CODE NINJAS®

Gold Belt Ninja Guide

Activity 02: Prototyping Phase

Prototyping Phase

Now that you've planned out your initial project ideas, it's time to bring them to life! In the Prototyping Phase, you will create a simplified **prototype**, or "first draft" of your Gold Belt project in Godot.

In this phase, you will build out the basic mechanics of your project: how the game works, how it feels, and how the players experience your game. You will test out your gameplay ideas to better understand what features to keep, what to remove, and what to improve.

Creating a Strong Prototype

A strong protype is not worried about how the game looks, but instead focuses on how it plays. Graphics and other visuals do not matter during this phase. Use basic shapes as your assets so that you can focus on the logic and implementation, instead of the look and visuals. This will also allow you to more easily playtest your project and modify your mechanics later.

A strong prototype looks like:

- Colored Squares for sprites
- Basic shapes instead of enemies/NPCs
- Empty rooms instead of levels
- Placeholder text for sounds or effects

A strong prototype *does not* look like:

- Fully modeled assets
- Creating/Finalizing textures
- Decorating environment
- Writing Dialogs/Creating Sound Effects

Consider the following examples of what might be included in a prototype:

- Testing the player movements
- Enemy movements and pathing
- A score counter for when the player picks up collectibles
- A placeholder tower that shoots at the player
- A health system without the graphics or animations

The goal right now is to make the core mechanics work, even if they don't look great.

Game Play Mechanics

All projects are made up of several different mechanics that work together to create a fun and unique experience for the user. For example, a project might combine running, jumping, and climbing to let the user explore a futuristic city.

Throughout the previous belts, you have programmed many different mechanics, but you always focused on the programming because the planning was done already. But now, you get to imagine and plan your own mechanics!

Think about what mechanics you want in your project. What are the different Godot and GDScript concepts that you will need to use to make them work?

Pro Tip: Pseudocode

Once you have come up with a mechanic, write **pseudocode**, or plain English text describing what the code will do, to explain the logic and code that your mechanic will use. This will help you to create a plan before programming anything in a script.

Splitting ideas up will make this project more achievable.

Ninja Planning Documents

Complete the **Prototyping Phase – Main Interaction Mechanics, Obstacle Mechanics, Main UI & Menu,** and **Other** sections of your Gold Belt Ninja Planning Document to plan each of your primary scripts in the project.

Pause for **Sensei Stop #1**!

Check in with a Code Sensei before moving on. Show them your completed planning document and **pseudocode** for each mechanic.

Describe how you'll implement each of these features.

Mechanic Implementation

Now that you've planned out your mechanics for the different components of your project, it's time to start building it!

Open **Godot** and **create a new project**. Decide if your project will be in 2D or 3D and give it an appropriate title. Define the main scene and begin adding the main nodes, scripts, and mechanics to the project.

Once your four main mechanics have been implemented, check in with a Code Sensei and move onto Playtesting below.

Prototyping Phase: Playtesting

As you reach the end of the Prototyping Phase, have your Code Sensei and at least one other Ninja **playtest** your project.

Playtesting happens when other users play your project while it is still in development and provide valuable feedback that can be used to improve your project! When testing your project, try not to give too much guidance beyond essentials. Remember, you won't be able to guide users once your project is published! Review the pro tips on the next page to elicit the most helpful feedback for your project.

Give your playtesters **four** questions to focus their feedback. Two questions are provided, but you will need to come up with the other two.

PRO TIPS: PLAYTESTING

Keep the following tips in mind when running a playtest session:

1. **Set Clear Goals**
    - Decide what you want to learn. Is the game fun? Are controls confusing? Is the project challenging, but not impossible?
    - Prepare **specific** questions to focus on.
2. **Observe, Don't Explain**
    - Let users play through the project, **without giving hints**.
    - Only explain something if they are completely stuck.
    - Watch their body language, confusion, excitement, or frustration.
3. **Take Notes**
    - Record what they **do**, not just what they **say**.
    - Note where players get confused, stop having fun, do something unexpected, smile, laugh, or become angry.
4. **Ask Thoughtful Questions**
    - After the session, ask **open-ended** questions like:
        - "What part was the most fun?"
        - "Where did you feel confused or stuck?"
        - "What would you change if you were the designer?"
    - **Avoid** yes/no questions like "Did you like it?"
    - **Don't defend your design**. Resist the urge to explain why something is the way it is. **Just listen**; feedback is more valuable if you stay neutral.
5. **Test with more than one person**
    - If multiple users struggle in the same place, that's a clear signal.
    - Use Code Senseis, Ninjas of different belt levels, family members, and friends to give feedback.
6. **Reflect and Prioritize**

After each session, review notes and decide: What must be fixed? What should be improved? What could be changed later?

Ninja Planning Documents

Complete the **Prototyping Phase – Playtesting** section of your Gold Belt Ninja Planning Document. Be sure to have at least one Ninja and one Code Sensei playtest your project!

Pause for **Sensei Stop #2**!

Show your Code Sensei your completed Planning Document sections.

Discuss with a Code Sensei your playtest feedback and the changes you plan to make in the Alpha phase.

Afterwards, record Dev Diary #2 and complete the Prototyping Phase Checklist.