

Asset Bundle Builder Documentation

Asset Bundle Builder is a part of the web app. It is responsible for packaging 3D models uploaded by users into Unity's AssetBundles. This process is required because Unity does not support loading model files at runtime, but it can load models from AssetBundles.

The work flow is as follows:

1. User uploads a new 3D model to the world
2. The Asset Bundle Builder script *AssetBundleBuilder/Assets/BuilderScript.bat* is triggered by the web app backend
3. The batch script runs Unity and calls the C# script located at *AssetBundleBuilder/Assets/Editor/ModelImporter.cs*
4. Unity runs the C# script and packages 3D models into an AssetBundle
5. Built AssetBundle is downloaded when user enter the map code with the mobile app
6. Mobile app load 3D models from AssetBundles when generating the virtual room

Setup

Asset Bundle Builder requires Unity to be installed on the machine. The folder 'AssetBunleBuilder' under the project root directory is a Unity project. Then follow these steps:

1. Open Unity
2. Choose to open an existing project
3. Choose the 'AssetBundleBuilder' folder
4. You can close Unity once it finishes loading the project

Note that 'AssetBundleBuilder' needs to be the active project (the last project that you opened) in order to function. The script uses Unity to build AssetBundles. Due to restrictions from Unity, a system can have no more than one instance of Unity at the same time. Thus, Unity needs to remain closed for the Asset Bundle Builder script to run properly.

Output

Building an AssetBundle usually takes around 30 seconds to 2 minutes. This depends largely on the total file size of uploaded models and the overall system performance.

User uploaded 3D model files for each world are stored under

AssetBundleBuilder/Assets/Theater/{world code}/fbx

Built AssetBundle for each world is located at

AssetBundleBuilder/Assets/Theater/{world code}/assetbundle/myassetbundle