**Welcome to Day #5 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.

**Day 5: Prototyping!**

**SCHEDULE:**

* Instructors start the video call.
* Go over homework from day 4 (Draw a new maze for PacMan & create a tilemap for it.) (~10 min.)
* Go over what goes into making/developing a game? (~20 min.)
* Go over how to use GitHub wiki and what we can use it for in context of CGCC. (~5 min.)
* Go over what pitching a game is and how to do it. What goes into a pitch? (~10 min.)
* Practice pitching PacMan with your group and a TA. (~30 min.)
* Break (15 min.)
* Go over what is Prototyping? Why do we do it? How do we do it? (~5 min.)
* Watch a video on prototyping if time allows (7.5 min.)
* Practice prototyping with drawing (using a common application like Spotify/YouTube) (~20 min)
* Paper prototyping games video (~3 min)
* Prototyping PacMan (50 min)

**INSTRUCTION:** Go over homework from day 4 within their groups. (~10 minutes)

* Discuss any difficulties with drawing the maze.
  + Was it hard to create an original design?
  + Did you initially leave out any details, like a starting point for PacMan, and have to start over or back track?
* Where there any issues in creating the tilemap for your drawing? How were these difficulties overcome?
* Are there any differences between what was drawn by hand and what was created for the tilemap? Why did these differences arise?

**ACTIVITY:** Go over what goes into making/developing a game (pairs) (~20 minutes)

* Within pairs, have each student pick their favorite game and share it with their partner.
* Try to answer these questions about your partner’s game:
  + What is the story?
  + What are key mechanics and logic of the game?
  + Take an individual mechanic (such as NPC interaction), discuss with your partner what it would take to try and replicate that individual mechanic in GoDot
    - (for NPC interaction)
    - Character modeling
    - Character animation
    - Dialogue
    - Interactive capability with this NPC and their dialogue
    - Much more…

**INSTRUCTION:** Using GitHub wiki for personal journals/logs. (~5 minutes)

* Ensure that all students are able to access GitHub.
* Demo how to create/edit pages on the wiki tab of GitHub.
* Why is it important to keep a log or record of progress made?
* Explain how we can use this feature during the duration of the camp.
* Go over what pitching a game is and how to do it. What goes into a pitch?

**INSTRUCTION:** Go over what pitching a game is and how to do it. What goes into a pitch? (~10 minutes)

* What is a game pitch?
  + A pitch is a concise description of your game, meant to sell the experience to a specific audience. The art of pitching revolves around modifying your message so that it connects with each specific audience. (<https://www.masterclass.com/articles/how-to-pitch-a-video-game>)
* Key aspects to a game pitch:
  + Who are you pitching a game to? Indie developers or a massive dev. Studio like Monolith Soft?
* Provide the basics to your game:
  + What platform would be used to develop or host it?
  + Who is your protagonist and antagonist?
  + Where does this game take place?
  + How will controls work?
* Make it engaging:
  + Quick description of the gameplay.
  + What makes your game standout verses someone else’s?

**ACTIVITY:** Practice pitching PacMan with your group / TA (~30 minutes)

* Develop a pitch for PacMan with your group (15 minutes)
  + Refer to the points above and what to use to develop your pitch.
* Prepare to pitch as a group for a TA (Or possibly another group?) (5 minutes)
  + Use this time to discuss who will handle what part of the pitch.
* Pitch in front of a TA (10 minutes)

15 MINUTE BREAK

**INSTRUCTION:** What is prototyping? (~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?

**INSTRUCTION:** visualize game paper prototyping with a vide (3 minutes)

* <https://www.youtube.com/watch?v=dt1bQsZ68iw>

**ACTIVITY:** Create a paper prototype of PacMan (~50 min)

* Brainstorm what is needed for prototyping PacMan. Keep the following in mind (10 minutes)
  + Characters
  + Narrative
  + Rules
  + Movement
  + Obstacles
  + Fighting
  + Winning
  + Losing
  + Controls
* Write out what the requirements are for the product that you are creating. By having that written out, you are more easily able to create a clear prototype and product.
* Create a list of the requirements of a start screen, game body, and game over screen (5 minutes)
  + Start screen:
    - Play Game
    - Save Progress
    - Load saved game
    - Settings
    - Help
  + Game body:
    - Maze
    - PacMan
    - Pac dots
    - Power Pellets
    - Ghosts
  + Game over
    - “insert coin”
    - PacMan Logo
* Game body (20 minutes)
  + Draw the maze you drew for day 4’s homework on big piece of paper. Draw in pellets in pencil.
  + Place start screen page on top of maze.
  + When player "clicks" on Play Game, remove the start screen page.
  + Now create a Pacman paper character and place him on the maze in his start position.
  + Create a Pacman controller that goes up/down/left/right.
  + Create a Ghost paper character and place them in the center of the maze.
    - In a finished product, the Ghost would move on their own, so no need for a controller here.
  + Add a PacMan model for representing PacMan with a power pellet power-up.
  + Play Pacman.
  + As Pacman moves over a pellet, erase it from the maze.
* Game Over (10 minutes)
  + Draw on another sheet of paper the PacMan Logo (<https://www.pinterest.com/pin/531002612301180531/>)
  + Add an “insert coin” message.
  + Play PacMan again and this time act out a “game over” by having PacMan hit a ghost and placing the game over sheet of paper over the game body.
* Discussion (5 minutes)
  + What was challenging about this activity?
  + If we were to design PacMan in code, why was it important that we first prototyped it on paper? Is there anything we remembered or realized mid-way through the prototyping process?

**INSTRUCTION**: Ask if there are any final questions for the day before bringing the day to a close