Unity Developer Intern Assessment

Developed by: Caner Aktaş
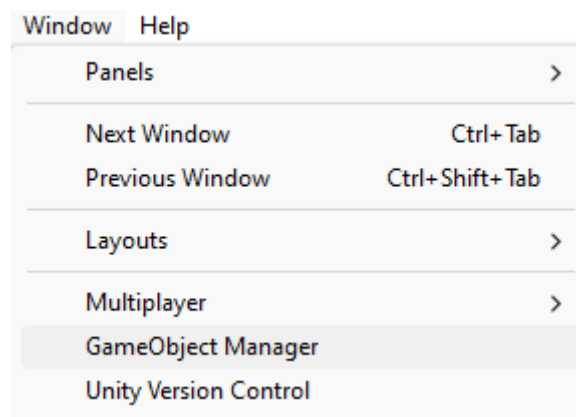
15/03/2025

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1. Overview

1.1 Introduction

GameObject Manager provides an interface for managing scene objects in Unity. It's designed to work with both single and multiple GameObjects.

1.2 Installation and Access

To open the GameObject Manager, navigate to Window > GameObject Manager in the Unity's main menu.
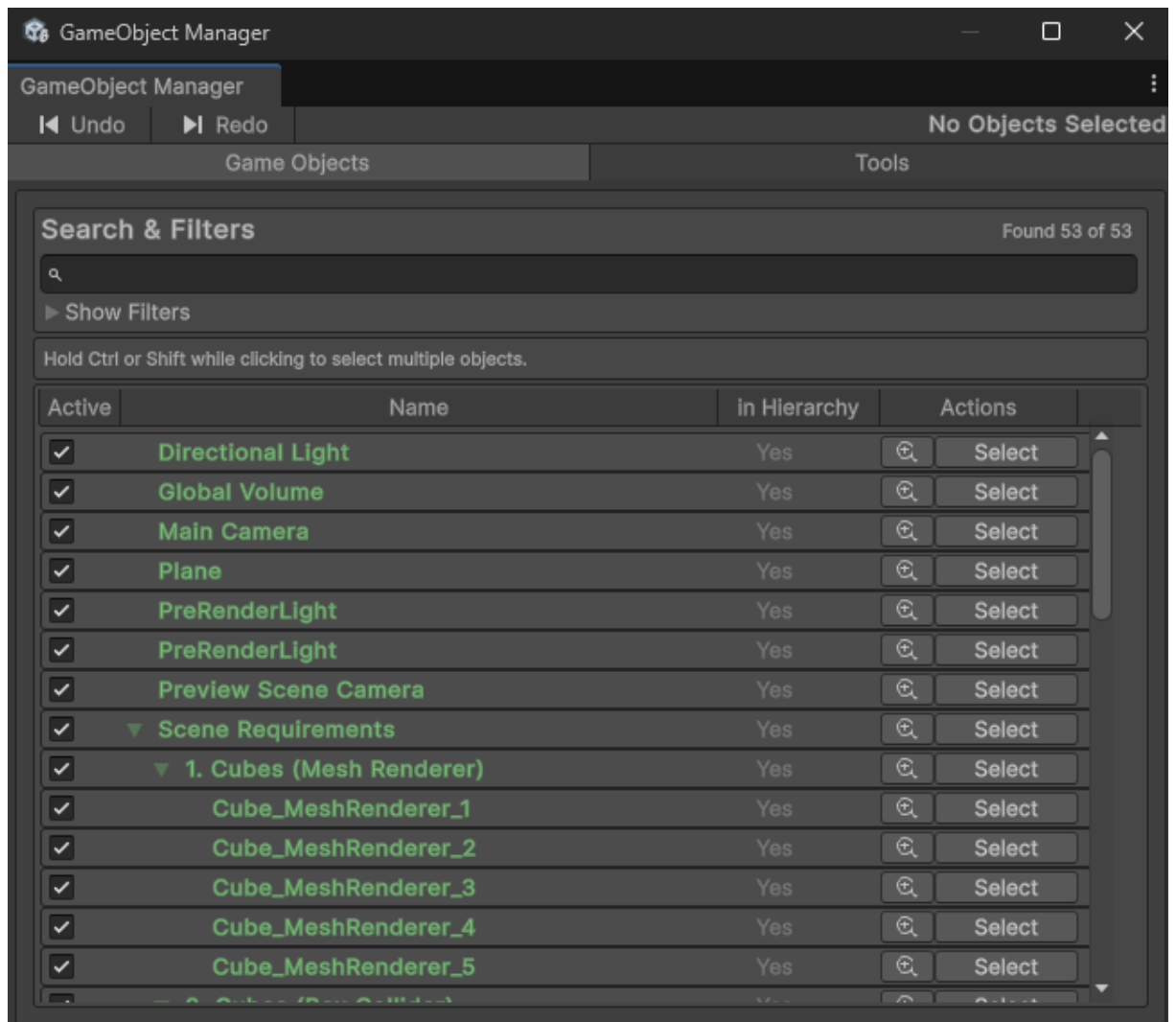

2. Interface Overview

The GameObject Manager interface is divided into two main tabs:

2.1 GameObjects Tab

The primary tab displays all GameObjects in your scene with filtering options. It includes:
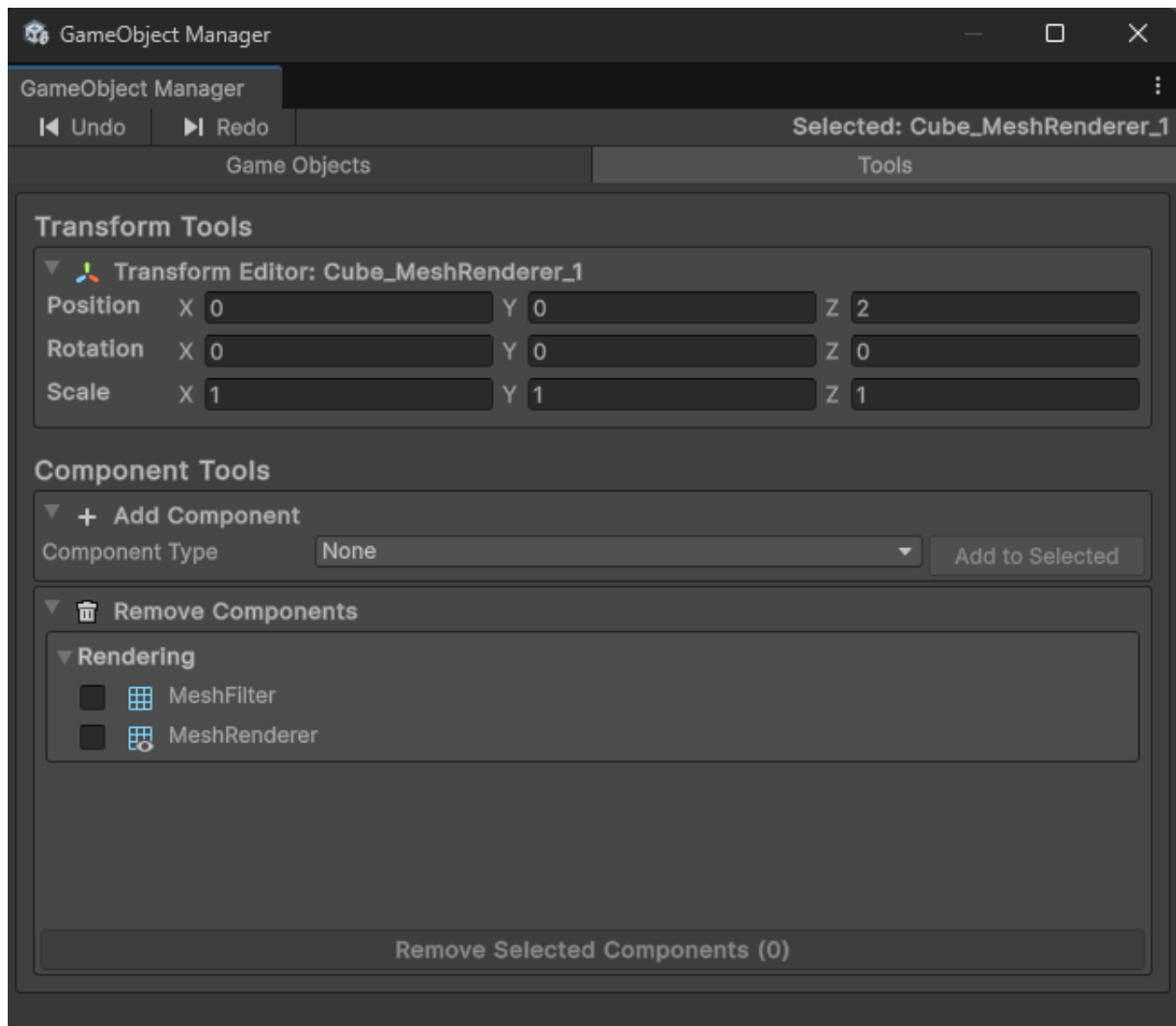
- Search & Filters Panel
- GameObjects List
- Actions for GameObjects

2.2 Tools Tab

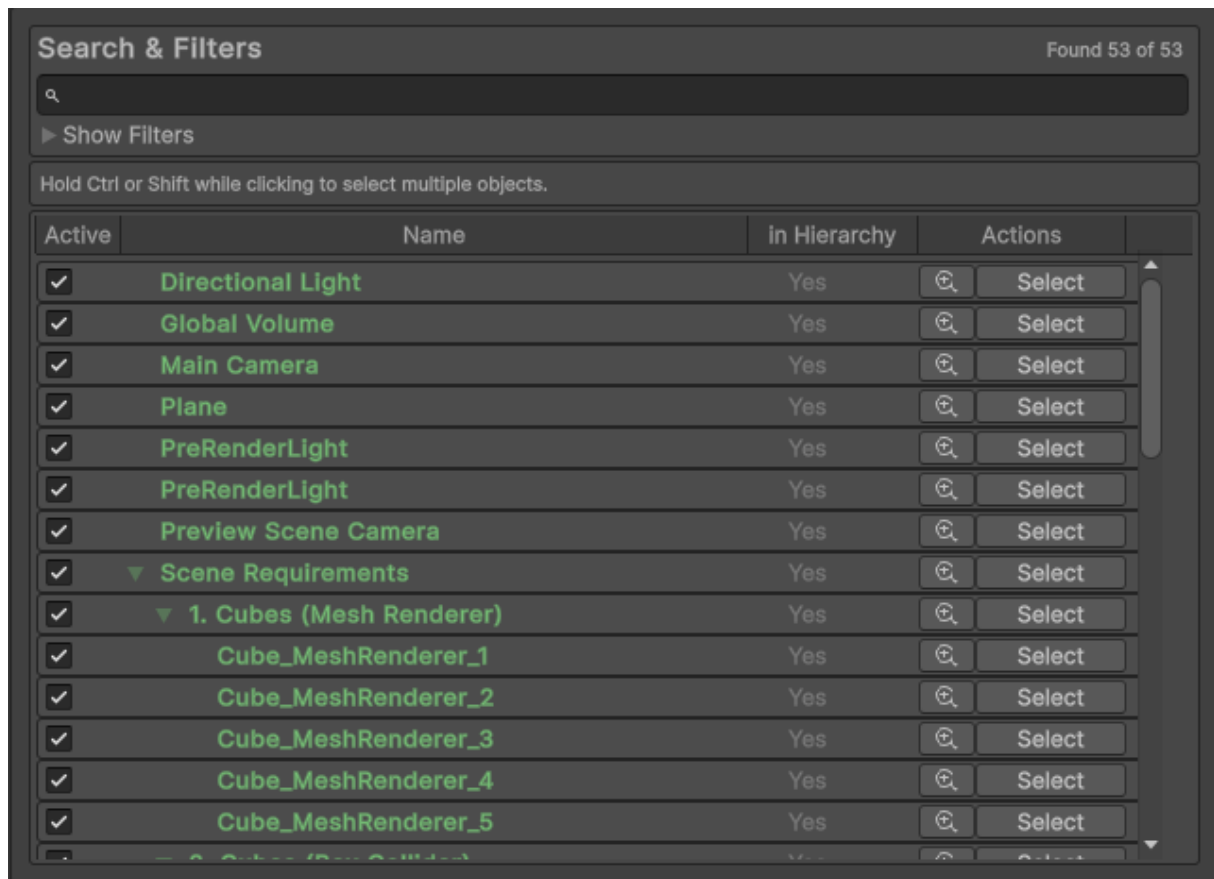Contains tools for editing selected GameObjects such as:

- Transform Tools
- Component Tools

3. Features
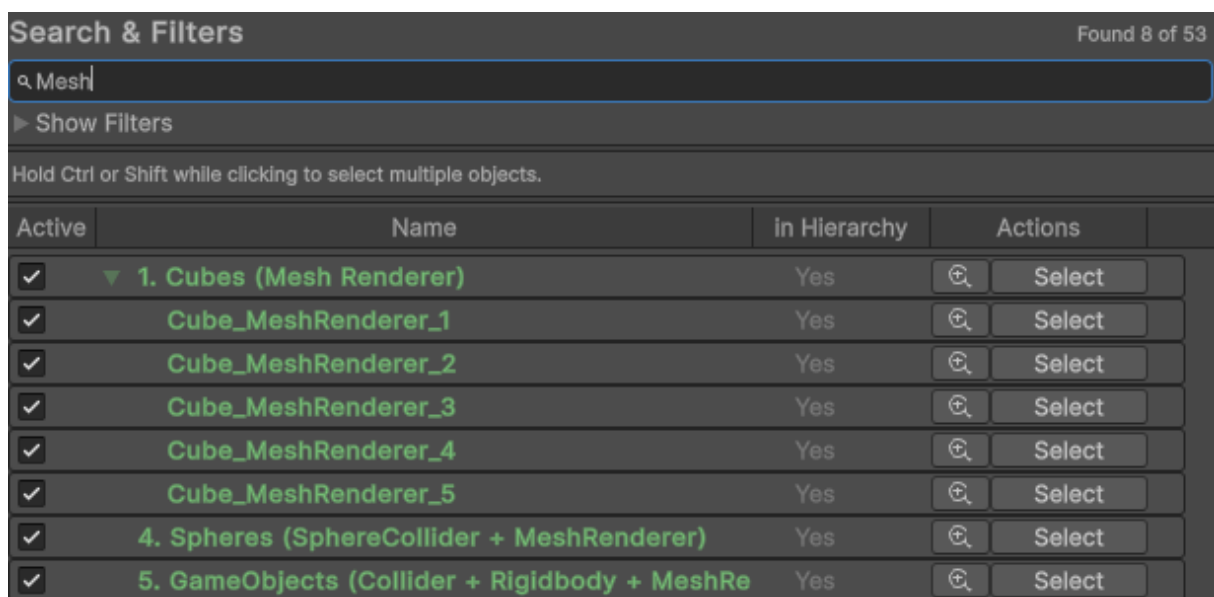
3.1 GameObject Management

In GameObject Manager, you can see all of the GameObjects in the scene with their active state, name, and self active state.

3.1.1 Searching

GameObjects can be searched by name. Searching includes:

- Dynamic Results: The list updates in real-time as you type
- Results Count: Shows how many objects match the current search

3.1.2 Filtering

GameObjects can be filtered by component types. Filtering includes:

- Component Filters: Filter objects by their attached components
- Results Count: Shows how many objects match the filters
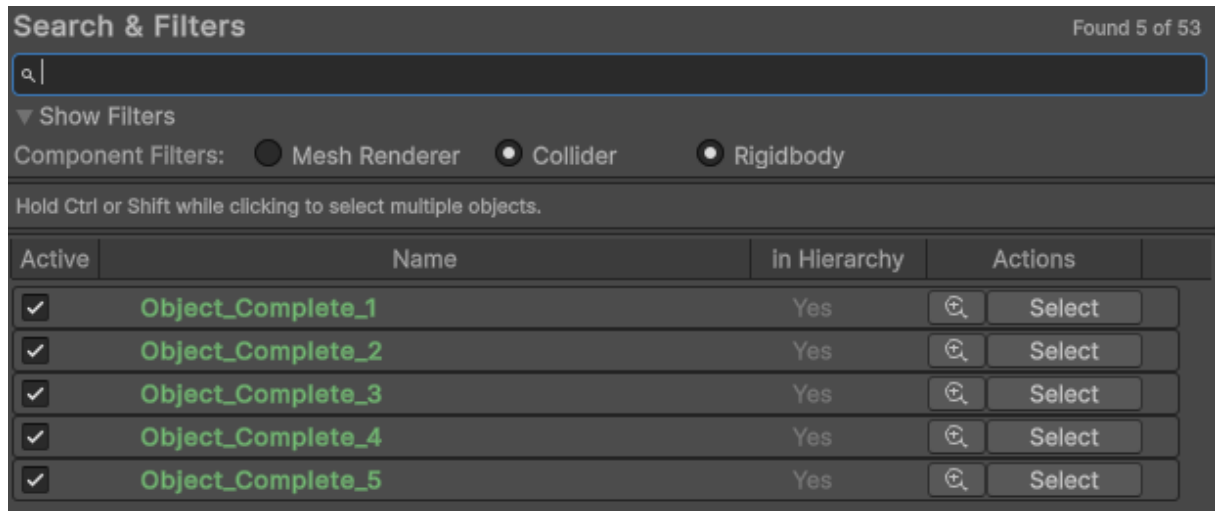
3.1.3 Active State Toggle

Users can toggle the active state of each GameObject using an on/off checkbox in the GameObject list. Active state also represented by green/red colored texts, green meaning active, and red meaning inactive.

The active state means that the objects is active/inactive by itself whereas in Hierarchy means that the object is active/inactive in hierarchy.

3.1.4 Hierarchical View

GameObjects can expand/collapse based on their hierarchy. This view contains:

- Hierarchical Structure: Parent-child relationships are maintained
- Expandable/Collapsible Nodes: Arrow indicators for objects with children

Active	Name	in Hierarchy	Actions	
✓	▼ Scene Requirements	Yes	🔍	Select
✓	▼ 1. Cubes (Mesh Renderer)	Yes	🔍	Select
✓	Cube_MeshRenderer_1	Yes	🔍	Select
✓	Cube_MeshRenderer_2	Yes	🔍	Select
✓	Cube_MeshRenderer_3	Yes	🔍	Select
✓	Cube_MeshRenderer_4	Yes	🔍	Select
✓	Cube_MeshRenderer_5	Yes	🔍	Select
✓	▶ 2. Cubes (Box Collider)	Yes	🔍	Select
✓	▶ 3. GameObjects (Rigidbody)	Yes	🔍	Select
✓	▶ 4. Spheres (SphereCollider + MeshRenderer)	Yes	🔍	Select
✓	▶ 5. GameObjects (Collider + Rigidbody + Mesh	Yes	🔍	Select
✓	▶ 6. Inactive GameObjects	Yes	🔍	Select
✓	▶ 7. Empty GameObjects (Transform only)	Yes	🔍	Select
✓	Scene Light	Yes	🔍	Select

Active	Name	in Hierarchy	Actions	
✓	▼ Scene Requirements	Yes	🔍	Select
✓	▼ 1. Cubes (Mesh Renderer)	Yes	🔍	Select
✓	Cube_MeshRenderer_1	Yes	🔍	Select
✓	Cube_MeshRenderer_2	Yes	🔍	Select
✓	Cube_MeshRenderer_3	Yes	🔍	Select
✓	Cube_MeshRenderer_4	Yes	🔍	Select
✓	Cube_MeshRenderer_5	Yes	🔍	Select
✓	▼ 2. Cubes (Box Collider)	Yes	🔍	Select
✓	Cube_BoxCollider_1	Yes	🔍	Select
✓	Cube_BoxCollider_2	Yes	🔍	Select
✓	Cube_BoxCollider_3	Yes	🔍	Select
✓	Cube_BoxCollider_4	Yes	🔍	Select
✓	Cube_BoxCollider_5	Yes	🔍	Select
✓	▶ 3. GameObjects (Rigidbody)	Yes	🔍	Select
✓	▶ 4. Spheres (SphereCollider + MeshRenderer)	Yes	🔍	Select

3.1.5 Multi-Selection

GameObjects can be selected as multiple objects for batch operations. User needs to hold Ctrl or Shift while clicking "Select" to choose multiple objects.
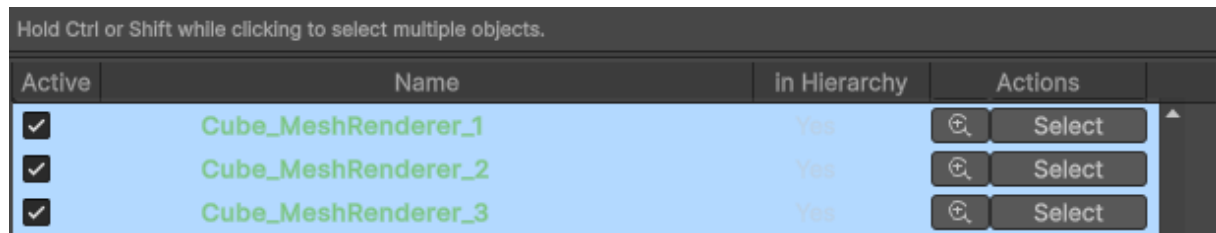
3.1.6 Actions

Ping objects and select GameObjects. Actions contain:

- Ping in Hierarchy: Highlights the object in hiearchy for improving readability
- Select: Selects the object for operations in Tools.
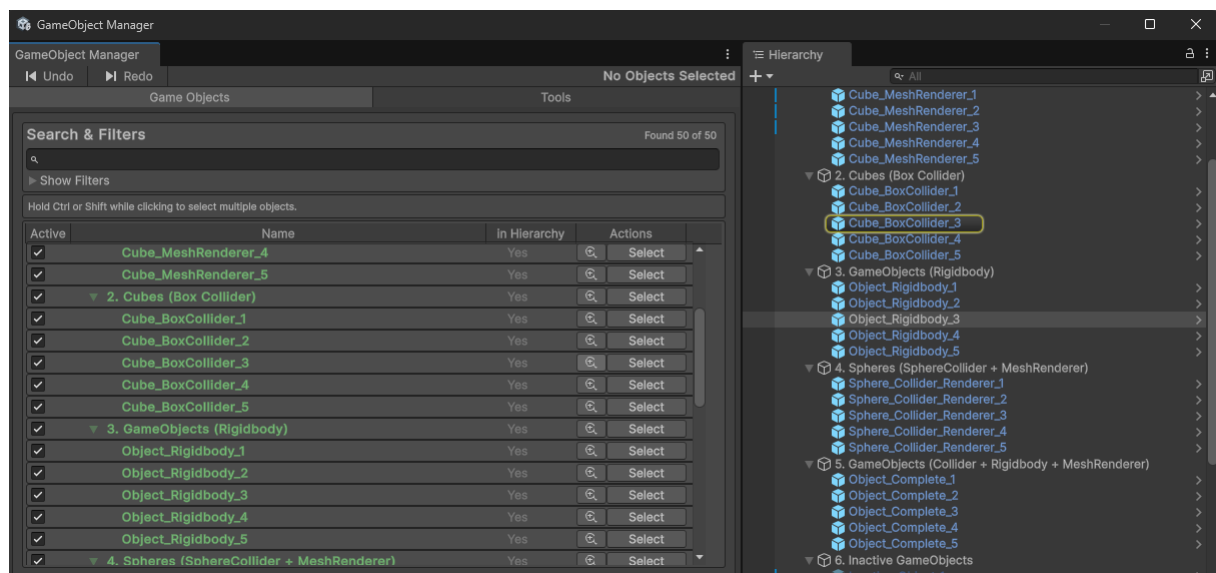
3.2 Transform Tools

Edit transform properties of selected GameObjects.

3.2.1 Single Object Editing

Modify position, rotation, and scale of the selected GameObject.

3.2.2 Batch Operations

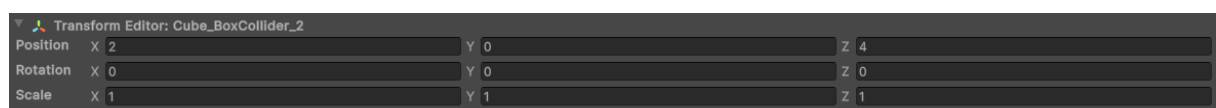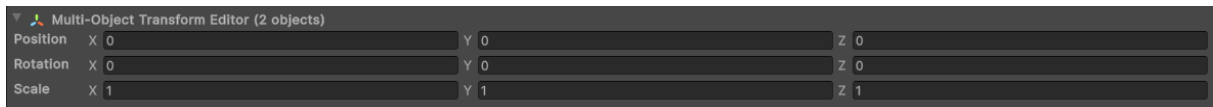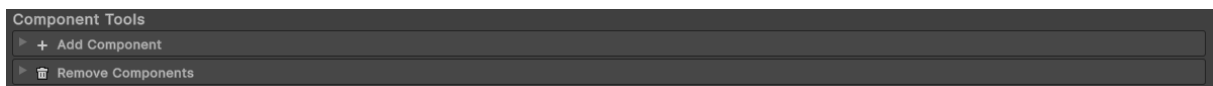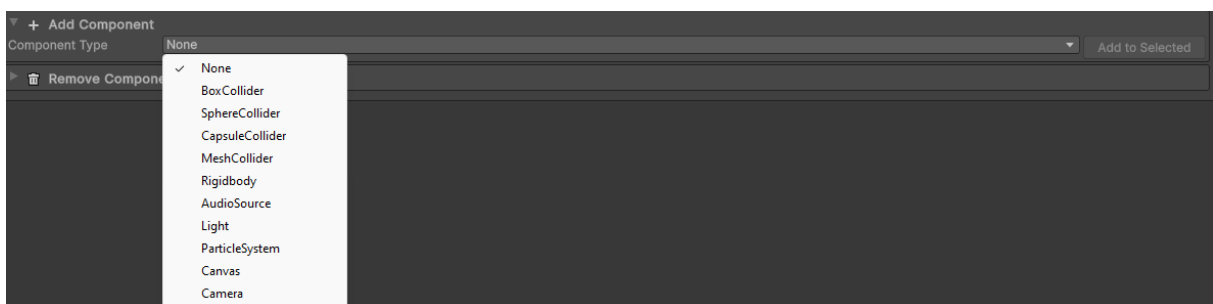Apply the same transform changes to multiple selected GameObjects.

▼ 人 Multi-Object Transform Editor (2 objects)		
Position X 0	Y 0	Z 0
Rotation X 0	Y 0	Z 0
Scale X 1	Y 1	Z 1

3.3 Component Tools

Add and remove components from selected GameObject.

```
Component Tools
  ►  +  Add Component
  ►  🗑  Remove Components
```

3.3.1 Add Components

Add components to selected GameObject.

```
▼  +  Add Component
Component Type    None                                              ▼    Add to Selected
  ►  🗑  Remove Compone      ✓  None
                               BoxCollider
                               SphereCollider
                               CapsuleCollider
                               MeshCollider
                               Rigidbody
                               AudioSource
                               Light
                               ParticleSystem
                               Canvas
                               Camera
```

3.3.2 Remove Components

Remove components from selected GameObject.

```
▼  🗑  Remove Components
▼ Physics
  ☑  🧊  BoxCollider




                    Remove Selected Components (1)
```
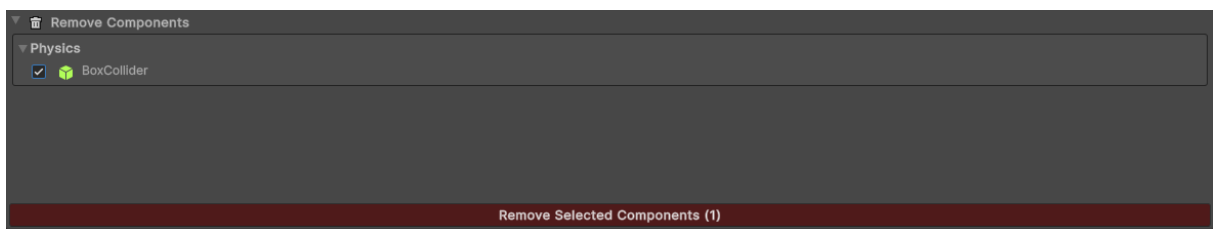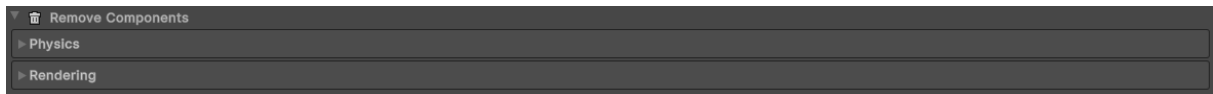
Displays a warning if one or more selected GameObjects do not have the selected component to remove when performing batch removal.

Component Removal [x]

The following objects didn't have some of the selected components:

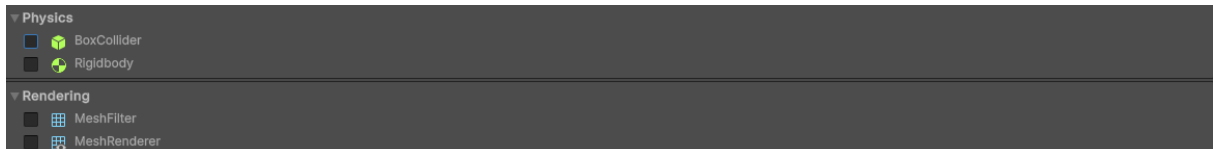• Cube_MeshRenderer_4: missing BoxCollider

OK
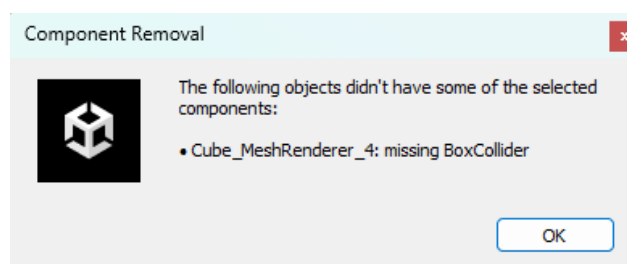
3.3.3 Categorized View

Components are organized into logical categories.

3.3.4 Visual Icons

Component types are displayed with their associated Unity icons.

3.4 Undo/Redo Support

The GameObject Manager fully integrates with Unity's Undo/Redo system, allowing to experiment with changes. It also includes dedicated Undo/Redo buttons.