

## Examples of Game Design Document (GDD)

The examples below are project ideas that you can use for this course. You may implement one of the following, modify them however you want, or create your project from scratch.

### 1. Fantasy Spellcasting Adventure GDD

**Title:** Arcane Quest

**Genre:** Fantasy Adventure / VR Spellcasting

**Target Audience:** Players who enjoy immersive fantasy worlds, spellcasting, and exploration in VR.

#### Narrative

In Eldoria, magic is very important for life. But a bad wizard named Malakar is taking away all the magic, which could make everything dark forever. Players become a new wizard picked by the old Order of Arcanists to go on a big adventure to fix things. They will learn old magic spells, discover magical secrets, and face Malakar to protect Eldoria.

#### Game Mechanics

##### Player Interactions:

- 1. Throwing:** Players can cast spells by mimicking a throwing gesture. The force and speed of the gesture determine the spell's power and speed. Spells include fireballs, ice shards, and lightning bolts.
- 2. Swing and Hit:** Armed with a magical staff or sword, players can engage in melee combat. The weapon reacts to the player's movements, allowing for slashing, stabbing, and blocking.
- 3. Gesture-Based Spell Casting:** Players learn and cast complex spells by performing specific hand gestures. Spells vary from healing to shield generation, each with unique gestures.
- 4. Two-Hand Interaction:** Certain powerful spells or magical artifacts require the use of both hands to activate. For example, summoning a protective barrier or channeling a devastating storm spell.
- 5. Precision Crafting:** Players will encounter broken artifacts and machinery that require precise repair or assembly. Players can manipulate small components, fitting them together or repairing intricate mechanisms to restore their function.

## Locomotion Methods

1. **Teleportation:** Players can point and click to teleport to specific locations, allowing for quick movement across short distances.
2. **Flying:** By casting a levitation spell, players can soar above the landscape, offering a strategic viewpoint and access to otherwise unreachable areas.

## Level Design

The game world consists of diverse environments, each with unique challenges and enemies. Key areas include:

**-The Enchanted Forest:** Home to mystical creatures and hidden paths. Players learn basic spells here.

**-The Ancient Ruins:** Filled with puzzles that teach gesture-based casting and two-hand interactions.

**-The Dark Marshes:** A treacherous area requiring careful navigation and use of teleportation and flight to avoid dangers.

**- Malakar's Fortress:** The final area, combining all learned skills to confront and defeat Malakar.

## Tutorial System

An interactive prologue introduces players to the game mechanics. Guided by the spirit of a former Arcanist, players learn how to cast spells, navigate the world, and interact with objects. The tutorial is designed to be intuitive, with visual and auditory cues for immediate feedback.

## Art and Audio

The game features a vibrant, detailed fantasy aesthetic with environments ranging from lush forests to eerie ruins. Character and enemy designs blend traditional fantasy with unique elements to enhance the mystical atmosphere. The audio design includes orchestral music and environmental sounds that deepen immersion.

## Possible Assets

<https://assetstore.unity.com/packages/vfx/particles/spells/magic-effects-free-247933>

<https://assetstore.unity.com/packages/3d/environments/fantasy/magic-world-platformer-163206>

## 2. Sci-Fi Space Repair Simulator

**Title:** Cosmic Fix

**Genre:** Sci-Fi Simulation / VR

**Target Audience:** Fans of science fiction, space exploration, and problem-solving.

### Narrative

Set on the "Horizon Voyager," a space research ship that's stuck deep in space because of a strange problem. Players play as the ship's engineer. Their job is to fix the ship, fight off aliens, and figure out the mystery of the problem to help the crew survive and get back to Earth.

### Game Mechanics

#### Player Interactions:

- 1. Alternate Grab:** Utilize a magnetic tool to pull tools and components toward the player, simulating the feeling of zero-gravity manipulation.
- 2. Precision Crafting:** Engage in detailed repair tasks, such as rewiring control panels or fixing life support systems, requiring steady hands and careful attention.
- 3. Shooting System:** Defend the ship from alien creatures using a handheld blaster. Manual aiming, shooting, and reloading mechanics emphasize realism.
- 4. Joint Interaction:** Interact with equipment and hatches using realistic hinge mechanics, requiring players to manually open/close or lock/unlock components.
- 5. Puzzle Solving:** Puzzles that require physical interaction to solve. For example aligning satellite arrays to receive distress signals.

### Locomotion Methods

- 1. Teleportation:** Short-range teleportation device enables movement across the ship's compartments quickly.
- 2. Zero-Gravity Floating:** Navigate through the ship in zero gravity by grabbing onto surfaces and pushing off to float, simulating the experience of moving in space.

### Level Design

The "Horizon Voyager" serves as a multi-level, intricately designed environment:

- **Engineering Bay:** The heart of repair tasks, filled with puzzles and critical systems that require maintenance.
- **Crew Quarters:** Offers personal stories and clues about the anomaly, adding depth to the narrative.
- **External Hull:** Players venture outside to repair hull breaches, facing the vastness of space and occasional alien threats.

## Tutorial System

A holographic AI companion guides players through the basics of zero-gravity movement, tool usage, and system repair, ensuring an intuitive learning curve through interactive tasks.

## Art and Audio

Featuring a sleek, futuristic design aesthetic. The soundscape includes ambient space sounds, the hum of the ship's systems, and dynamic music that adapts to the player's progress and threats.

## Possible Assets

<https://assetstore.unity.com/packages/3d/environments/sci-fi/sci-fi-styled-modular-pack-82913>

<https://assetstore.unity.com/packages/2d/textures-materials/2d-sci-fi-weapons-pack-22679>

## 3. Medieval Castle Siege

**Title:** Siege of Avalorn

**Genre:** Strategy / Action VR

**Target Audience:** Those who enjoy medieval warfare, strategy games, and immersive VR experiences.

### Narrative

In a kingdom damaged by war, players are in charge of a rebellion against a cruel king. The game is all about making plans and carrying out the big attack on the king's fortress, Avalorn Castle. Players need to handle resources, lead soldiers, and fight to break through the castle's defenses and remove the king from power.

### Game Mechanics

#### Player Interactions:

1. **Throwing:** Operate catapults and trebuchets, adjusting for distance and trajectory to damage walls or disperse defending troops.

**2. Swing and Hit:** Engage in swordplay with enemy soldiers, to mimic realistic combat movements.

**3. Joint Interaction:** Utilize siege towers and battering rams, featuring hinge and spring mechanics, to breach gates and walls.

**4. Two-Hand Interaction:** Command troops and signal attacks or retreats using banners and horns, requiring coordinated hand movements.

**5. Filling and Grabbing a Container:** Players must gather and transport various resources such as arrows, boiling oil, and stones for the catapults. Players can fill containers like sacks, barrels, or carts and then transport them to strategic locations.

### Locomotion Methods

**1. Teleportation:** Move quickly across the battlefield to oversee troop movements and siege engine positions.

**2. Horseback Riding:** Experience mounted combat and rapid movement, offering strategic vantage points and quick response capabilities.

### Level Design

The battlefield is a vast open area in front of Avalorn Castle, featuring various terrains such as open fields, forests for ambushes, and the castle itself, with walls, gates, and towers designed for interactive sieges.

### Tutorial System

A veteran knight mentors the player, introducing siege warfare tactics, combat training, and the strategic use of siege engines through a series of interactive scenarios.

### Art and Audio

The game boasts a detailed medieval setting, from the authentic design of armor and weapons to the rugged beauty of the besieged castle. The soundtrack features epic orchestral music, the clash of swords, and the roar of siege engines, enhancing the immersion.

### Possible Assets

<https://assetstore.unity.com/packages/3d/environments/medieval-castle-modular-249544>

<https://assetstore.unity.com/packages/3d/props/weapons/long-sword-212082>

## 4. Underwater Exploration Adventure

**Title:** Abyssal Discovery

**Genre:** Exploration / Adventure VR

**Target Audience:** Explorers at heart, fans of mysteries, and the deep sea.

### Narrative

Players are marine scientists exploring the unknown deep waters of an alien ocean on planet Kepler-22b. Their job is to record new sea creatures, find old underwater ruins, and figure out the secrets of a civilization that used to thrive at the bottom of the ocean.

### Game Mechanics

#### Player Interactions:

- 1. Filling and Grabbing a Container:** Collect samples of alien flora and fauna in containers for analysis. Interaction requires carefully placing objects into containers and securing them.
- 2. Alternate Grab:** Utilize an extendable arm gadget to reach distant objects or samples, simulating the challenges of underwater archaeology and research.
- 3. Puzzle Solving:** Engage with environmental puzzles that unlock secrets of the ancient ruins. This includes aligning ancient mechanisms, decoding alien languages, and navigating through labyrinthine coral formations.
- 4. Two-Hand Interaction:** Operate complex underwater equipment, such as seismic scanners and DNA sequencers, requiring precise manipulation with both hands to gather data on the environment and its history.
- 5. Shooting System:** Equip players with a specialized underwater harpoon or tranquilizer gun for research and defense purposes. This tool can be used for collecting samples from a distance, defending against aggressive deep-sea creatures etc.

### Locomotion Methods

- 1. Teleportation:** Navigate short distances instantly to avoid underwater hazards or quickly approach points of interest.
- 2. Swimming:** Use a realistic swimming motion with VR controllers to move through the water, enhanced with haptic feedback to simulate resistance.

### Level Design

The game world is a vast, open underwater environment on Kepler-22b, featuring diverse biomes such as glowing coral reefs, deep-sea trenches, and mysterious underwater ruins. Each area presents unique challenges, creatures, and puzzles.

- **Glowing Coral Forest:** A vibrant biome filled with bioluminescent plants and creatures, serving as the starting area to familiarize players with basic interactions.
- **Sunken Ruins:** Ancient structures submerged in the ocean, filled with puzzles that reveal the story of the lost civilization.
- **The Abyss:** A dark, deep area where rare and dangerous species live, and where the most valuable secrets of the planet are hidden.

**Tutorial System** A virtual AI companion, designed as a mini-submarine, guides players through the basics of underwater exploration, sample collection, and equipment usage. Interactive lessons include swimming, using the extendable arm, and solving a simple puzzle.

**Art and Audio** The visual design combines the alien and the familiar, with a focus on creating a sense of wonder and discovery. The audio design features an immersive soundscape of underwater environments, from the serene sounds of water flowing over coral to the eerie silence of deep-sea trenches. The soundtrack is atmospheric, enhancing the sense of exploration and mystery.

## Possible Assets

<https://assetstore.unity.com/packages/3d/vegetation/underwater-world-247331>

<https://assetstore.unity.com/packages/3d/characters/animals/fish/alien-fish-pack-basic-rp-254411>

## 5. Virtual Reality Cooking Challenge

**Title:** Culinary Master VR

**Genre:** Cooking Simulation / VR

**Target Audience:** Food enthusiasts, casual gamers, and those interested in cooking and culinary arts.

### Narrative

Players are aspiring chefs participating in a global cooking competition. They must prepare dishes from various cuisines under time constraints, impressing judges with their skill, creativity, and presentation. The game takes players on a culinary journey around the world, from local street food to haute cuisine.

### Game Mechanics

#### Player Interactions:

1. **Throwing:** Toss ingredients into pans or onto plates. The accuracy and timing of throws affect the cooking and presentation of dishes.

**2. Filling and Grabbing a Container:** Organize ingredients in containers for efficient access during cooking challenges. Pick up and manipulate these containers to gather what's needed without losing time.

**3. Swing and Hit:** Chop, slice, and dice ingredients with kitchen knives. The motion and speed of the player's gestures affect the quality of the preparation.

**4. Precision Crafting:** Assemble complex dishes that require meticulous attention to detail, such as sushi rolls or decorative pastries. This includes plating techniques that demand a steady hand and artistic flair.

**5. Joint Interaction:** Players will encounter cooking equipment or ingredients that require joint interaction, meaning they must use both hands simultaneously on the same object. For example, players might have to stretch a pizza dough using both hands, ensuring it doesn't tear, which requires a balanced and coordinated effort.

## Locomotion Methods

**1. Teleportation:** Quickly move around the kitchen to access different cooking stations.

**2. Skating:** Glide around the kitchen on a pair of magical chef shoes, allowing for smooth and fast movement while preparing dishes and managing multiple cooking processes.

**Level Design** The kitchen environment is designed to mimic professional kitchens with various stations for different cooking techniques (grilling, baking, chopping, etc.). Each level introduces a new cuisine and set of dishes, requiring players to adapt to new ingredients and cooking.

- **Tutorial Kitchen:** A learning environment where players are introduced to basic cooking techniques and kitchen tools.

- **Street Food Market:** Fast-paced cooking of street food from around the world.

- **Gourmet Restaurant:** A high-end kitchen where precision and creativity are paramount, challenging players with complex dishes and presentation.

**Tutorial System** A renowned virtual chef introduces the player to the world of cooking, starting with basic techniques and gradually introducing more complex tasks. Interactive tutorials cover ingredient preparation, cooking methods, and plating.

**Art and Audio** The game features vibrant, appetizing visuals for ingredients and dishes. The audio design includes realistic kitchen sounds.

## Possible Assets

<https://assetstore.unity.com/packages/3d/props/interior/free-kitchen-cabinets-and-equipment-245554>

<https://assetstore.unity.com/packages/3d/props/interior/kitchen-props-41258>