How to Use the Playmaker Kinect-Extras Actions

To install the KinectExtras actions for Playmaker unzip the PlaymakerKinectExtrasActions.zip in the same folder - Assets/PlaymakerKinectActions. After that, the new actions can be found be under "Kinect Actions" category. In order for Kinect actions to work correctly, you need to have the needed manager-components (InteractionManager, SpeechManager or FacetrackingManager) attached as components to the MainCamera or other game object.

Here are short descriptions of the available Kinect-Extras Playmaker actions and their parameters:

Recognize Grammar

Detects grammar phrases, as recognized by the Kinect Speech-manager and can trigger an event, if a specific phrase is recognized. The SpeechManager needs to be attached to the MainCamera or other game object. Here are the action parameters:

- Grammar File Name – specify the grammar file, containing the phrases to be recognized. The grammar file needs to be located at the root folder of your Unity project.
- Language Code (optional) – The international code of the language, used by the grammar and Kinect speech recognizer. If the value is 0, English-US (code 1033) is used as language.
- Expected Phrase Tag (optional) – If specified, when this phrase tag is recognized, the action will send the PhraseDetectedEvent, described below.
- Phrase Tag Recognized (optional) – Playmaker String variable to store the last recognized phrase tag.
- Phrase Detected Event (optional) – Playmaker event to be sent, when the 'Expected Phrase Tag' is recognized.

Track Face Params

Tracks face parameters, as returned by the Kinect Facetracking-manager. The FacetrackingManager needs to be attached to the MainCamera or other game object. Here are the action parameters:

- Is Face Tracked (optional) – Playmaker Bool variable to store the current face-tracking flag. Contains True if a face is currently tracked, False – if it is not.
- Head Position (optional) – Playmaker Vector3 variable to store the current head position in Kinect's coordinate system, in meters. Valid only if a face is currently tracked.
- Head Rotation (optional) – Playmaker Quaternion variable to store the current head rotation. Valid only if a face is currently tracked.
- Face AU0 (optional) – Playmaker Float variable to store the AnimUnit0 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Face AU1 (optional) – Playmaker Float variable to store the AnimUnit1 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Face AU2 (optional) – Playmaker Float variable to store the AnimUnit2 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Face AU3 (optional) – Playmaker Float variable to store the AnimUnit3 value, as returned by the face-tracker. Valid only if a face is currently tracked.

- Face AU4 (optional) – Playmaker Float variable to store the AnimUnit4 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Face AU5 (optional) – Playmaker Float variable to store the AnimUnit5 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Face AU6 (optional) – Playmaker Float variable to store the AnimUnit6 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Face AU7 (optional) – Playmaker Float variable to store the AnimUnit7 value, as returned by the face-tracker. Valid only if a face is currently tracked.
- Facetracking Started Event – Playmaker event to be sent, when a face is detected and face-tracking starts.
- Facetracking Stopped Event – Playmaker event to be sent, when the face is lost and face-tracking stops.

Track Grip Release

Allows you to use either the left- or right-hand to control the cursor on the screen. Detects hand grips and releases too, as reported by the Kinect Interaction manager. The InteractionManager needs to be attached to the MainCamera or other game object. Here are the action parameters:

- Hand Cursor Gui Texture – GUITexture game object to be used as cursor image.
- Cursor Controlled By - select the hand that you want to control the cursor. By default it is BothHands.
- Is Left Hand Primary (optional) – Playmaker Bool variable to store the flag, indicating which I currently the primary hand. False means right hand, True - left hand.
- Normalized Pos (optional) – Playmaker Vector3 variable to store the current normalized cursor position. X and Y components of the variable contain the X and Y position of the cursor in normalized coordinates (0-1).
- Screen Pos (optional) – Playmaker Vector3 variable to store the current cursor position on the screen. X and Y components of the variable contain the X and Y position of the cursor in screen coordinates.
- Selected Game Obj (optional) – Playmaker GameObject variable to store the game object under the cursor at the time of the Grip.
- Selected Point (optional) – Playmaker Vector3 variable to store the hit-point position, if there is a selected object – a game object under the cursor at the time of the Grip.
- Grip Detected Event – Playmaker event to be sent, if the hand grip is detected.
- Release Detected Event – Playmaker event to be sent, if the hand release is detected.

Credits and Special Thanks

The most of Kinect Playmaker actions presented in this manual are based on code, created by Jonathan O'Duffy and Andrew Jones from HIT-Lab Australia (http://www.hitlab.utas.edu.au). My very special thanks to them! More information about these guys and their project 'Fantasy to Reality' can be found here: http://www.fantasytoreality.com.au/

Support and Feedback

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