Interactive Photo Displays
Installation and usage

Installation

Requirements

Interactive Photo Displays requires a Microsoft Kinect v2 sensor and Windows 8/8.1 or Windows 10 operating system to function correctly.

Installation

Extract the zip file to your local drive. Connect the Microsoft Kinect v2 sensor to your system. Required drivers should be automatically installed by Windows. If the automatic installation fails, drivers can also be manually downloaded and installed from Microsoft's web site.

Usage

Setting up the Kinect sensor

With the Kinect sensor connected to the system, place the sensor somewhere near the screen that is used to display the application. Point the sensor towards users, away from the screen. Clear up an appropriate amount of space in front of the sensor so that users have room to move and interact with the application.

Launching the application

The application is launched from the executable file (*IPD.exe*) included in the installation. However, the executable shouldn't be launched directly. Instead, it should be given a configuration file's path as a command line variable so that the correct settings and sceneries will be used. It's also recommended to add the -popupwindow parameter to enable borderless fullscreen mode.
There is a batch file (*run.bat*) included with the installation that launches the application with appropriate command line parameters, using the configurations file (*configurations.json*) located in the same directory.

Configurations and sceneries

To run properly, the application requires a configuration file and one or more scenery files. These files can be located anywhere in the local system. The installation comes with one example configuration file (*configurations.json*) and three example scenery files (*KangasalaScenery.json, KangasalaSceneryVideo.json and Space.json*) and their image files. Refer to the separate document *JSON format documentation* for instructions on writing your own configuration and scenery files.

Usage

When the application is launched, it will immediately start to display sceneries with images and other elements according to the configurations and scenery data that has been given to it. If automatic scenery queue advancement has been set up in configurations, the scenery will change to another at given time intervals. Either way, the scenery queue can be manually advanced by pressing the space bar key. If at any point the application seems to get stuck between loading sceneries, there is most likely a problem with the configuration or scenery files. In this case any errors will be outputted to IPD_Data/output_log.txt.

Users can interact with the sceneries with their body movements and hand gestures, tracked by the Microsoft Kinect v2 sensor. Body movement of the user nearest to the sensor controls the relative position of the camera in the scenery. The hand gestures can be used to interact with the pop-up messages in the scenery. By default, to activate hand controls, the user has to raise his/her hand over his/her elbow and wait for a second. Hand control icon representing the hand of the user will appear on the scenery and can be then used to control pop-up messages. Pop-up messages can be opened and closed by grabbing the pop-up icon or the opened text area. By default, any user detected by the sensor can use hand controls. The behaviour of the hand controls can be modified in the configuration file.

The application can be quit by pressing the Escape key.