

LUMOpay

Make any display interactive

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Equipment Requirements

Computer:

Operating System: Windows 10

Processor: Clock speed 3 GHz or higher, 4 physical cores capable of hyperthreading (minimum 8 threads)

Memory: 8 GB RAM

Graphics: Nvidia GeForce 1050 Ti (or equivalent)

Storage: 128 GB (or larger) harddisk or SSD

Video Ports: HDMI, DVI, or VGA

USB Ports: USB3

Display:

Any projector, touchscreen, TV, or LED tile system that can be connected to a Windows 10 computer will work with LUMOplay.

Camera:

You don't need a camera if you're using a touchscreen, touch-enabled LED tile system, or interactive/smartboard projector which includes an IR sensor.

Systems with displays under 3500 lumens, or where the camera is not pointed at the screen: **Intel™ RealSense® D415** or **D435**

Systems with displays over 3500 lumens where the camera is pointed at the screen: **Orbbec Astra**

Systems using skeletal tracking apps (Scribbles, Photo Booths): **Kinect for Xbox One**

PLEASE NOTE: All system diagrams featuring cameras will be shown using Intel™ RealSense® D435 except the Photo Booth

(Intel™ logo and Intel™ RealSense® wordmark used with permission)

Software Setup

Downloading & Activating LUMOplay

- Register an account (required to activate the software): www.LUMOplay.com
- Download LUMOplay: <https://www.lumoplay.com/download-lumo-play>

Installing LUMOplay

1. Locate the LUMOplay installer (it's usually in your Downloads folder).
2. Double-click the installer to start the install wizard. You might be asked for an admin password, and you may have to temporarily disable your firewall in order to run software downloaded from the internet – this is common for schools and libraries who have security in place to prevent guest users from installing malicious programs.
3. Follow the installation steps to install the LUMOplay software application and drivers. You will have the option to install drivers for the Kinect for Xbox One and the Orbbec camera – this is only necessary if you plan to use these cameras.
4. Once the installation is complete, you will be find the LUMOplay shortcut on your desktop, or by opening the Start Menu and accessing All Programs.
5. Use the email and password you set for your LUMOplay website account to activate the software. If you do not yet have a paid license, you can activate the free version of LUMOplay, which includes samples of games for many common types of systems.
6. Give the Installation a **name** and **description** that will later help identify it when managing your account online. (e.g. company or brand name, event date).
7. Consent to allow diagnostic data to be collected. We collect information to improve our software and the customer experience. [Review our Privacy Policy.](#)

Calibrating LUMOplay

If you need help with calibration, LUMOplay offers an **optional remote calibration service** for \$150. Sessions must be scheduled at least 1 business day in advance. Your computer will need to be online during the session, and someone will need to be physically present at the installation to talk to a technician. Remote calibration is highly recommended for systems using multiple cameras.

If you want to schedule a remote calibration session, please [contact us](#).

Choose your setup

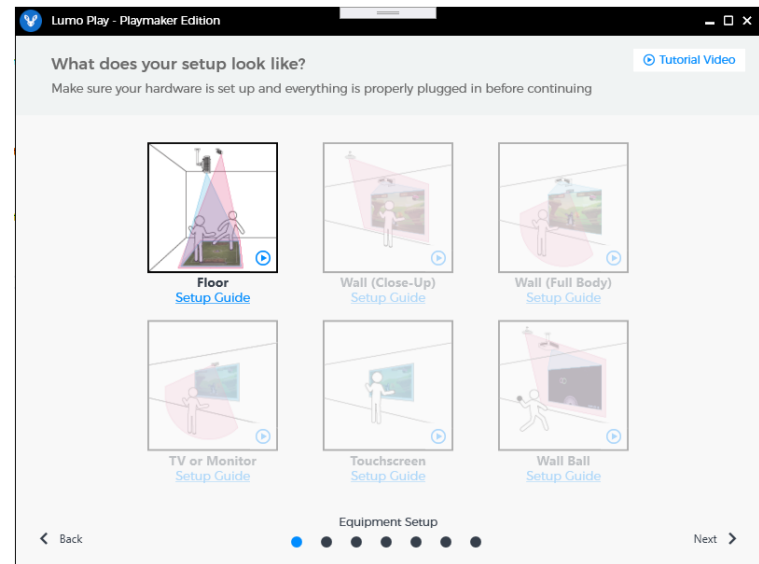
Do not attempt to calibrate LUMOplay until your equipment is connected.

Once your equipment is set up, choose the option closest to your system.

Alternative system setups

- Table: Choose floor
- Photo Booth: Choose 'Wall Full Body' (remember that you need to use a Kinect for Xbox One)
- Touch reactive LED floor: Choose Touchscreen

Click 'Next'.



Choose your sensor

A list of cameras will appear. Choose the camera or touchscreen you want to use.

If you do not see your camera or touchscreen, make sure it is connected to your computer, powered on, and you have installed the latest device drivers.

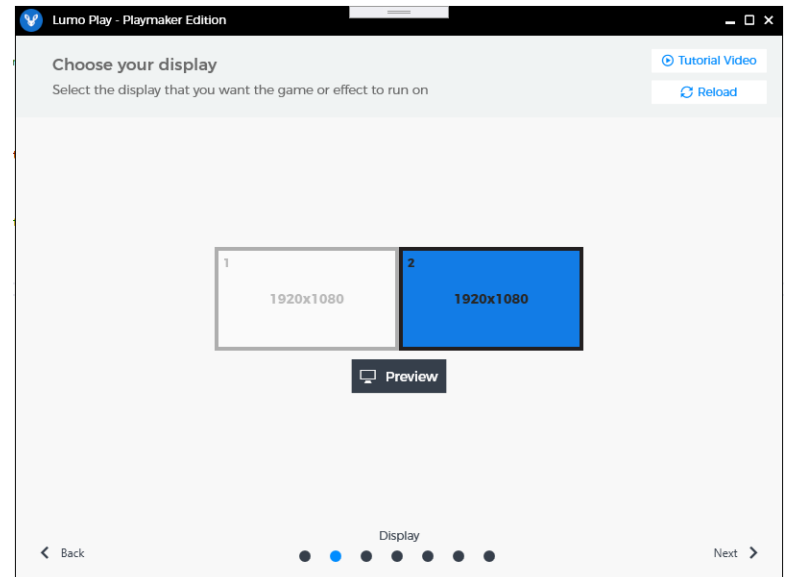
If you want to schedule a remote calibration session, please [contact us](#).

Choose your display

If you are using multiple displays, you need to choose which one will display your apps, and which one will display the LUMOplay desktop software interface.

If you are only using one display (there is no laptop monitor or second monitor), you will only have one display available to choose. Each connected display is identified by a number in the top left-hand corner of the display.

Click 'Preview' to see the numbers appear on your displays - this will help you identify which display to choose. When you are done, click 'Next'.



Mask the Game Area

If you are setting your camera up so that it points away from the display, or you are using a touchscreen, you do not need to change this setting.

This step allows you to draw an exact rectangle around the display area on a floor or wall, so that only this area of the display is tracked by the camera. You will see blue dots and red lines appear on your chosen display when movement occurs. If the blue dots are appearing on the side of the screen opposite of the movement, you can use the Flip Vertically and Flip Horizontally toggles to the left of the main camera window to properly align the movement with your camera.

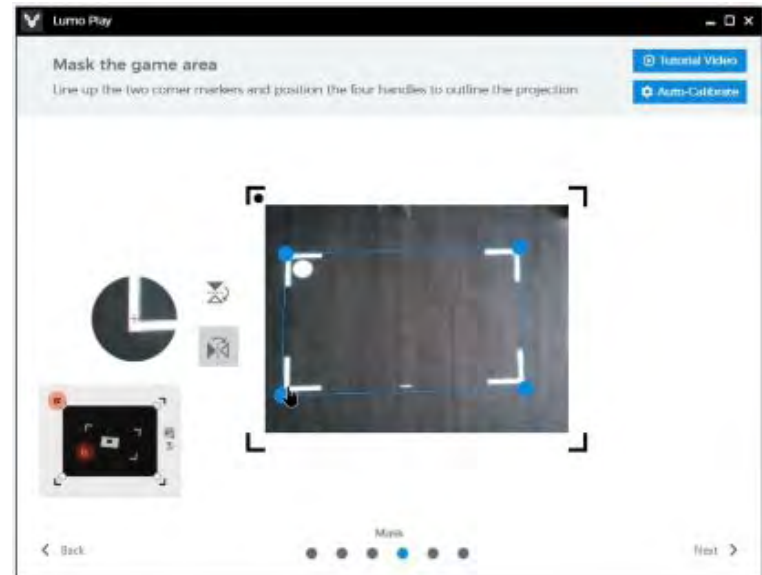
Floor and Wall Masking

This step is critical to the accuracy of floor and wall games.

The masked area must match the game display area as closely as possible.

Make sure the orientation of the top left-hand corner (the one with a dot) on your floor matches up with the corner marker in the video feed. If it does not match, rotate the video feed until the dot position is the same on the screen as it is on your floor.

Click and drag the blue mask handles from the corner of the mask box to exactly line up with the corners of the projection in the video feed. Then click 'Next'.



Camera Alignment

If your camera is level to the floor or wall, if your camera is pointed away from the display, or if you're using a touchscreen, you do not need to change this setting.

The camera alignment tool allows you to correct for a slight vertical or horizontal tilt in the camera. For floor projection and wall displays where the camera is pointed at the display, you should install your camera so that it is in the middle of the display, and as straight as possible, but if you are unable to center or straighten the camera perfectly, the Camera Alignment step will allow you to correct this so your tracking is as accurate as possible.

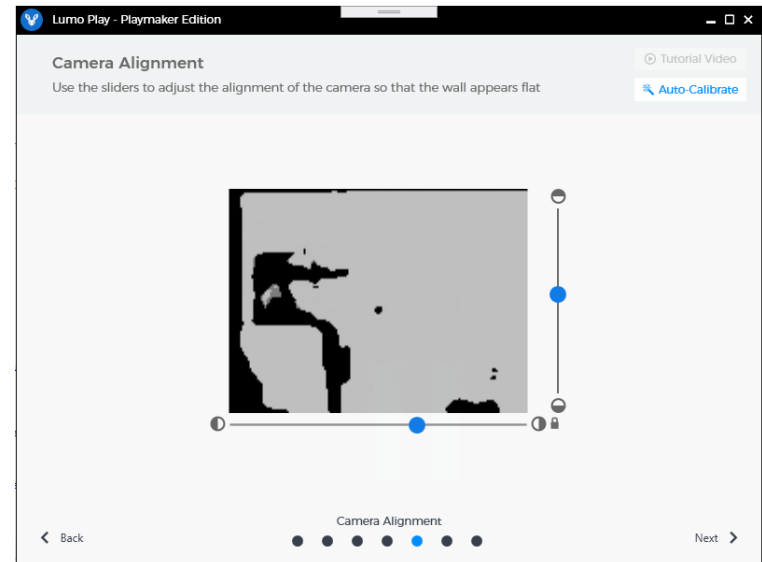
Aligning your camera to the display surface

Clear all people and objects from the projection area and press Auto-Calibrate (the button in the upper-right corner).

Auto-calibration is more precise than adjusting the sliders, but it will not work unless you clear all the people, furniture and objects (e.g. ladders, balls, boxes) from the entire area that the camera can see.

You can manually adjust the alignment using the side and bottom sliders until the wall appears as a flat, uniform shade of grey.

When you are done, click 'Next'.



Camera Settings

The tools described in this guide are for 3D cameras. **If you use a web camera for your evaluation**, the camera settings will be different than those shown in this guide. We do not recommend that you use a web camera for floor installations or any setup where the camera is pointing directly at the projection or display. Web cameras used in commercial installations are not supported, so if you choose to use a web camera in a commercial installation and it does not perform well, you will need to upgrade your camera before you can request software support from LUMOplay.

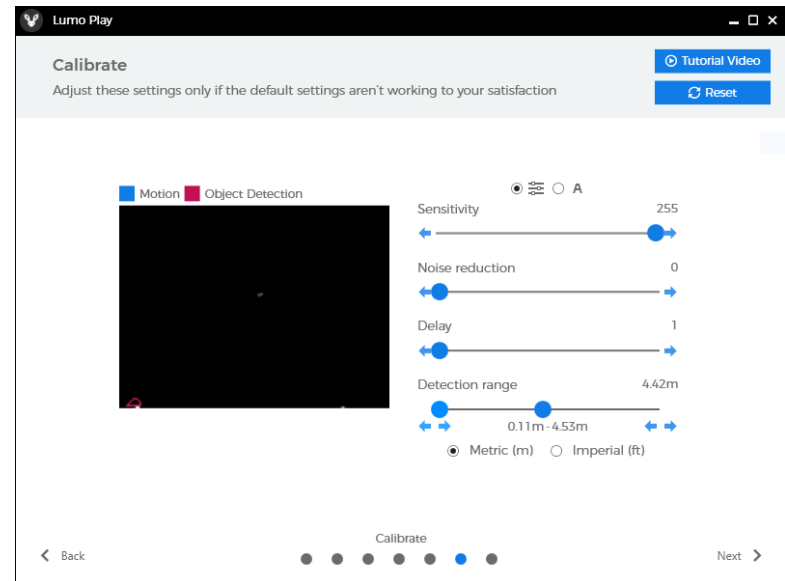
3D cameras work well in complete darkness and most lighting conditions except direct sunlight.

Have a friend to help you. Adjust the settings while your friend moves in front of the camera. You should see blue and red areas appear when there is movement.

Settings Definitions

- **Sensitivity:** increases or decreases sensitivity to changes in depth (how near / far something is).
- **Noise Reduction:** Removes noise from the camera feed.
- **Delay:** **Do not change this setting** - it is only used for specific custom games.
- **Detection Range:** Defines the tracking distance and range.

When you are done, click 'Next'.



Object Detection

Clear the display area of objects and people and take a picture. This reference image tells LUMOplay what your installation area looks like when no one is playing. If this area changes because of objects like furniture, or if direct sunlight travels across the area throughout the day, you may need to recalibrate your installation.

Changing the Calibration

The main software interface will load when the installation is calibrated. You can return to the calibration stage at any time by selecting 'Calibrate' from LUMOplay's dropdown menu in the top left corner of the software.

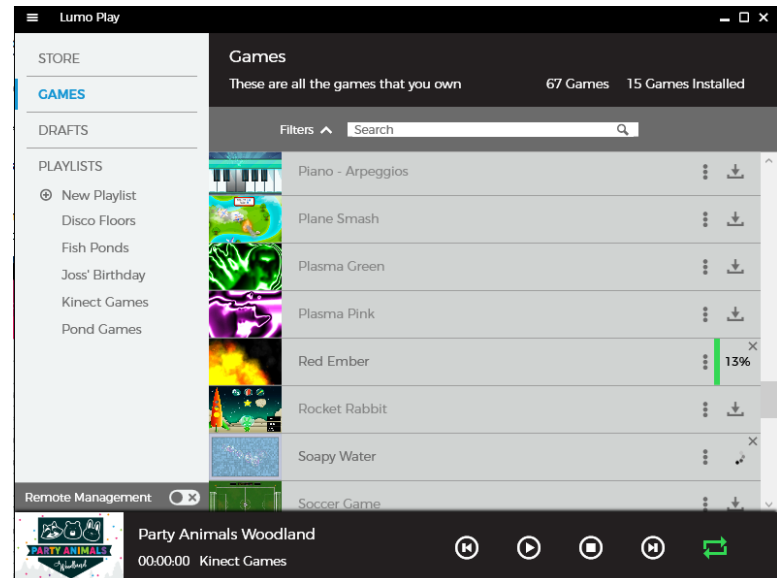
Installing Games

The software interface shows you all the games available with your subscription. Before you can run the games you need to install them.

Click the download icon next to the name of the game you want to download. Once the game is downloaded, double click the game icon to launch it. Press "ESC" to close the game.

Content and System Management

[Click here](#) to learn how to manage content and control your LUMOplay system locally or remotely.



Maintenance Best Practices

Follow these guidelines so your LUMOplay installation works as well as possible. [Click here for our full Best Practices.](#)

Commercial Installers: *If you manage installations on behalf of a customer, consider incorporating a maintenance contract as part of your service fee.*

1. Update LUMOplay once a month

We release software updates approximately once per month to keep up with feature requests, driver updates, and bug reports.

2. Update your system software regularly

Make sure to install Windows updates, as well as updates for device drivers such as graphics cards.

3. Reboot your computer regularly

We recommend rebooting your LUMOplay system at least once every 24 hours.

4. Install your hardware correctly

Follow the manufacturer's guidelines for mounting cameras and projectors.

5. Maintain and clean your hardware regularly

You will find instructions for cleaning your equipment in the manufacturer's user manual.

6. Let us know if you have problems

We want to help! You can report a bug directly from LUMOplay, or by [using our online form.](#)

INTERACTIVE FLOOR



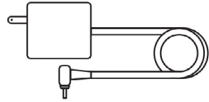
Interactive Floor

Home Installation Kit

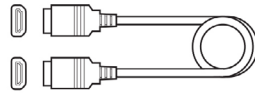
Included in home kit



PROJECTOR



PROJECTOR POWER CABLE



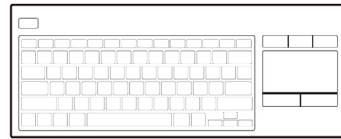
HDMI VIDEO CABLE



PROJECTOR MOUNT



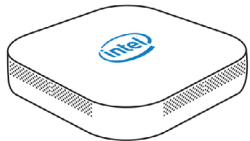
CAMERA MOUNT



WIRELESS KEYBOARD



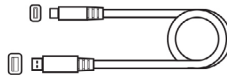
COMPUTER POWER CABLE



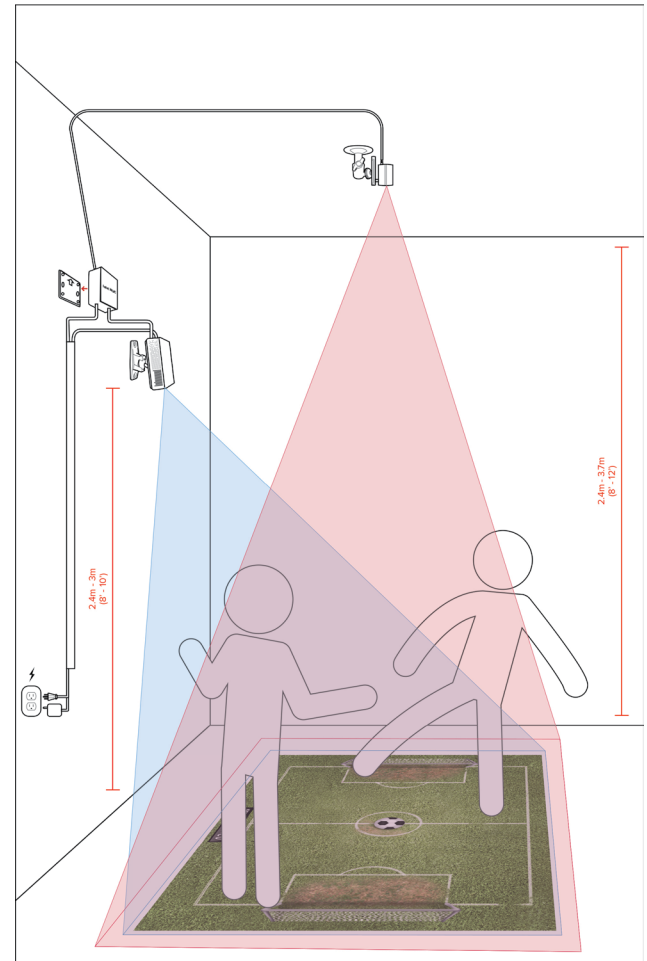
WINDOWS 10 INTEL NUC



Intel® RealSense™ CAMERA



USBc TO USB CABLE



Setup Instructions - Home Interactive Floor

These instructions are for the LUMOplay Home Kit. You can adapt this setup if you choose different equipment for your installation.

Install your floor system in a area where you can reduce the lighting. Do not install near windows or direct lighting. You will need approximately 2.7m x 2m (9' x 7') of open floor space. The display size will vary based on the height of your projector.

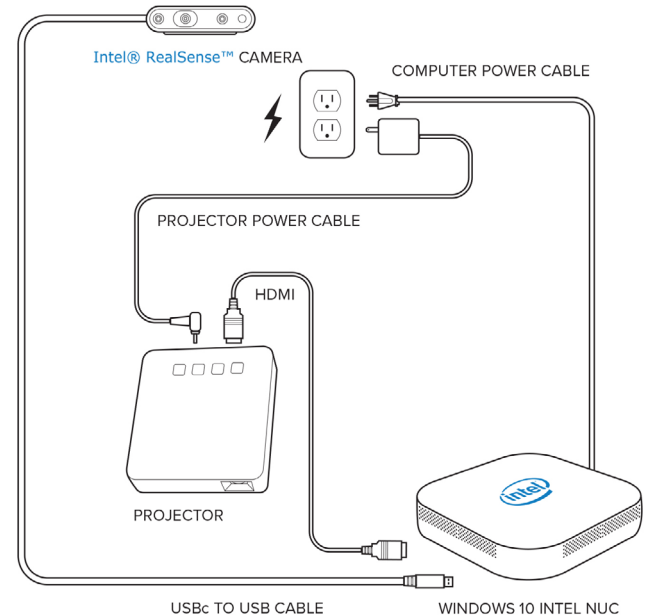
Connect your equipment

Mount the projector on the wall at least 2.4m (8') from the floor and turn it on.

Center and mount the camera over the center of the display area. Connect the camera to your computer using the long USBc cable.

Connect the projector to your computer using the HDMI cable.

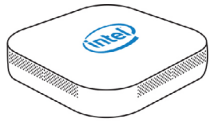
Plug in and turn on the computer and the projector and launch LUMOplay. Proceed to calibration.



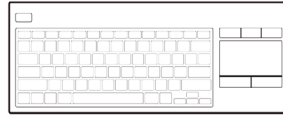
Interactive Floor

Retail Installation Kit

Included in retail hardware kit



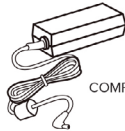
WINDOWS 10 INTEL NUC



WIRELESS KEYBOARD



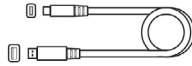
CAMERA MOUNT



COMPUTER POWER CABLE

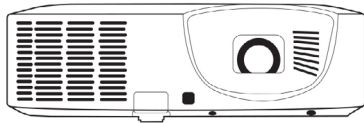


Intel® RealSense™ CAMERA

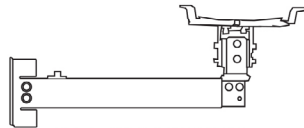


USBc TO USB CABLE

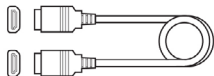
Not included in retail hardware kit



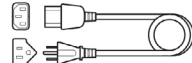
PROJECTOR



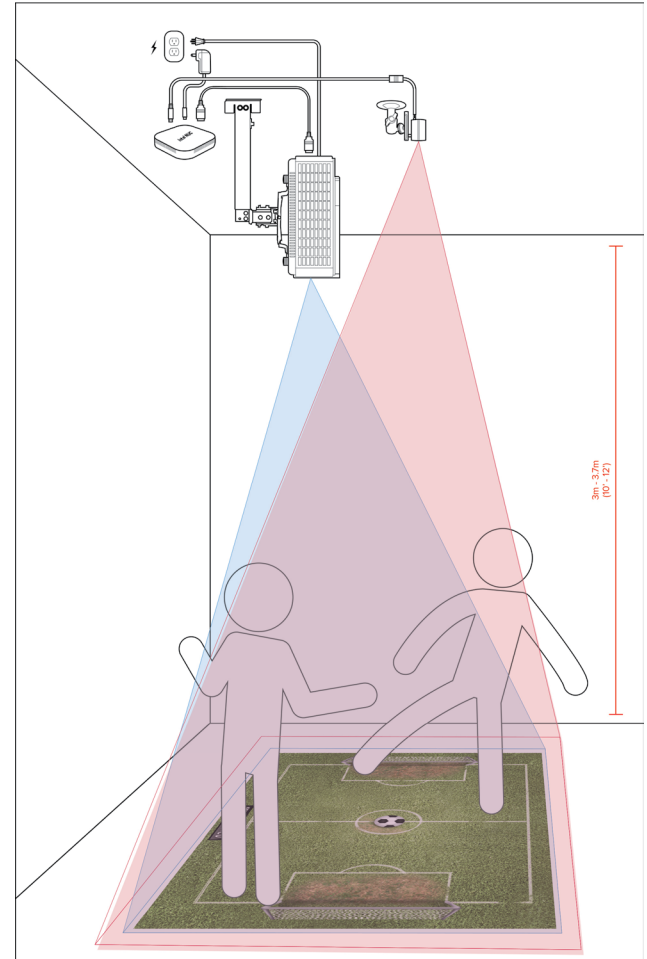
PROJECTOR CEILING MOUNT



HDMI



PROJECTOR POWER CABLE



Setup Instructions - Retail Interactive Floor

These instructions are for the LUMOplay Retail Kit. You can adapt this setup if you choose different equipment for your installation.

Install your floor system in a area where you can reduce the lighting. Do not install near windows or direct lighting. You will need approximately 2.7m x 2m (9' x 7') of open floor space. The display size will vary based on the height of your projector.

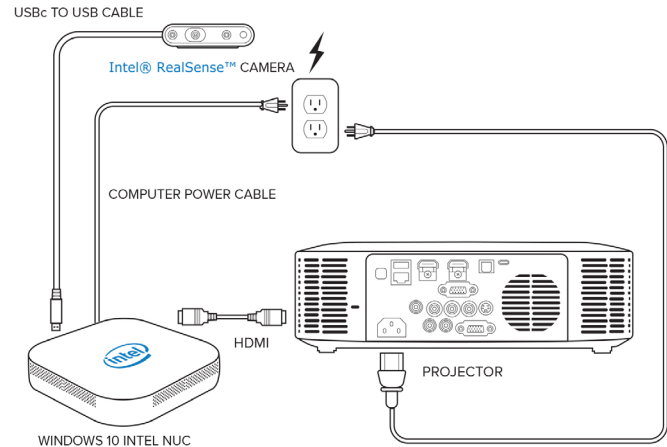
Connect your equipment

Mount the projector on the wall at least 2.4m (8') from the floor and turn it on.

Center and mount the camera over the center of the display area. Connect the camera to your computer using the long USBc cable.

Connect the projector to your computer using the HDMI cable.

Plug in and turn on the computer and the projector and launch LUMOplay. Proceed to calibration.



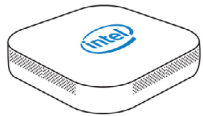
INTERACTIVE WALL



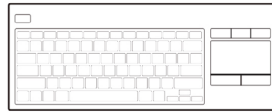
Interactive Wall

Retail Installation Kit

Included in retail hardware kit



WINDOWS 10 INTEL NUC



WIRELESS KEYBOARD



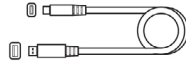
CAMERA MOUNT



COMPUTER POWER CABLE



Intel® RealSense™ CAMERA

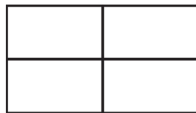


USBc TO USB CABLE

Supported displays (not included in kit)

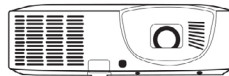
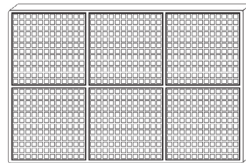


FLATSCREEN TV

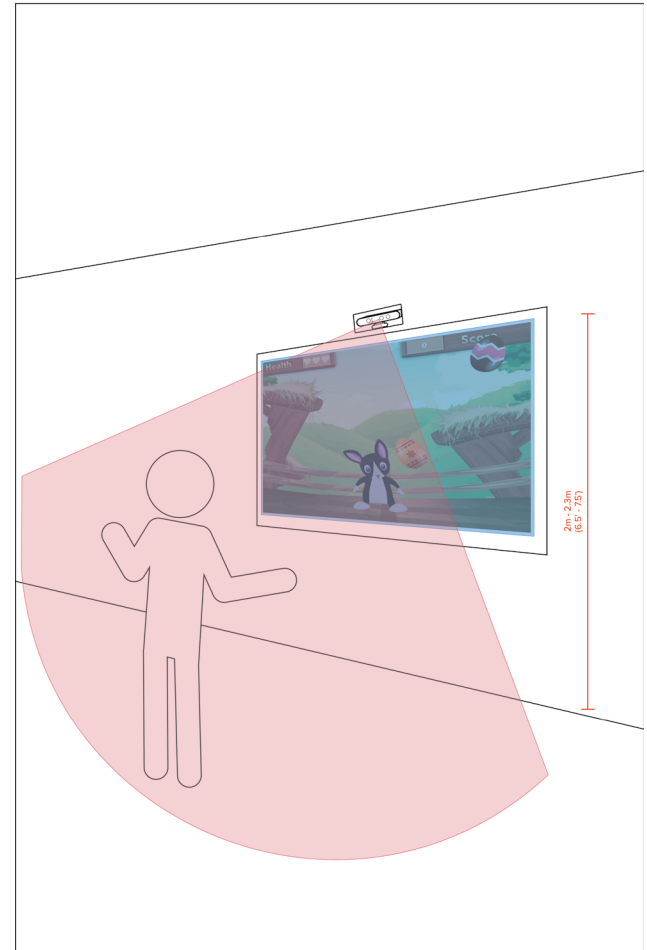


FLATSCREEN ARRAY

LED DISPLAY



PROJECTOR



Setup Instructions - Wall Display

These instructions are for the LUMOplay Retail Kit. You can adapt this setup if you choose different equipment for your installation.

This setup is ideal for most motion or gesture reactive walls and windows. For Photo Booth, Wall Ball, or Touchscreen installations, please continue to the following setup recommendations.

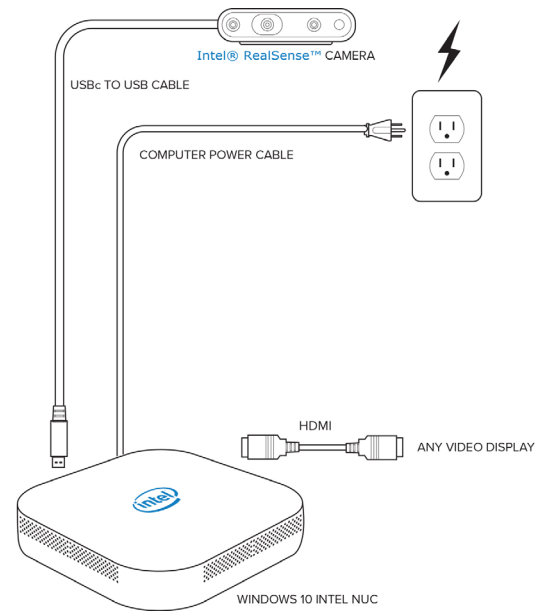
Connect your equipment

You can use a display of any size for this setup, and the camera placement is flexible. For best results, we recommended that the camera be mounted above the display 2m - 2.3m (6.5' - 7.5') from the ground.

Mount the camera centered over the display area. Connect the camera to your computer using the long USBc cable.

Connect the display to your computer using an HDMI cable.

Plug in and turn on the computer and the projector and launch LUMOplay. Proceed to calibration.



INTERACTIVE WALL BALL

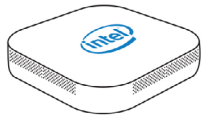
Endless
Learning Possibilities



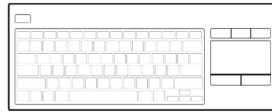
Wall Ball

Retail Installation Kit

Included in retail hardware kit



WINDOWS 10 INTEL NUC



WIRELESS KEYBOARD



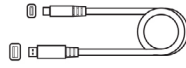
CAMERA MOUNT



COMPUTER POWER CABLE



Intel® RealSense™ CAMERA

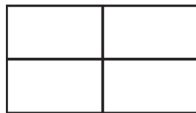


USBc TO USB CABLE

Supported displays (not included in kit)

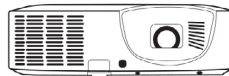
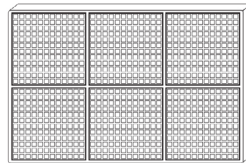


FLATSREEN TV

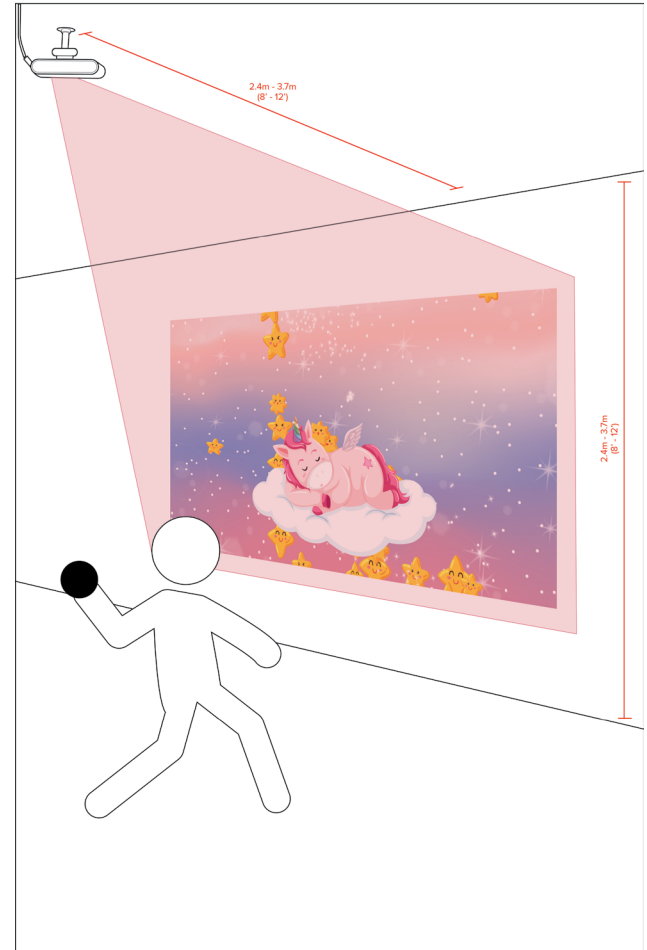


FLATSREEN ARRAY

LED DISPLAY



PROJECTOR



Setup Instructions - Wall Ball

These instructions are for the LUMOplay Retail Kit. You can adapt this setup if you choose different equipment for your installation.

If you plan to use LED tiles, flatscreens or flatscreen arrays, or any kind of display that may be sensitive to impact, you should invest in impact protection such as tempered glass or acrylic.

Use soft or inflatable balls (like beach balls) a minimum of 9' in diameter. Your display area should not be larger than 16' wide.

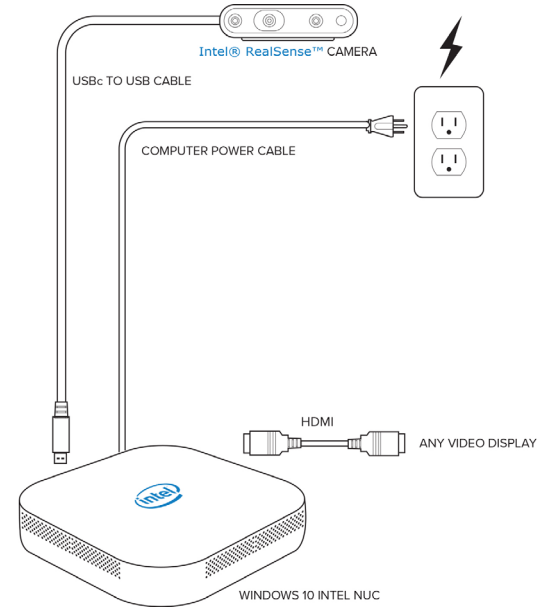
Connect your equipment

Mount the camera on a ceiling that is 2.4m - 3.7m (8' - 12') from the floor, positioned 2.4m - 3.7m (8' - 12') from the wall where the display is.

Connect the camera to your computer using the long USBc cable.

Connect the display to your computer using an HDMI cable.

Plug in and turn on the computer and the display and launch LUMOplay. Proceed to calibration.

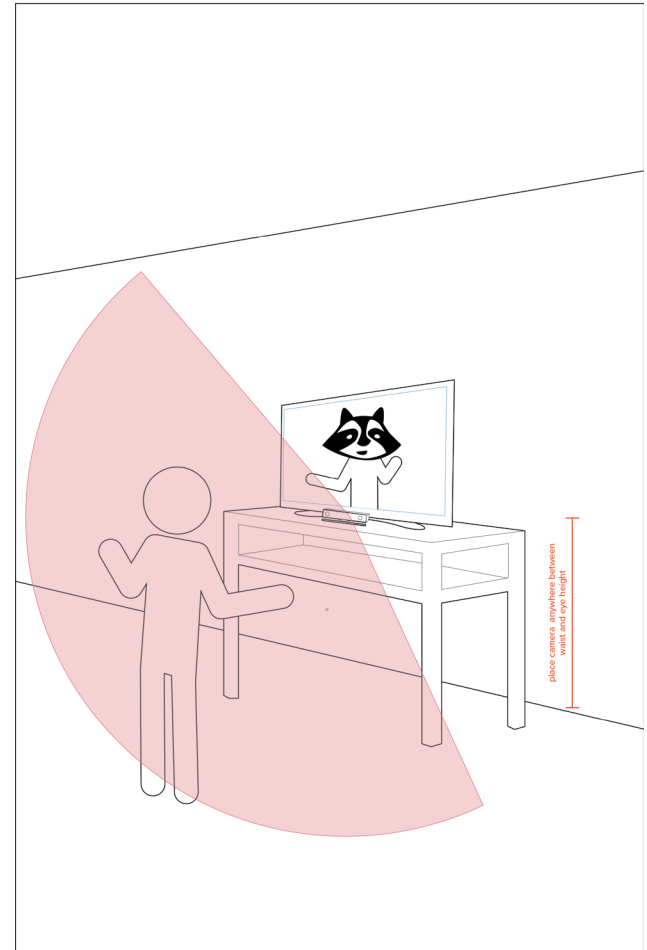
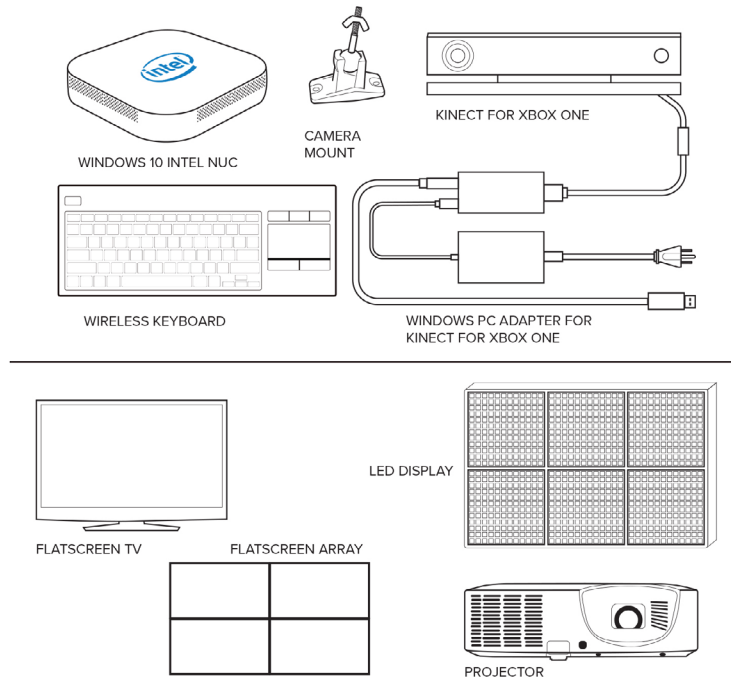


AUGMENTED REALITY PHOTO BOOTH



AR Photo Booth

Recommended Equipment



Setup Instructions - Augmented Reality Photo Booth

Use a computer that meets LUMOplay's [highest recommended specifications](#) if you plan to use Photo Booth apps.

Most Photo Booth apps include a special menu to adjust the angle and lighting of 3D models, and to set the Photo Booth features. You can access this menu by pressing F1.

If you want to customize a Photo Booth app, add a connected printer, or add the ability to share photos to social media or email, please [place a custom order](#).

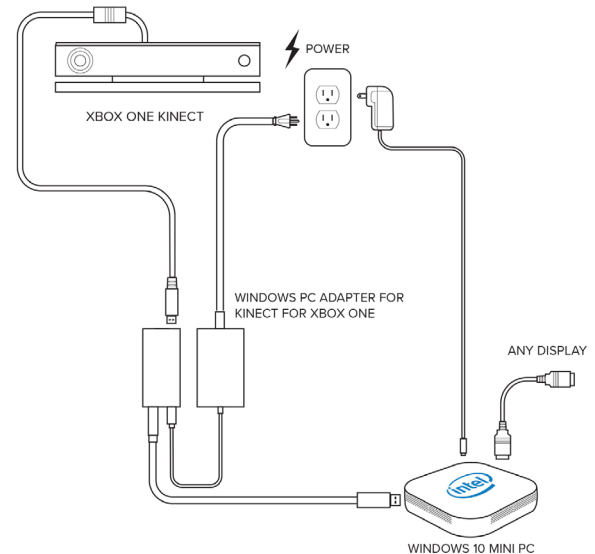
Connect your equipment

Mount the Kinect for Xbox One somewhere between waist and eye height by placing it on a table or mounting it using a camera mounting bracket.

Connect the Kinect to the Windows Kinect adapter, and plug this into the computer via a USB3 port (they are usually blue). Plug the power cable for the adapter into an outlet.

Connect any display to your computer using an HDMI cable.

Plug in and turn on the computer and the display and launch LUMOplay. Proceed to calibration.



TOUCHSCREEN



CINEMA

INSTRUCTIONS

Select tiles to find the matching pairs. Try to beat the best time.

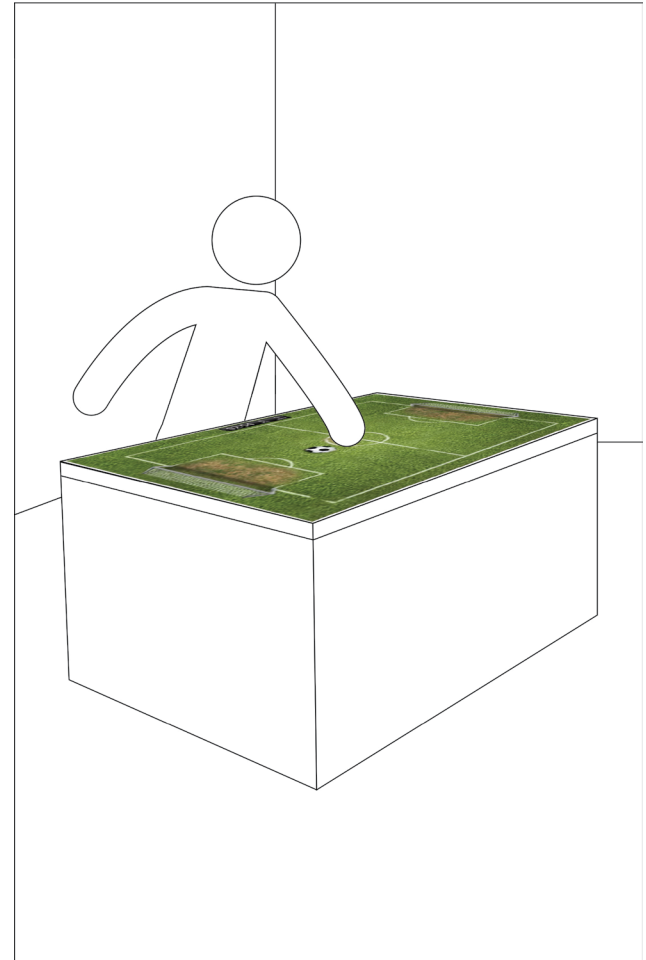
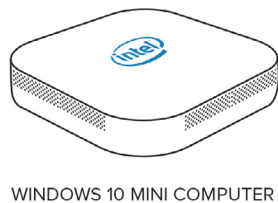
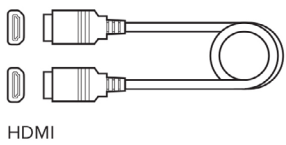
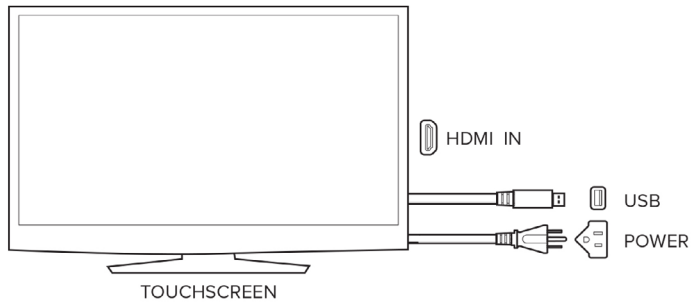
YOUR SPEED: 00:37

TOP SPEED: 02:20

RESET

Touchscreen

Recommended Equipment



Setup Instructions - Touchscreen

LUMOplay's Touchscreen apps are not designed for projection displays. These apps will work with any touchscreen display that works with Windows 8.1 or higher, or with Windows Surface Pro tablets that meet our minimum equipment requirements.

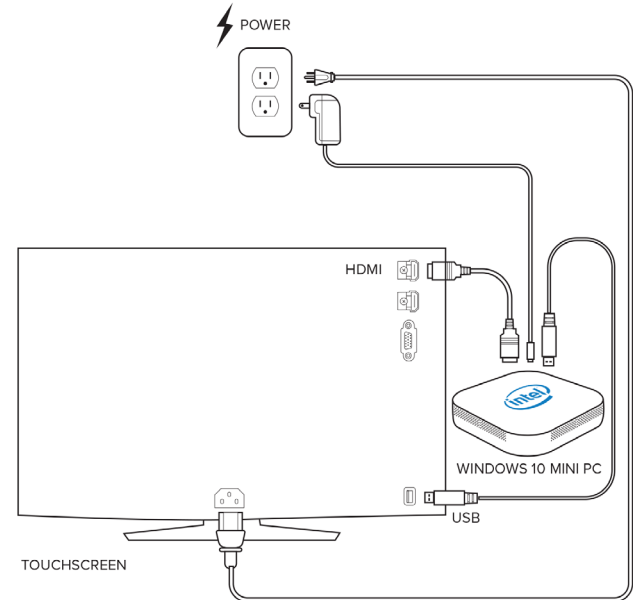
LUMOplay can create advanced touchscreen experiences for lead generation, wayfinding, product ordering, and more. If you want to order a custom Touchscreen app, please [place a custom order](#).

Connect your equipment

Connect the touchscreen display to your computer via USB and HDMI.

Plug in and turn on the computer and the display and launch LUMOplay. Proceed to calibration.

NOTE: Touchscreen displays do not require camera setup, so you will not need to go through the camera calibration steps. Once you choose your touchscreen as your LUMOplay display, your calibration will be complete.



Making Custom Apps

Making your own custom apps is easy! If you can upload a picture to social media, you have the skills to make custom apps for your special events, advertising, or artistic installations!

How much does it cost?

If you have a Lumo Playmaker subscription, you can make as many custom apps as you like at no extra cost. If you have a LUMO Playground subscription, Motion Maker custom apps cost \$59 each.

Recommended browser

We recommend using the latest version of Google Chrome with Flash enabled when you use the Motion Maker templates.

Image file format

Graphics should be png format. Particles should have alpha channels. If you don't know what this means, [click here to learn more](#).

Design resources and links

Color is important, especially when you're designing graphics for an interactive projection! [Click here to learn about choosing colors for your interactive projection](#).

There are 11 Motion Maker Templates you can use to make a wide variety of games and effects for LUMOplay. Using the templates is free - you only pay when you're ready to download the custom app to your system.

To take the guesswork out of making art for your custom app, we've provided a number of design templates for Photoshop that you can use to get started. [Click here to download graphic files for Motion Maker templates](#).

Get Help

We want to help you!

LUMOplay is a friendly team of devoted developers and designers. We launched our interactive display software in 2011 with just 6 games. Today, we're proud to support tens of thousands of interactive display experiences worldwide.

Whether you're installing a LUMOplay system in your home, or installing LUMOplay interactive experiences across hundreds of retail locations, we want to help you create the most amazing installation possible.

Ask a sales question or book a remote calibration session

Contact us by email: info@LUMOplay.com

Contact us by phone to leave a message, and we'll call you back (Toll Free in North America): 1 833 438 5866

Report a software problem

The fastest way to get support for a software problem is to use the 'Report a Bug' option in the LUMOplay software dropdown menu. This will send our technical team all the information they need about your system along with your software error logs. Your report will be answered within 24 hours on business days.

Report a hardware problem

LUMOplay Home or Retail kit hardware problems should be reported to [Simply NUC](#).

If you're having trouble with hardware that was not part of a kit, please report this to your manufacturer.

Free hardware validation

If you're considering purchasing a computer, camera, or display and you want us to review it before you make your purchase, you can send a link to the equipment specifications and someone from our team will let you know if there will be any problem using this equipment with LUMOplay software.



LUMOplay

contact: info@lumoplay.com

