



Game Design Document (GDD) for 7 Corrupting Sins

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1. Introduction

1.1 Overview

The 7 Corrupting Sins project aims to deliver a high-quality RPG game with a focus on fast-paced, fluid combat systems enhanced by realistic, physics-based mechanics. Unlike traditional RPGs, this game emphasizes responsive and strategic gameplay, where player actions, enemy AI, and physics simulations integrate seamlessly. The development will utilize Unreal Engine 5, taking full advantage of its cutting-edge tools, specifically the Blueprint and C++ hybrid development approach.

This Game Design Document (GDD) outlines the core gameplay design, offering a comprehensive reference to guide the development team in maintaining a cohesive vision and ensuring the final product meets the desired quality standards.

1.2 Purpose of the GDD

The purpose of this GDD is to serve as the foundational blueprint for the game's creative development. It defines the gameplay mechanics, player interactions, combat systems, and overall player experience, ensuring clarity and consistency across all design elements.

This document will:

- Guide the design and development teams in translating the game concept into a cohesive and engaging gameplay experience.
- Set the standards for gameplay quality, player interaction, and the overall user experience.
- Provide a structured reference to maintain alignment between the game's design goals and its implementation throughout the project lifecycle.

1. Introduction

1.3 Overview of the Game Concept

The game is a single-player RPG focused on fluid and fast-paced combat mechanics, similar to Black Myth Wukong and Wuthering Waves. The combat system will revolve around dynamic abilities, responsive movement, and intelligent AI. The primary goal is to deliver an engaging, skill-based combat experience, blending quick reflexes with strategic thinking.

Key features include:

- A robust combat system that includes melee, ranged, and magical attacks.
- Physics-based interactions, where player actions (such as dashes, dodges, and jumps) influence the environment and enemy reactions.
- Smart enemy AI that adapts to player tactics, with different enemy types using diverse combat strategies.
- A stamina and energy management system that adds layers of strategy to combat sequences.
- Basic UI components to track combat stats like health, mana, and ability cooldowns.

This project will be completed in a *12-week timeline*, focusing on core gameplay development, without character design or advanced artistic elements such as visual effects (VFX). The game will be developed using Unreal Engine 5, combining the flexibility of Blueprint with the power of C++ for performance-critical features.

2. Gameplay Design

2.1. Combat System

The combat system in this game is designed to provide a smooth, fast-paced, and fluid experience, focusing on player skill and responsiveness. The system incorporates mechanics that allow players to engage in strategic, action-packed combat while managing their resources efficiently.

Mechanics of Attacks, Combos, and Abilities

The combat revolves around a core set of light and heavy attacks, with the ability to chain them into combos for greater effect. The player will have access to a set of abilities, each offering unique gameplay elements, such as area-of-effect damage, crowd control, or buffs/debuffs.

- **Light Attack (LTK):** Performed by pressing the left click. This is a quick, basic attack that deals low damage. It serves as the foundation of the combat system and can be performed repeatedly without any resource cost.
- **Attack Combo:** Repeatedly pressing the left click will trigger a sequence of light attacks, forming an attack combo. Combos allow the player to chain attacks fluidly, increasing damage with each successful hit in the sequence.
 - Example: LTK 1 → LTK 2 → LTK 3 → LTK 4 → LTK 1 → LTK 2
- **Heavy Attack:** Holding down the left click will execute a heavy attack after performing a single light attack. The heavy attack deals significantly more damage than light attacks but has a longer animation time, leaving the player vulnerable to enemy counters if not timed properly.
- **Block:** Pressing the right click allows the player to block incoming attacks, but blocking is limited by a "Block Focus" meter. When the player initiates a block, the block focus depletes over 3 seconds, requiring precise timing and management. If the block stamina runs out, the player is left unable to block and vulnerable to attacks. A HUD element displays the block stamina level.

2. Gameplay Design

2.1. Combat System (cont.)

Mechanics of Attacks, Combos, and Abilities (cont.)

Special Abilities: Players have access to three distinct special abilities, each mapped to different keys for easy access. These abilities have cooldown timers and may consume energy from the mana/energy management system.

- **Skill 1 (E):** A moderate-damage ability, generally with some utility or crowd control effect.
 - Example: Fireball – A projectile that deals area-of-effect (AoE) damage to multiple enemies during collision.
- **Skill 2 (Q):** A high-damage or high-utility ability with a longer cooldown than Skill 1.
 - Example: Shockwave – A powerful melee attack that knocks back enemies and stuns them for a short duration.
- **Ultimate (R):** The most powerful ability in the player's arsenal, typically usable only after charging it through combat (e.g., dealing damage, receiving damage, or collecting energy).
 - Example: Meteor Strike – Calls down a massive meteor that deals massive AoE damage, decimating all enemies in its radius and leaving a lingering damage-over-time (DoT) effect.

2. Gameplay Design

2.1. Combat System (cont.)

Health, Damage, and Healing

The player and enemies will have health points (HP) that determine their survivability in combat. Damage is dealt through basic attacks, combos, and abilities. Players can heal through consumable items, abilities, or environmental interactions.

- **Health:** The player's HP is displayed via the UI, and losing all health results in a game over or respawn.
- **Damage:** Different attack types deal varying amounts of damage. Critical hits and elemental advantages also factor into damage output.
- **Healing:** Players can heal using potions, abilities, or in-world healing objects. Abilities such as healing magic or spells can restore HP in real-time during combat.
 - Examples of Healing Mechanisms:
 - Health Potions: Instantly restore a portion of the player's HP.
 - Healing Spell: Gradually restores health over time but consumes energy.
 - Healing Well or Statue: Standing close to the object will gradually refills your HP in a couple of seconds. They can be found in cities.

2. Gameplay Design

2.1. Combat System (cont.)

Offensive Stats:

- **Attack (ATK):** Base damage output of the character. Affects the damage dealt by all attacks and abilities.
- **Critical Rate (Crit Rate):** Percentage chance that an attack will land as a critical hit, delivering increased damage.
- **Critical Damage (Crit DMG):** The multiplier applied to the damage dealt when a critical hit occurs.
- **Damage Type:**
 - **Physical Damage:** Damage dealt by melee or physical ranged attacks.
 - **Elemental Damage:** Fire, ice, lightning, etc., which interacts with enemy resistances or weaknesses.
- **Attack Speed:** The rate at which the player can execute attacks, impacting both light and heavy attack frequency.
- **Penetration (DEF Penetration):** Reduces or ignores a portion of the enemy's DEF or shields, dealing more direct damage.
- **Life Steal:** A percentage of damage dealt is returned as health.
- **Status Effects:** Chance to apply effects like burn, freeze, poison, or paralysis to enemies.
- **Mana:** Used for casting abilities or spells; replenished over time or via certain items or mechanics.
- **Energy:** Used for movement-based actions like dodging or climbing. Could regenerate faster than mana but deplete quickly.

2. Gameplay Design

2.1. Combat System (cont.)

Defensive Stats (Indirectly affecting damage output):

- **Defense:** Reduces incoming damage in general.
- **Resistance:** Reduces damage from elemental or status-based attacks (e.g., Fire Resistance, Poison Resistance, Physical).
- **Block Focus:** determining how long a player can block or how much damage they can absorb before being staggered.
- **Healing Bonus:** Increases the effectiveness of healing abilities or items.

Utility Stats:

- **Cooldown Reduction:** Reduces the cooldown time for "Ultimate (R)".
- **Mana Regeneration:** Rate at which mana replenishes during combat.
- **Energy Regeneration:** Rate at which energy regenerates for movement mechanics like dodging.
- **Health Generation:** The speed at which a character recovers from getting hit, allowing faster return to combat.

2. Gameplay Design

2.1. Combat System (cont.)

Movement System

The movement system is designed to offer flexibility, fluidity, and strategic mobility during gameplay. Players can move effortlessly across the environment, with various modes of traversal, evasion, and special movement mechanics to adapt to different combat and exploration scenarios.

- **Default Running:** WASD keys default to running, providing continuous mobility without consuming any resources. Players can maintain fast-paced movement at all times to ensure quick responses during combat.
- **Walk Mode:** Pressing "O" switches the player to a walking pace, allowing for more controlled, precise movement. This mode can be canceled by pressing "O" again or by dodging.
- **Dodging:** Pressing Shift allows players to dodge in any direction, providing brief invincibility frames (i-frames) to avoid incoming attacks. Dodging does not consume stamina, making it a reliable method of evasion during combat.
- **Climbing:**
 - Players can climb walls or rock surfaces to access higher areas and navigate vertical environments. To initiate climbing, players must jump onto a wall and hold W to move upward.
 - *Directional Climbing:* While climbing, press A or D to move sideways (left or right).
 - *Climb Hop:* Players can press or spam Spacebar to hop upwards while climbing, allowing for quicker vertical ascent.
 - *Wall Running:* By pressing Shift while climbing and holding A or D, players can wall-run horizontally. Additionally, by pressing W and A (or D), players can run diagonally (e.g., northeast or northwest), providing strategic traversal across complex terrain.
- **Flying Mode:** Press Ctrl + Spacebar to activate flying mode, allowing the player to soar through the environment. Flying consumes energy but is a vital feature in certain boss fights, where flight does not consume energy. Players can use flying for both exploration and combat, especially when aerial combat or evasion is needed.

2. Gameplay Design

2.2. Abilities and Special Attacks

Elemental Skills and Unique Abilities

In the game, players can use abilities tied to different elements, each with unique effects on both enemies and the environment. Below are the elemental types along with example skills for each:

- **Fire:** Creates burning effects on enemies, dealing continuous damage over time.
 - Example Skill: "Flame Burst" (E) The character releases a burst of fire toward enemies, causing burn damage over time.
- **Water:** Deals moderate damage and applies a "wet" status, making enemies vulnerable to ice attacks.
 - Example Skill: "Tidal Wave" (Q) Summons a powerful wave, dealing AoE damage and applying a slowing effect to enemies.
- **Ice:** Freezes enemies temporarily, slowing them down or immobilizing them, and causing them to take increased damage from physical attacks.
 - Example Skill: "Frozen Lance" (E) Shoots a spear of ice that pierces through enemies, freezing them temporarily.
- **Earth:** Generates shields or barriers, increasing defense or reflecting damage back at attackers.
 - Example Skill: "Rock Armor" (Q) Envelops the character in stone, reducing incoming physical damage and enhancing defense temporarily.
- **Volt (Lightning):** Shocks enemies, dealing high burst damage and possibly stunning them or chaining attacks to nearby targets.
 - Example Skill: "Shock Strike" (E) Releases a bolt of electricity that chains between nearby enemies, stunning them briefly.

2. Gameplay Design

2.2. Abilities and Special Attacks (cont.)

Elemental Skills and Unique Abilities

In the game, players can use abilities tied to different elements, each with unique effects on both enemies and the environment. Below are the elemental types along with example skills for each:

- **Air (Wind):** Knocks enemies back with gusts of wind, providing crowd control and reducing the accuracy of enemy attacks.
 - Example Skill: "Gale Force" (Q) Creates a whirlwind that pushes enemies back and lifts them off the ground, allowing for follow-up attacks.
- **Physical:** Pure physical damage, coming either from brute force or space-based abilities like gravity control. Both raw power characters and gravity users can output this damage.
 - Example Skill: "Crushing Blow" (E) A devastating physical strike using raw strength, causing knockback and heavy physical damage.
- **Space:** Manipulates gravitational forces, crushing enemies with intense pressure or warping space to pull them into singularities.
 - Example Skill: "Black Hole" (Q) Manipulates gravitational forces, pulling enemies toward a central point and dealing physical damage from compression.
- **Poison:** Slowly drains health from enemies over time and weakens their defenses, making them more susceptible to other attacks.
 - Example Skill: "Toxic Cloud" (E): The character releases a cloud of poisonous gas that lingers in an area. Enemies receive damage over time and their defenses lowered, making them vulnerable to other attacks.

Note: there would be more elements in the future but these are enough for now.

2. Gameplay Design

2.2. Abilities and Special Attacks (cont.)

Damage Types

1. Elemental Damage:

- Fire
- Water
- Ice
- Earth
- Volt
- Air
- Poison

2. Physical Damage:

- Raw Physical Power: Delivered by characters with brute force abilities, focused on melee and weapon-based attacks.
- Space Manipulation (Gravity Control): Characters with space powers manipulate gravity to deal physical damage, crushing or tossing enemies around the battlefield through intense gravitational fields

Cooldown System and Ability Management

All abilities, including Skill E, Skill Q, and the Ultimate (R), come with cooldown timers to balance their usage in combat. Players must strategically manage these abilities to optimize damage output and maintain combat fluidity.

- **Skill E and Q:** These skills consume mana and have short to medium cooldown durations. Managing mana effectively becomes crucial for sustaining attacks during longer fights.
- **Ultimate (R):** The ultimate ability does not consume mana but still has a longer cooldown compared to regular skills, encouraging players to time its use for maximum impact.

2. Gameplay Design

2.3. Enemy Design

2.3.1. Enemy Types and Their Abilities

This section will detail the different types of enemies players will encounter in the game, each with unique abilities and behaviors that make combat varied and challenging.

- **Melee Minions:** Basic enemies that serve as the primary combatants. They have limited abilities and focus on close-range melee attacks.
 - Abilities: Simple attack combos, light damage, slow speed. Can swarm in large numbers for increased difficulty.
- **Ranged Minions:** Enemies that specialize in long-range attacks, making them a threat from a distance.
 - Abilities: Fire projectiles, lay traps, and deploy bombs. Weak in close combat but excel at kiting.
- **Tankers:** Large, heavily armored enemies that take reduced damage and are slow but can deal heavy blows.
 - Abilities: Shield bash, knockback attacks, and AoE (area-of-effect) ground slams.
- **Mage Units:** Enemies that use elemental abilities to deal significant magical damage from a distance.
 - Abilities: Fireballs, ice shards, chain lightning, and summon lesser creatures.
- **Bosses:** The toughest enemies in the game, requiring strategy and timing to defeat. Each boss has unique abilities that can include environmental effects, phase changes, and powerful ultimate attacks.
 - Abilities: Elemental skills, area-denial abilities, summon reinforcements, healing phases, and critical strikes.