Unity plugin - Marker

Creating an application using XZIMG SDKs and unity3d

This documentation explains how to create a Unity project with a package provided by XZIMG. In particular, it explains how a **Plane** can be attached with the script component that provides **the marker tracking** functionality.

Creating the Unity project

Notice that a fully working scene is available in the /scene directory. However, you can create a new scene using the following steps.

Creating the project

1. Open Unity
2. Add a Plane (GameObject->Plane) to the scene.
3. Attach (drag and drop) the script of interest (eg *xzimg-Marker-UnityPluginPlane.cs*) to that Plane. The script should now be visible in the Inspector panel of the Plane object.
4. Press the Play button to test that video images are displayed correctly.

Creating the scene

1. Create an Empty Game Object.
2. Rename it “ScenePivot”.
3. Create a Game Object (eg. a Cube).
4. Rename it “SceneObject” and drag and drop it under the “ScenePivot” object.
5. Ensure that the Main Camera’s position to {0, 0, 0}.
6. Press the Play button to test the tracking.

Tuning the scene

Here are some tips to tune the processing using exposed parameters (see the inspector->script section):

1. Capture Width & Height: Change the webcamera width and height,
2. Processing Width & Height: Change the “processing” width and height (these numbers represent the total amount of pixels to feed the image processing functionalities. Choices are 640x480 (time consuming) and 320x240.
3. Mirror Video: Mirror the video display (pivot object position and orientation are recomputed accordingly).
4. Stretch Rendering: Stretch the video plane to fit exactly with the screen.

5. Camera FovX: Adjust the camera field of view according to the camera you use. Default value is 41.25 degrees.
6. Recursive Filter, Filter Strength: A recursive filter can be used by checking the recursive filter box and defining the filter strength.
7. Marker Size*: Change the marker size (from 5x5 to 2x2) according to your needs.
8. Track Only Indices*: Restrain the detection to only few specified indices. It's recommended to fill this value in order to avoid detection errors with similar objects in the scene.

You can now tune the scene by importing CG Objects, adding lights …

Remarks

- You can adjust the FovX approximately for your projects (default value is ok most of the time). However, this parameter could be important if you want to detect the marker's position very precisely and avoid jitters effects when the marker is small in the camera image.
- Take care to the aspect ratio you are using when capturing images from the camera. Usual aspect ratios are 16/9 and 4/3. Note that aspect ratio of the camera capture (defined by Capture Width / Capture Height) must be the same as the aspect ratio of processed images (defined by Processing Width / Processing Height).

Detect multiple Markers

If you wish to detect multiple markers, you should modify the provided script by adding new GameObjects & GamePivots. Do not forget to link these GameObjects with a specific marker identification.

Mobile

When deploying a mobile application verify that the Payer Settings->Resolution is set to Landscape Left (or Right).

Contact

For any information or question regarding this product, contact us at contact@xzimg.com