



# Unity Multiplayer game demo proposal (Netcode for GameObjects)

## Goal

Create a **single consolidated Unity multiplayer demo project** using **Netcode for GameObjects (NGO)** and other **Unity-built packages/samples** as the base. The outcome should be a clean, easy-to-run “showcase” that demonstrates the core multiplayer loop end-to-end.

## Requirements

The game itself should simply consist of:

- A simple server/client join UI/UX flow
  - There should be an out of the box solution you can use. Can be simple.
- 2 network players
  - P1 on the server, P2 on the client, both player transforms + animators are synced
- 1 NPC with synced looping animation
  - This must be demonstrated by joining the server and having the NPC animation clearly synchronised
- 1 Light Switch with synced on/off state
  - This must be demonstrated by joining the server during each state as well as having each player press and invoke the state switch)
- 1 Button that either player can press to cause a particle effect + sound effect
  - This must be demonstrated by activating from P1 so that P2 can see it, and vice versa

## Hard constraints

- No Third-Party** plugins, from the Asset Store or otherwise
- Use only Unity-built packages and sample/demo content** wherever possible
- Unity 6.3 + use the most up-to-date packages
- Reuse Unity sample content, but deliver **custom prefabs** (rebuilt/cleaned variants) and **custom scenes** and **scripts** in their respective dedicated folders
  - Folder structure: `Assets/_Project/Prefabs/` & `Assets/_Project/Scenes/` & `Assets/_Project/Scripts/`
- Minimise the amount of custom code written — take advantage of package and sample content where possible

## Development structure

- No time limit, but consider delivering within 2 weeks
- Adam is available for any communication during this period
- Deliver as Github link to project source + short readme

## Outputs and Deliverables (GitHub)

- Unity Source Project (GitHub)**
  - Complete Unity project folders (Assets/ProjectSettings/etc.) ready to open
- Video: Developer Commentary Walkthrough [screenrecording + voice] (Unlisted YouTube video)**
  - Hit the play button and demonstrate the multiplayer flow (host/client join, gameplay interactions), clearly showcasing each requirement.
  - Walk through the Unity Editor highlighting the project structure and explaining the core game objects, components, scriptable objects, assets, and scripts, and highlighting how Unity packages and samples were used.
- Readme (GitHub)**
  - Include a brief overview of the project, links to the above deliverable items, and a simple quickstart instructions for **“Start Here”**. Include

instructions on how to test multiplayer on one machine (ie having two instances running)