

README: AR Client Simulation OER Materials Bundle

This archive contains the full set of student-facing Open Educational Resources (OER) used in an upper-level course on client-led game and simulation development. The materials support a semester-long, team-based project in which students design, prototype, playtest, and present an interactive simulation or serious game aligned with a real or simulated client's needs. A culminating written analysis/post-mortem assignment helps students synthesize outcomes from the full client project sequence.

Intended Course Context

These materials are designed for an upper-level undergraduate course in game and simulation development, interactive media, or a similar special topics course where students:

- Work in teams on a multi-week project.
- Use a modern game engine (e.g., Unity) to build an interactive experience.
- Practice client communication, documentation, iterative design, and reflection.

Recommended prerequisites and instructor background

Students:

- Introductory programming (e.g., C#, Java, or C++).
- Prior exposure to basic game design or software engineering.
- Some experience working in groups on projects.

Instructors:

- Familiarity with Unity (or another engine), including scene setup and builds.
- Comfort with version control (e.g., Unity Version Control, Git/GitHub).
- Experience managing multi-week, project-based courses.

The assignments structure can be adapted for desktop-only games or non-immersive simulations in programs with limited hardware access to full VR/AR implementations with headsets, as the original materials were intended. If you are short on time (8–10 weeks), you can compress by: (1) merging the Proposal and early GDD work into one assignment, and (2) using only **one** playtest reflection (Playtest #2) with a more complete demo.

OER Contents

Each file listed below is a standalone student-facing resource. Instructors can mix and match depending on local needs.

1. OER_Simulation_Proposal_Assignment.pdf

Assignment for proposing a simulation project based on a client request.

Students:

- Write a problem statement.
 - Define project goals.
 - Describe the proposed scene and interactions.
 - Identify target learners and any sensitive aspects of the training context.
 - Outline high-level technology constraints.
 - Specify team roles.
 - Draft a Statement of Work and questions for the client.
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2. OER_Simulation_Proposal_Rubric.pdf

Grading rubric for the Simulation Proposal.

- Uses performance levels (Exemplary / Proficient / Developing / Insufficient) with descriptions for each criterion.
- Includes a condensed version for quick grading.

Criteria include:

- Problem statement
 - Project goals
 - Scene and interactions
 - Technology constraints
 - Milestones and timeline
 - Team roles
 - Statement of Work
 - Client questions
 - Professional presentation
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3. OER_Simulation_GDD_Template.pdf

Game Design Document (GDD) template for the simulation project.

Sections include:

- Project title and team info
- Project tagline

- Concept art
- Simulation overview
- Target learners and sensitivities
- Learning objectives
- Tutorial storyboard summary
- AR interaction plan
- Quiz plan
- Content sources and grounding
- Technical details
- UI sketches
- Group roles and timeline

The GDD is intended as a *living* document that evolves over the semester.

4. OER_Simulation_GDD_Rubric.pdf

Rubric for evaluating the GDD.

Criteria cover:

- Tagline and concept art
- Simulation overview and target learners
- Learning objectives
- Tutorial storyboard
- Interaction plan
- Quiz plan
- Technical details
- UI sketches
- Group roles and timeline
- Professionalism and organization

Includes both:

- A detailed table (student-facing)
 - A condensed table (instructor-friendly)
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5. OER_Playtest1_Reflection_Assignment.pdf

Assignment for the first playtest reflection (early-stage testing).

Students:

- Conduct early peer testing using mockups or partial prototypes.
- Summarize feedback in their own words.

- Connect that feedback to their learning/client goals.
 - Identify concrete design changes they plan to make.
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6. OER_Playtest1_Reflection_Rubric.pdf

Rubric for Playtest Reflection #1.

Focuses on:

- Completion and structure of the reflection.
 - Depth of insight, including how well the reflection:
 - Summarizes feedback,
 - Connects it to goals,
 - Specifies planned changes.
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7. OER_Playtest2_Reflection_Assignment.pdf

Assignment for the second playtest reflection (later-stage testing).

- Conducted with a more functional demo.
 - Students reflect on feedback about goal clarity, usability, and perceived learning impact.
 - They describe specific changes they plan to make before the final delivery.
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8. OER_Playtest2_Reflection_Rubric.pdf

Rubric for Playtest Reflection #2.

Criteria include:

- Summary of feedback
 - Planned improvements and alignment with goals
 - Insight or project pivot
 - Clarity and professionalism
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9. OER_Final_Pitch_Assignment.pdf

Assignment for the final client-facing pitch and live demo.

Teams deliver a short presentation that includes:

- Tagline and project introduction
- Client need

- Target learners
 - Learning objectives
 - User experience walkthrough
 - Live demo of the simulation
 - Design challenges and responses to feedback
 - Realistic use case and recommendations
 - A brief note on how learning could be checked (e.g., quiz, task performance)
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10. OER_Client_Pitch_Rubric_And_Feedback_Form.pdf

Client feedback form for the final presentations.

- Structured as a three-column table:
Criterion | 1–5 Score | Comments
 - Criteria include:
 - Clarity of presentation
 - Simulation demo quality
 - Professionalism
 - Responsiveness to questions
 - Perceived usefulness for intended users
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11. OER_Final_Analysis.pdf

Final written assignment that asks students to:

- Analyze another team’s client project (simulation or game) in terms of client goals, target learners, design and technical decisions, and lessons learned.
- Compare that project to their own.
- Write a reflective post-mortem on their own project, focusing on original goals vs. final outcome, team process and roles, use of feedback, learning and professional growth, and future plans.

This assignment is designed to “close the loop” on the client project by connecting project artifacts (proposal, GDD, playtests, final pitch) to overarching student outcomes such as communication, teamwork, and readiness for real-world client work.

12. OER_Final_Analysis_Rubric.pdf

Student-facing rubric for the Final Analysis & Post-Mortem assignment.

- Part 1 (Client Project Analysis & Comparison – 60 pts):
Summary of the other project, alignment with client/learner goals, design and technical decisions, comparison to the team’s own project, and critical takeaways.

- Part 2 (Post-Mortem of Own Project – 40 pts):

Original goals vs. final outcome, team process and roles, use of feedback, learning and professional growth, future plans and recommendations.

Includes performance levels (Exemplary / Proficient / Developing / Insufficient) and point ranges for each criterion, mirroring the style of the other OER rubrics.

15-Week Pacing Guide & Mini Lesson Plans

The pacing guide below outlines one way to integrate these OERs into a 15-week semester. It assumes 1–2 class meetings per week. Instructors may compress, extend, or reorder modules based on local calendars and formats. Other lessons/instruction time for the weeks should be devoted to game/simulation development topics within the language/game engine of the course (eg. NPC programming, XR development) to facilitate the client project development.

Week 1 – Course & Project Overview

Focus

- Introduce course goals, client-led model, and expectations.

In-Class

- Mini-lesson: Overview of client-based simulations and serious games.
- Present client request(s) and discuss real-world context.
- Form teams or interest groups; brainstorm initial ideas.

Out-of-Class

- Teams review client materials and reflect on possible directions.

OER Connection

- Provide a brief overview of all OER assignments and how they fit together.
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Week 2 – Problem Statements & Target Learners

Focus

- Defining the problem and audience.

In-Class

- Mini-lesson: Writing clear problem statements and identifying stakeholders.
- Introduce **XR_Simulation_Proposal_Assignment.pdf**.
- Workshop: Draft problem statements and describe target learners and any sensitive aspects of the training context.

Out-of-Class

- Teams refine problem statements.
- Begin drafting project goals and preliminary scene descriptions.

OER Connection

- OER_Simulation_Proposal_Assignment.pdf (started).
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Week 3 – Proposal Roles, Milestones, and Submission

Focus

- Planning the project structure.

In-Class

- Mini-lesson: Team roles and project milestones (onboarding, prototype, playtest, polish).
- Activity: Assign roles (client liaison, lead programmer, UX, art/environment, documentation).
- Create a high-level timeline.

Out-of-Class

- Teams finalize and submit their proposals.

OER Connection

- OER_Simulation_Proposal_Assignment.pdf (submitted).
 - OER_Simulation_Proposal_Rubric.pdf (review expectations).
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Week 4 – GDD Structure & Learning Objectives

Focus

- Introducing the Game Design Document.

In-Class

- Mini-lesson: What is a GDD in a client-focused simulation course?
- Walk through **OER_Simulation_GDD_Template.pdf** section by section.
- Mini-lesson: Writing specific, observable learning objectives.

Out-of-Class

- Teams complete Simulation Overview, Target Learners, and Learning Objectives sections in their GDDs.

OER Connection

- OER_Simulation_GDD_Template.pdf (introduced).
 - OER_Simulation_GDD_Rubric_Student.pdf (shared).
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Week 5 – Storyboard, Interaction Plan, and Quiz Alignment

Focus

- Planning user experience and basic assessment.

In-Class

- Mini-lesson: Storyboarding and mapping user actions to objectives.
- Mini-lesson: Designing basic quiz questions that check whether objectives are being met.
- Workshop: Teams draft Tutorial Storyboard and Interaction Plan.

Out-of-Class

- Teams finish Storyboard, Interaction Plan, and Quiz Plan sections.

OER Connection

- OER_Simulation_GDD_Template.pdf (continued).
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Week 6 – Technical Setup & Version Control

Focus

- Technical onboarding in Unity (or another engine).

In-Class

- Mini-lesson: Project setup, XR scaffolding (if applicable), and scene organization.
- Mini-lesson: Version control basics (branches, commits, merges).
- In-class lab: Create projects, scaffold initial scenes, commit baseline.

Out-of-Class

- Teams build early prototypes for core scenes or interactions.

OER Connection

- GDD used as a roadmap for implementation.
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Week 7 – Preparing for Playtest #1

Focus

- Early usability questions and playtest planning.

In-Class

- Mini-lesson: Basics of playtesting (what to observe, what to ask).
- Introduce **OER_Playtest_Reflection_Assignment.pdf**.
- Set up group pairings for Playtest #1.
- Teams prepare visuals or partially working prototypes.

Out-of-Class

- Prepare materials for early playtest (screenshots, flows, partial builds).

OER Connection

- OER_Playtest_Reflection_Assignment.pdf (assigned).
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Week 8 – Playtest #1 & Reflection

Focus

- Conducting first round of peer testing and reflecting.

In-Class

- Run Playtest #1 in pairs.
- Short discussion: highlight one key issue or surprise per team.

Out-of-Class

- Teams write Playtest Reflection #1, summarizing feedback, linking it to goals, and identifying at least two concrete changes.

OER Connection

- OER_Playtest1_Reflection_Assignment.pdf (submitted).
 - OER_Playtest1_Reflection_Rubric.pdf (used for grading).
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Week 9 – Iteration & Core Loop Development

Focus

- Implementing changes and refining the core interaction loop.

In-Class

- Mini-lesson: Iteration in game/simulation design; prioritizing changes.
- Lab time: Work on implementing changes based on Playtest #1.

Out-of-Class

- Teams integrate changes and refine interactions.
- Update the GDD to reflect the design they are actually building.

OER Connection

- OER_Simulation_GDD_Template.pdf (updated as a living document).
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Week 10 – Preparing for Playtest #2 (Functional Demo)

Focus

- Toward a functional, goal-complete demo.

In-Class

- Mini-lesson: Presenting a functional prototype and guiding testers through goals and tasks.
- Introduce **OER_Playtest2_Reflection_Assignment.pdf**.
- Teams rehearse demo flow and test builds.

Out-of-Class

- Stabilize prototype for in-class Playtest #2.

OER Connection

- OER_Playtest2_Reflection2_Assignment.pdf (assigned).
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Week 11 – Playtest #2 & Reflection

Focus

- Testing for goal clarity, usability, and perceived learning impact.

In-Class

- Run Playtest #2 with new partner teams.
- Debrief: What did testers understand about the simulation's purpose and learning goals?

Out-of-Class

- Teams write Playtest Reflection #2, summarizing feedback, describing at least two planned changes, and reflecting on any insight or pivot.

OER Connection

- OER_Playtest2_Reflection_Assignment.pdf (submitted).
 - OER_Playtest2_Reflection_Rubric.pdf (used for grading).
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Week 12-13 – Content Validation & Polish

Focus

- Ensuring content accuracy and refining presentation.

In-Class

- Mini-lesson: Validating content against manuals, standards, and course materials; working with subject matter experts where possible.
- Mini-lesson: Revisiting quiz and feedback design.

Out-of-Class

- Teams refine content, fix bugs, improve UI, and finalize quiz or other assessment elements.
- GDD brought up to date to match the final implementation.

OER Connection

- OER_Simulation_GDD_Template.pdf (finalized for submission/archival).
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Week 14 – Final Pitch Planning & Rehearsal

Focus

- Structuring the final presentation.

In-Class

- Mini-lesson: Client-facing presentations (story, timing, visuals).
- Introduce **OER_Final_Pitch_Assignment.pdf** and review requirements.
- Teams draft slides and rehearse with informal peer feedback.

Out-of-Class

- Refine slides and demo plan.
- Practice staying within the time limit.

OER Connection

- OER_Final_Pitch_Assignment.pdf (assigned).
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Week 15 – Final Pitches

Focus

- Delivering Final Pitches and gathering client feedback.

In-Class

- Teams present their Final Pitch & Live Demo.
- Clients or instructors complete **OER_Client_Pitch_Rubric_And_Feedback_Form.pdf** for each presentation.

Out-of-Class

- Complete the **Final Analysis & Post-Mortem** assignment, reflecting on another team's project and your own project and process.

OER Connection

- OER_Client_Pitch_Rubric_And_Feedback_Form.pdf (used in class).
 - OER_Final_Analysis.pdf
 - OER_Final_Analysis_Rubric.pdf
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