + Winning
    - Eating all the food
    - Defeating all the enemies
    - Solving all the puzzles
* Technology:
  + Mapping the game buttons to player actions
  + Secret game modes
    - Example: Pressing A and B buttons together makes the character invisible to monsters.

**ACTIVITY:** Finding some basic assets

(~30 min total, ~25 min for searching, ~5 min for GitHub)

* Now that we have a basic idea of what the game is going to be, we’ll start looking for assets to prototype your final project idea.
* Linked are several different free and Creative Commons / public domain asset libraries that will make it easy to just search, download, and add different assets.
  + <https://opengameart.org/>
  + <https://itch.io/game-assets/free> (itch does have premium assets that need to be paid for, but still have thousands of good free ones)
  + <https://www.gamedevmarket.net/category/2d/?type=free> (basically the same as itch.io)
  + [Kenney.nl](https://www.kenney.nl/)
* Have one person share their screen and create a folder labeled Assets in your GitHub Repository
  + Within the Assets folder, create subfolders for Characters, Scenery, and Weapons
* The person sharing the screen then navigates to Asset libraries and everyone decides on which assets they want to include in the game
  + Screen sharing teammate downloads the assets agreed by the entire group and saves them into the GitHub folders
    - Continue until all assets are found or time is up
  + Once complete, the screen sharing teammate pushes the changes to GitHub and the other team members can then pull the changes onto their local computers

10 Minute Break

**ACTIVITY:** GoDot prototype development (~40 min)

* Using the assets we’ve now collected, let’s get into GoDot and start developing a prototype for some of our game.
* Say my game is a 2D top-down RPG where the player goes on a quest to slay a dragon that’s been threatening the local village for years. I now want to prototype some of the aspects of the game like combat.
* **Prototype example plan for 2D RPG attack prototype**
  + Start by creating a basic scene and playing the play sprite inside.
  + Add keyboard controls to the player sprite.
  + Create a collide-able object and have it work correctly with the player (the player should not be able to move through a rock for instance
  + Create a weapon sprite on character.
  + Create attacking hitbox / button control (animations can be a different beast that we’ll save for a different day, for now, just have it play a sound and change from one sprite to another like a “2 frame animation”)
  + Create an enemy sprite and add collision.
  + Create a means to defeat an enemy (if the player hits the attack and the collision of the sword hits the collision of the enemy, remove the enemy object)
* Use steps similar to these to create a basic prototype for your game.
* Be sure to ask questions when needed.