# **CAPYBALANCE!**

## **Game Concept**

"Capybara Stack" is a charming physics-based puzzle game where players stack adorable capybaras into towers. Drawing inspiration from games like "Tower of Hanoi" and "Jenga" but with a cute twist, players must carefully balance these rodents to create the tallest and most stable structures possible.

## **Game Description**

Players stack capybaras of different sizes, personalities, and abilities to reach various goals. Players will navigate through increasingly challenging levels, each requiring strategic thinking about weight distribution, balance, and the unique properties of different capybara types. The game combines physics-based gameplay with puzzle elements and cute character design to create an engaging and relaxing mobile experience.

# **Capybara Stack Game Project Planning**

## **Project Overview**

* **Game Title**: Capybara Stack
* **Platform**: 2D mobile game
* **Art Style**: Pixel art
* **Engine**: Godot
* **Team**: 3 developers (Frontend, Backend, Paper/Documentation)
* **Timeline**: April 28 - June 21, 2025

## **Core Gameplay Mechanics**

### **Stacking Mechanics**

* **Physics-Based Stacking**: Realistic physics engine where capybaras react to gravity, momentum, and each other
* **Balance System**: Careful placement required to maintain tower stability
* **Touch Controls**: Intuitive drag-and-drop interface for placing capybaras
* **Rotation**: Players can rotate capybaras before placement to find optimal positions

### **Capybara Types**

1. **Standard Capybara**: Basic unit with average weight and size
2. **Baby Capybara**: Smaller and lighter, easier to place on top but provides less stability
3. **Large Capybara**: Heavier and provides a stable base but harder to balance other capybaras on
4. **Sleepy Capybara**: Doesn't move much after placement
5. **Fidgety Capybara**: Constantly shifts position slightly, creating dynamic challenges
6. **Sticky Capybara**: Has slight adhesive properties, helping hold stacks together

### **Game Modes**

1. **Height Challenge**: Create the tallest possible stack within a time limit
2. **Endless Mode**: Stack until your tower falls, competing for high scores

**Physics Specifications**

* **Gravity**: Downward force applied uniformly (e.g., y += gravity \* delta)
* **Friction**: Influences how capybaras slide on each other (optional, depending on design)
* **Mass/Weight per Capybara:**
  + Standard: Normal weight
  + Baby: ~50% weight of Standard
  + Large: ~200% weight of Standard
* **Stability Calculation**:Basic idea for detecting balance failure (e.g., center of mass displacement or tilt beyond a certain angle)
* **Collision Detection**: Use of RigidBody2D or custom physics for stacking feedback
* **Stacking Rules**: No overlaps, must rest on another capybara or platform