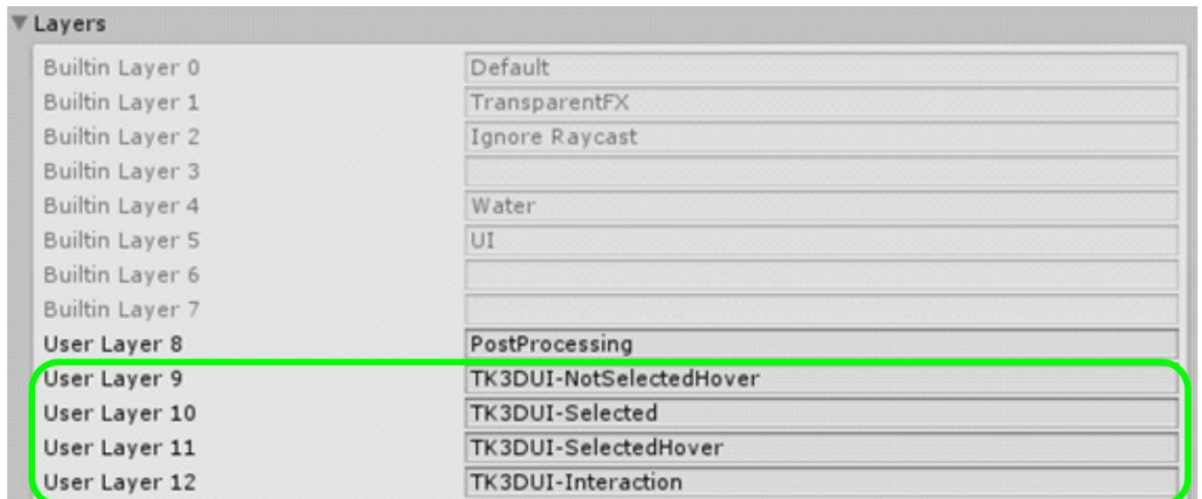


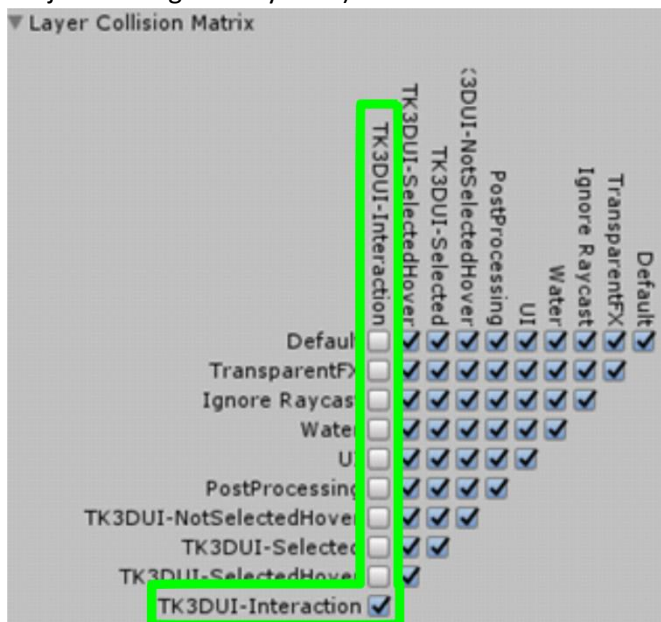
3D User Interface Toolkit

Getting Started

1. Import the Unity Package (Assets → Import Package → Custom Package ...)
2. Add four new layers:
 - a. TK3DUI-Selected
 - b. TK3DUI-SelectedHover
 - c. TK3DUI-NotSelectedHover
 - d. TK3DUI-Interaction



3. Change Collision Matrix, so that the layer TK3DUI-Interaction only collides with itself (Edit → Project Settings → Physics...)



4. Delete the Main Camera from the scene
5. Drag the Prefab (Toolkit3DUI → Prefabs → Toolkit3DUI.prefab) into the scene

Gestures

Pinch Gesture

This gesture is used to drag widgets, trigger a selection or change the mode of interaction. The user must touch his thumb tip with his index fingertip.



Palm Gesture

This gesture is used to open the hand menu or start the selection. The user must turn his palm in the direction of his face.

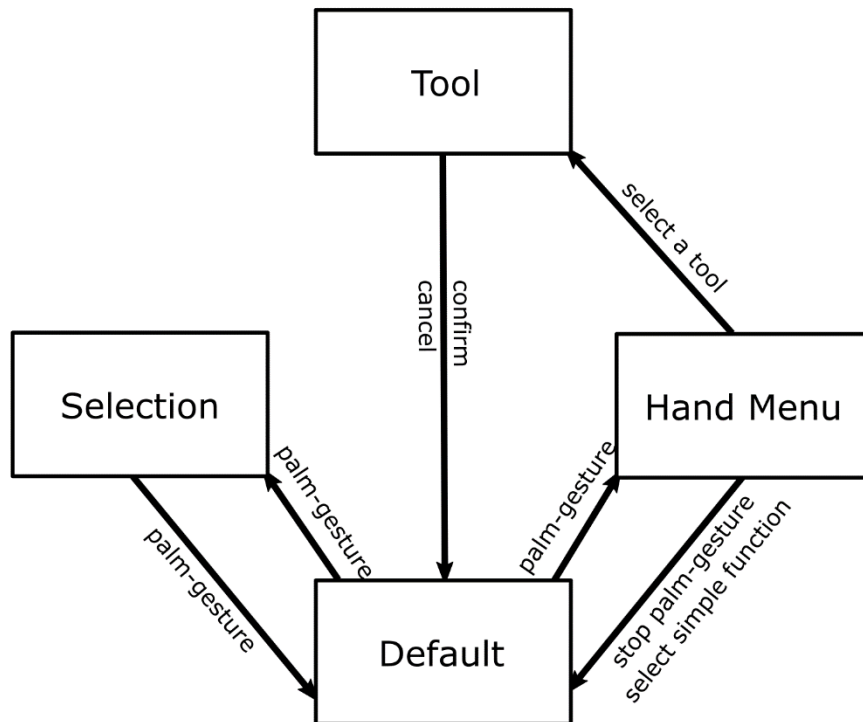


Selectable Object Script

This script can be attached to any object that should be selectable and interactable with the toolkit. The developer can add it to existing or new objects in the scene and it will work with the toolkit. The object needs a collider for the selection (we suggest using box colliders if the object should be scaled because box colliders behave better than other colliders with non-uniform scaling).

State Machine

The following state machine shows how the user can switch between the different states of the toolkit. Tools and functions can be selected from the hand menu. The hand menu can be opened with a palm gesture. The selection mode can be opened and closed with a palm gesture.



Widgets

- The widgets can be found Toolkit3DUI → HeadAnchoredWidgets
- The widgets have methods OpenWidget() and CloseWidget() to open and close the widgets
- The method SetActive(bool value) can also be used to open and close the widget.
 - value = true → Open the widget
 - value = false → Close the widget
- The values from the widgets are provided by UnityEvents
- The hand menu can be found under Toolkit3DUI → Attachment Hands → Attachment Hand (Left) → Palm → HandMenu
- The entries in the hand menu can be adjusted from the inspector

Settings

- Under Toolkit3DUI → Settings are several settings to change the appearance of the whole toolkit
- Toolkit3DUI → Settings → VisualFeedbackSettings can be used to enable and disable several kinds of visual feedback
- Toolkit3DUI → Settings → AuditoryFeedbackSettings can be used to enable and disable several kinds of auditory feedback and adjust the volumes of different sounds
- Toolkit3DUI → Settings → ColorSettings can be used to adjust all colors that are used in the toolkit
- All changes that are made to the settings affect the whole toolkit. For example, if the background color for widgets is changed, this changes the color for all widgets in the toolkit.