

Protopixel Mapping Tool User Manual

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Protopixel Mapping Tool is designed to create functional and emotional moods for your spaces. A tool gives you all the power of high-level lighting software with all the benefits of a short learning curve.

01 Overview

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01

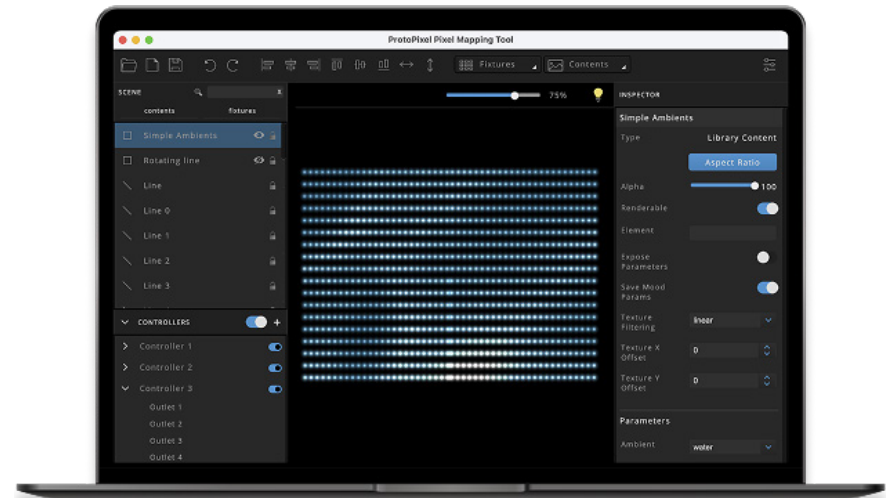
Mapping Tool Overview

About

Design functional and emotional moods for your spaces. The Protopixel Mapping Tool gives you all the power of high-level lighting software with all the benefits of a short learning curve.

Features

- Offsite & Onsite mode (any device is needed to start a project)
- Content Library ready to be used
- Compatible with Protopixel Controllers as well as Art-Net.
- Lighting Content Preview
- Offline Backup



01

Concepts

How the Protopixel Mapping Tool Works

The Protopixel Mapping Tool is a pixel mapping software that helps you map visual content to physical lights in the real world. To do so, you will have to match places in your content to individual lights in the real world. Fortunately, this is very easy with the Protopixel Mapping Tool. Some key concepts are needed to understand and use the Protopixel Mapping Tool:

Light

In the Protopixel Mapping Tool we use Light to refer to a single controllable point of light, which can only have one color. A Light will typically be an addressable LED. We represent it as a point in space with a given color.

Content

Anything that produces color that can be mapped into lights is Content. Videos, images, and interactive animations are examples of Content.

Controller and Outlet

A Controller represents how the physical Fixtures are connected in a particular Protopixel Controller. Controllers have several Outlets representing the physical connections where Fixtures can be plugged. A Controller has to be paired to a Device to work in the real world.

Devices

Devices are how real-world Protopixel Controllers are represented in the software. Typically you would set up a Controller, fill in its Outlets, and then pair it to the physical Device. How fixtures are connected to the outlets of the Controller must match

Project

All these elements are placed together in a Project. A Project can be saved in a file for later use.

01

System Requirements

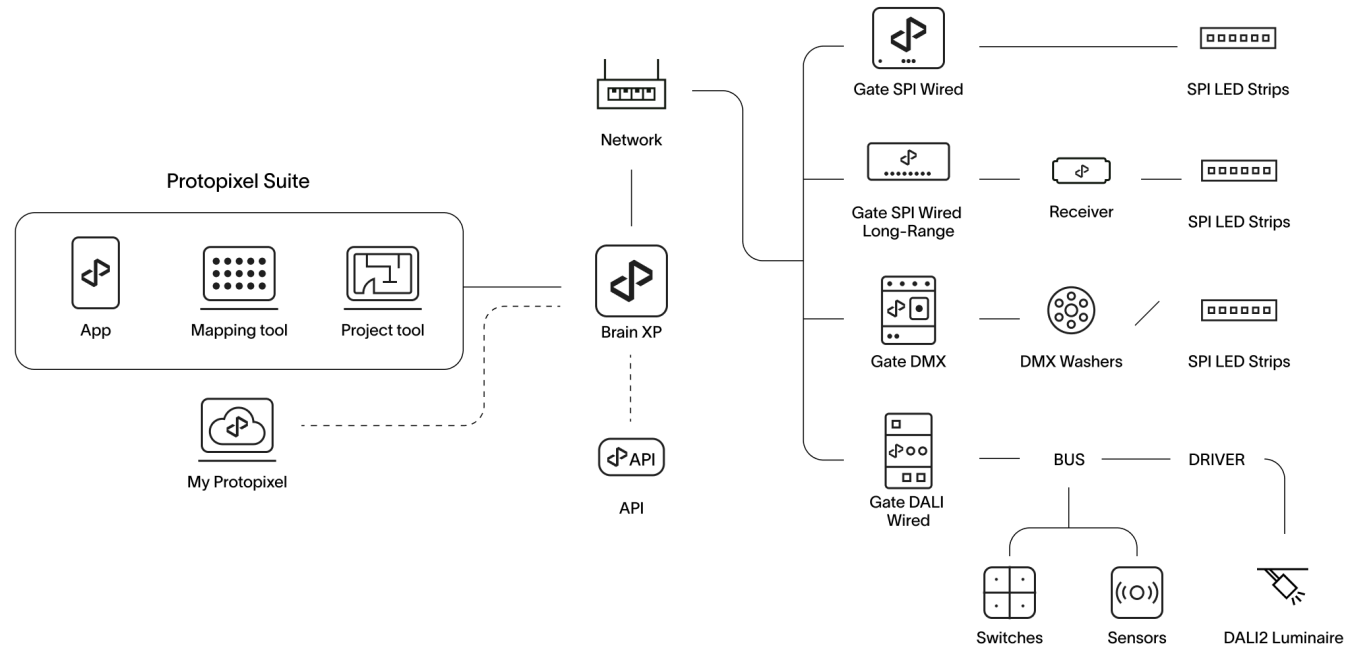
System Requirements

- A computer with 4GB of RAM or more
- A Protopixel Brain Experience and/or a Protopixel Gate SPI Wired

Operating Systems

- macOS High Sierra 10.13 or later
- Windows 8 or later

System Architecture



01

Install the Protopixel Mapping Tool

To install the Protopixel Mapping Tool, please follow the steps below:

—Start by downloading the Protopixel Mapping Tool from MyProtoPixel.

This will ensure you have the latest version of the tool.

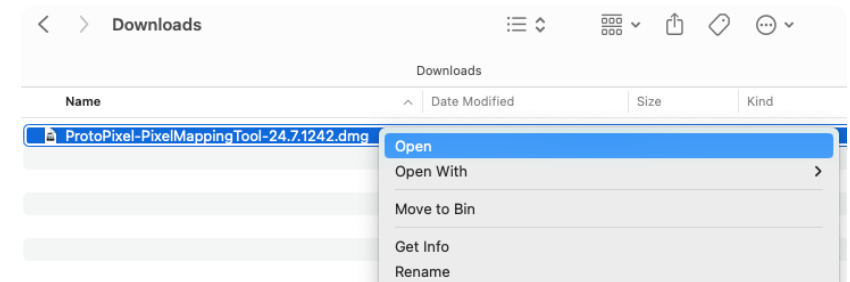
— If you are using a MacOS, locate the downloaded dmg file and double-click on it to unzip it. Once unzipped, open the dmg file and drag the Protopixel App into the Applications folder.

— For Windows users, simply double-click on the Installer file and follow the on-screen instructions to complete the installation process.

—After the installation is complete, find the Protopixel Mapping Tool icon on your MacOS desktop. Double-click on the icon to launch the application.

—On the first launch, you will be prompted to click on “Open” to start using the Protopixel Mapping Tool.

Please note that the above instructions are specific to MacOS and Windows operating systems. If you encounter any issues during the installation or launching process, refer to the official Protopixel documentation or seek assistance from their support team.



Important: The Mapping Tool must be opened by right-clicking on the application and choosing the Open option. Do not “double click” on the application.

01

Protopixel Mapping Tool Interface

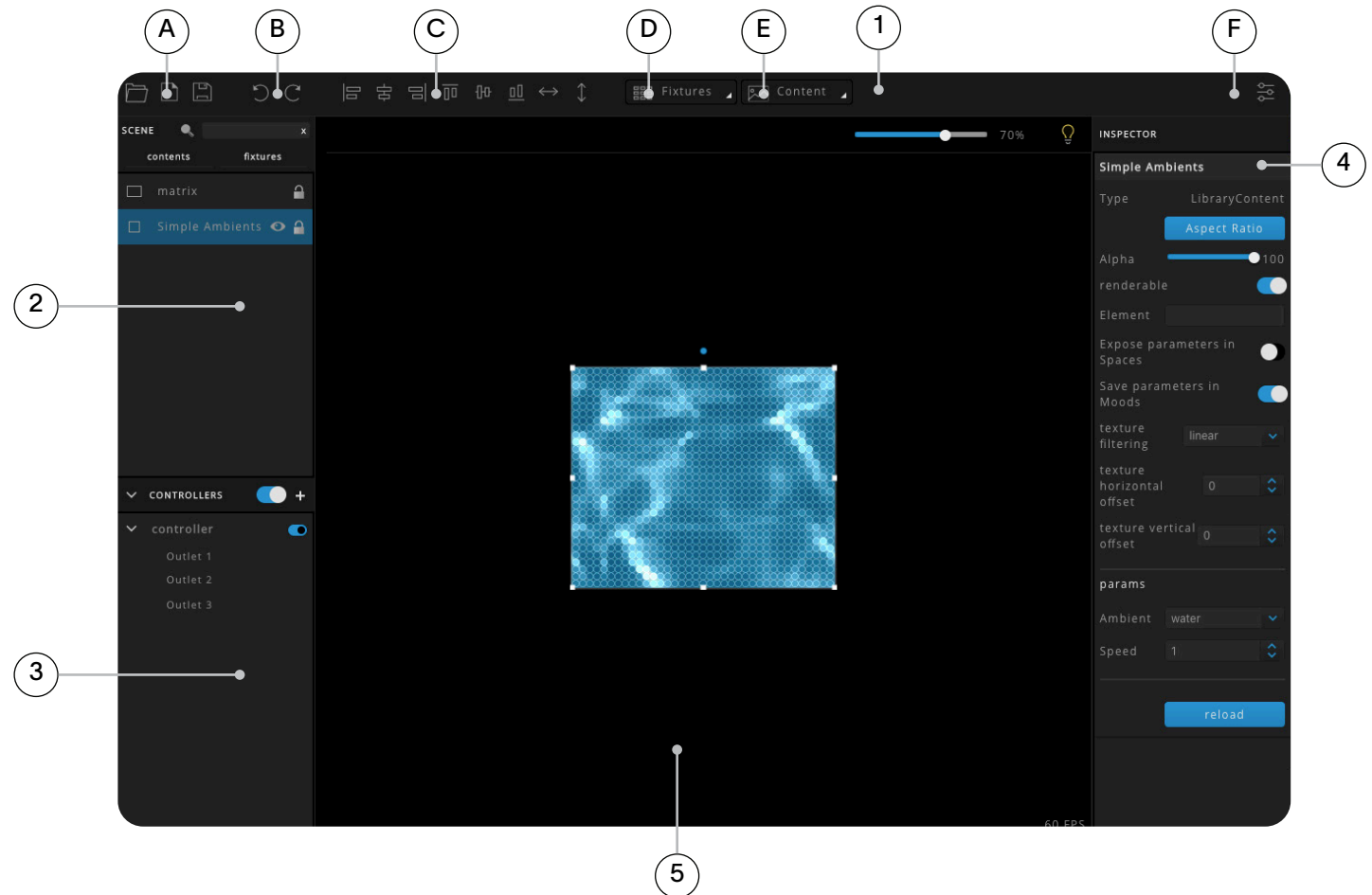
The Protopixel Mapping Tool user interface is composed by several panels, showing the important information about your project.

- 1 Toolbar
- 2 Scene Panel
- 3 Controllers Panel
- 4 Inspector Panel
- 5 Workspace

Toolbar

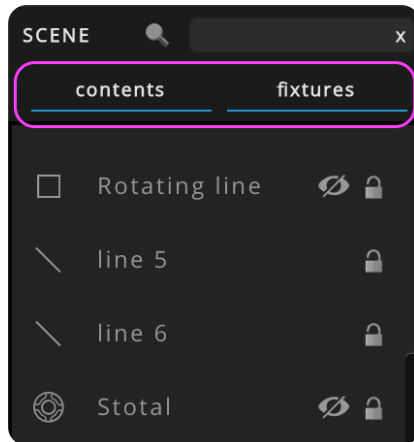
The toolbar has many tools for fast access, these are:

- A Project operations: Open, Open Recent, New, Save
- B Undo, Redo.
- C Alignment Operations: Align Left, Horizontal Center, Right, Top, Vertical Center, Bottom, Spread Horizontally, Spread Vertically.
- D New Fixture Menu.
- E New Content Menu.
- F Global Properties.



01

Protopixel Mapping Tool Interface

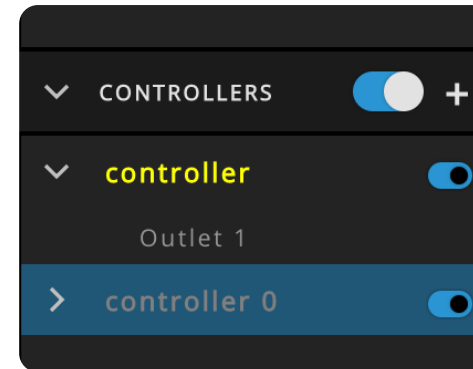


Scene Panel

The Scene Panel lists all Entities (Contents and Fixtures) in your Workspace. With it you can:

- Select an Entity (Click).
- Reorder an Entity (Drag & Drop).
- Center your Workspace on an Entity (Double-Click).
- Select multiple Entities (cmd + Click).
- Select a range of Entities (shift + Click).

- Make an Entity non-interactive (Click on the Entity's Lock icon).
- Hide a Content from your Workspace (Click on the Content's Eye icon).
- Filter Entities by Name (type on the top Search Box).



Controllers Panel

The Controllers Panel lists all Controllers and Outlets in your project. A Controller is just a group of Outlets. You can later bind a Controller to a real Device (see Creating and Configuring a Controller). In the Controllers Panel, you can:

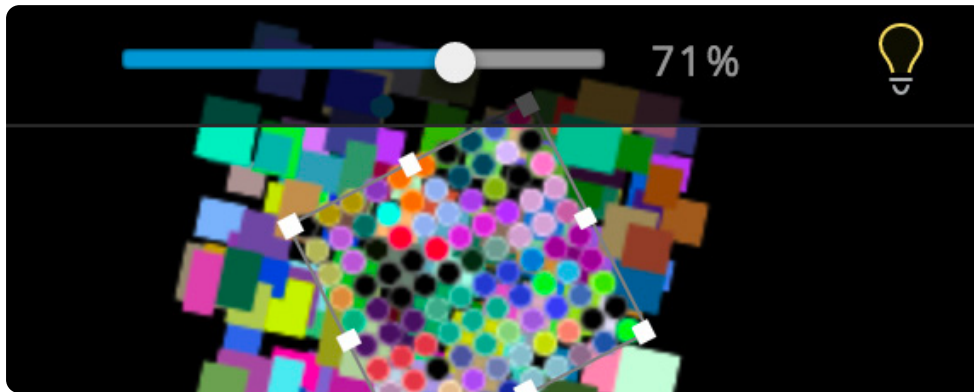
- Add a new empty Controller (Click the + on the Panel title).
- Select a Controller or Outlets (Click it).
- Hide the Outlets of a Controller (Click

its V).

- Deactivate a Controller to stop it from sending data (Click its switch).
- Deactivate all Controllers (Click the switch on the Panel title).
- Hide the Controller Panel (Click the v on the Panel title).

01

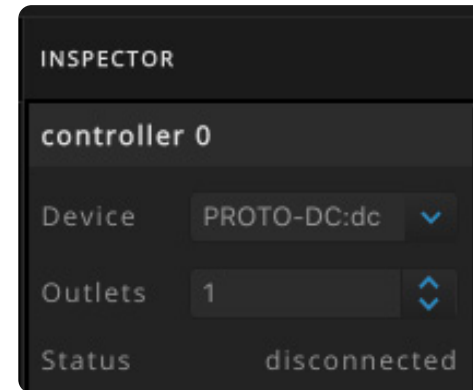
Protopixel Mapping Tool Interface



Workspace

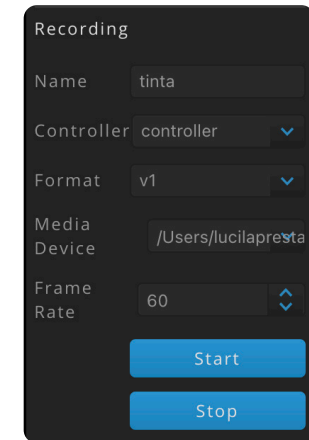
In the Workspace, you can move and transform Fixtures and Contents by dragging them and using its handlers. Moving two fingers on your trackpad will move the workspace. You can zoom in or out of the Workspace with a pinch gesture or by pressing Cmd + scrolling up or down. The slider on the top right lets you manually control the zoom level and the bulb icon activates

and deactivates the *Preview Mode*. In *Preview Mode* all contents are hidden and the lights are rendered in a more realistic way. You will find an FPS indicator in the bottom right corner of the Workspace.



Inspector

This panel will show all the properties of the selected item. Some of those properties can be changed. The name of the selected item can also be changed just by editing it and pressing Enter. You can also cancel the edit by pressing Esc.



Recording Input

Protopixel Mapping Tool allows the recording of output for two different situations: For a single autonomous controller and for multiple standard Protopixel Controllers. These recordings are only useful if you have a Protopixel autonomous Controller or a Protopixel Player.

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02

Workspace

Navigating the Workspace

As you may have noticed, items are created in the center of the Workspace. To navigate through it, you can right-click and drag, use the trackpad, or use the mouse wheel. To zoom in and out,

you can use the pinch gesture or hold the Ctrl key while scrolling vertically.

Elements

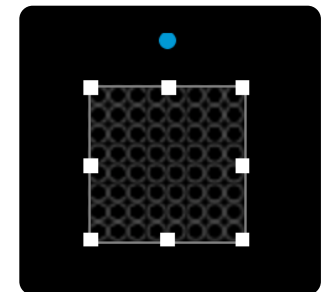
Selecting Workspace Elements

You can select various Workspace Elements (such as Fixtures and Contents) to operate on them simultaneously. To initiate multiple selections, hold cmd and click on the elements you want to select, either on the Workspace or the Scene Panel. You can also use square-select by clicking and dragging the pointer across the

Configuring and Manipulating an Element

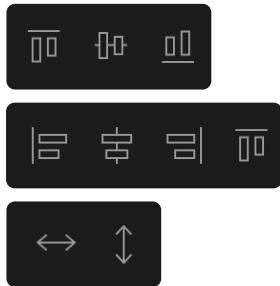
When you click on an element in the workspace, a Gizmo will appear, enabling you to transform it. To move an element, simply drag it using the pointer. To rotate it, drag the rotating handle (blue) (press shift to rotate in 15 degree steps). To scale it, drag one of the edges of the bounding box. To restore the aspect ratio, use the "Aspect

Ratio" button in the Inspector Panel. You can also select multiple elements to apply these operations collectively. When an element is selected, its properties are displayed in the Inspector Panel.



02

Elements



Aligning and Distributing Elements

To align the selected elements, you can use one of the Alignment and Distribution tools available in the menu. The alignment tools include vertical and horizontal alignment to the center and edges. The distribution tools work in both vertical and horizontal directions. Alignment is always performed using a selected group of elements as a reference.

Copying and duplicating Elements

You can copy and paste Elements using `cmd+C` and `cmd+V` key combinations, or using the menu (`Edit > Copy` and `Edit > Paste`). You can select any number of items to be copied. Pasted items will maintain the properties of the original, with a position offset. Pasted elements get automatically selected.

You can perform a quick copy-paste action by duplicating the items: `cmd+D` or `Edit > Duplicate`. performed using a selected group of elements as a reference.

02

Fixtures

Creating a Fixture

To create a new Fixture, click on the Fixture tool in the toolbar. This will display the different Fixture alternatives available for creation. Select the desired fixture type to create it. The new Fixture will appear selected in the Workspace. Alternatively, you can go to Workspace > New Fixture... > Fixture Type.

White Functions

There are several ways to extract the white component from an RGB color:

Mix: This method extracts the white component from the color and uses it as the white level. Pure white colors will not use the RGB components. Avoid using this function in a fixture without a white component, as it may result in incorrect colors.

Average: In this method, the white component is calculated as the average of the RGB components. This will yield slightly whiter colors.

Configuring Fixture Properties

In the inspector panel, you can adjust various properties that will affect how the fixture interprets colors in Protopixel. The first set of properties you will encounter are the ones that determine the size, shape, and connection of the fixture. These properties will differ depending on the specific fixture. Following that, you will find a series of parameters (table).

Color Modes

Here you select how the fixture should use the color from the content:

Original: The original RGB color is used.

Monochromatic: The intensity of the color is used to modulate the Base color.

Color: This will ignore the original RGB color altogether and use the Base Color directly.

Parameters Table

Parameter	Function
ON	Switch on and off output for this fixture
Level	Intensity of the light of the fixture
Protopixel Gamma Correction	Apply the gamma correction to the color
Protopixel Temporal Dithering	Try to get fine grade colors by adding some noise
Protopixel Double Points	Every pixel of the fixture should be sent twice
Force Channel	Select the adress for DMX luminaries
Fixture Type	List of preset byte orders. This will depend on the fixture hardware
Custom Ordering	Define the ordering manually according to the fixture
White Function	Select average or mix
Color Mode	Select original, monochromatic, or color.
Base Color	Color used as a base, depending on the Color
Base Color Transition Time	Set up the transition time of the colors on dynamic contents
Transition Delay	Set up delay transition
Element / Zone	Name the fixture or group of fixtures

02

Controllers

Configuring Fixture Properties

To establish communication with real-world fixtures and send them lighting information, we need to establish a connection with the physical Protopixel Controller and specify how the fixtures are connected to the device. To add a controller, navigate to the Controllers Panel tab and click on the add icon. A new controller will be created with a default number of outlets. You can

modify the number of outlets in the Inspector.

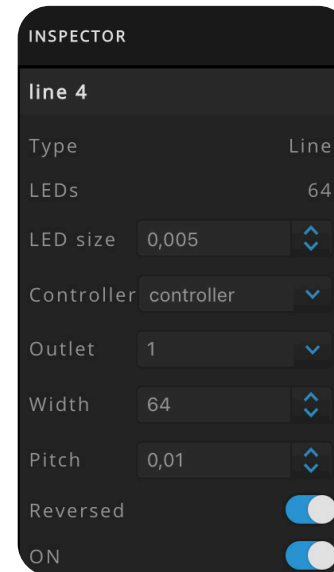
There are two remaining actions:

- Adding fixtures to the outlets.
- Connecting the controller to a device. This will yield slightly whiter colors.

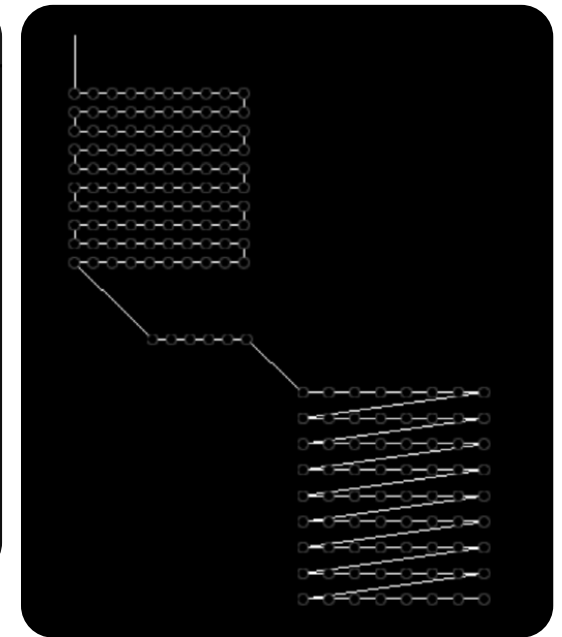
Adding Fixtures to Outlets

Protopixel Controllers do not have any information about how fixtures are connected to them. Therefore, we need to describe this information in the software. This allows the software to send the color information to the Controller in the correct order. To begin, we need to add the Fixture to the appropriate Outlet. To do this, first, select the Fixture. This will display its properties in the Inspector. Then, use the list to change the assigned controller and outlet. If multiple fixtures

are added to the same outlet, it is necessary to define the correct order in which they are connected to match the physical setup. To do this, select the *Outlet* in the Controller Panel and use the inspector to drag and rearrange the fixtures. As you select the outlet, a preview of its wiring will appear on the workspace. The starting point of the outlet is represented by a vertical line.



Inspector Window:
Line Section



Outlet lines and order

02

Controllers

Connecting a Controller to a Device

Now that we have added Fixtures to Outlets, we need to connect your Controller to an actual Device. Protapixel Controllers are automatically detected when they are connected to the same network as your computer.

To pair a controller with one of the detected devices, select the Controller (this will display its properties) and choose the device from the list. This will also display the Device's properties in the Inspector.

Best Practices

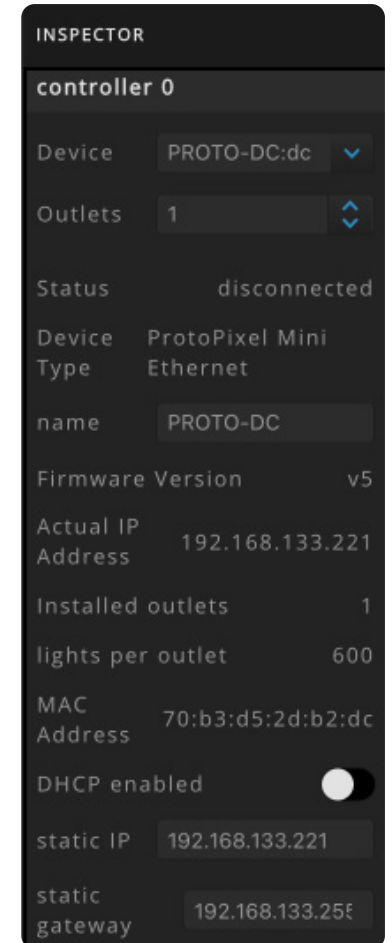
👉 If the Controller cannot connect to the device, its name will appear in red in the Controller Panel until it reconnects again. You might be interested in the [Protapixel Gate SPI Wired Controller](#)

👉 You can modify certain parameters of the device in the inspector, depending on its capabilities. Refer to the table in the "Configuring the controller" section for more details.

👉 This typically occurs when the device is on a different subnetwork. Make sure that all controllers are on the same subnetwork as the computer running Protapixel Mapping Tool, and that the network mask allows for connectivity.

👉 Depending on the type of LEDs being used, you may need to adjust their RGB order to accurately represent colors in the real world. To do this, select all affected fixtures and modify their "PPx RGB ordering" property.

👉 Some Controllers may be inaccessible depending on their connection. While Protapixel Mapping Tool may be able to detect them, it may not be able to establish a connection or send data to them. In such cases, a warning with relevant information will be displayed next to their current IP property.



Inspector Window: Devices

02

Content

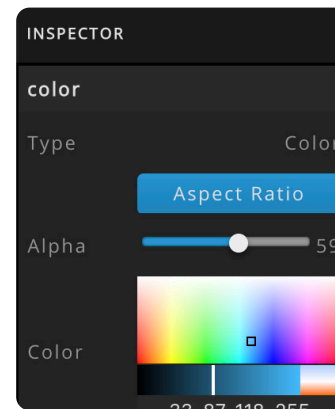
Adding Content

Now that we have Fixtures in the Workspace and have mapped them to real-world Fixtures, we can begin mapping content into them. To create content in the workspace, we can either press the Content menu in the Toolbar or use the Workspace > New Content... > Menu. We then select the desired type of content. Some content types require a file to function (such as images, videos, and scripts). These contents can be created by simply dragging the file directly into the workspace. As an example, we could create a Test content to verify if everything is set up correctly. This content consists of four squares of different colors rotating. The Protopixel Mapping Tool includes

several bundled types of content:

- 1 Color
- 2 Image
- Video
- 4 Script
- 5 Syphon
- 6 Test

**All types of content have an Alpha parameter that can be adjusted to change their transparency. Also, some contents can be configured to determine their alignment.

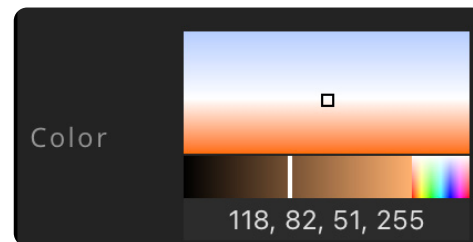


Inspector Window: Color

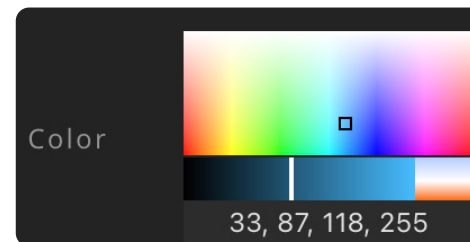
Parameter	Meaning
Texture Filtering	Define if the pixels should blur between them
Texture Horizontal	Offset move the content texture horizontally
Texture Vertical	Offset move the content texture vertically

Content Types: Color

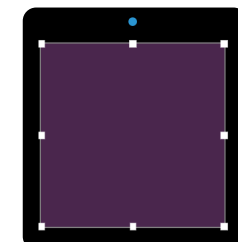
This content defines a solid color. Adjust the color and temperature using the palette.



Tunable White



Full Spectrum



Color Content

02

Content

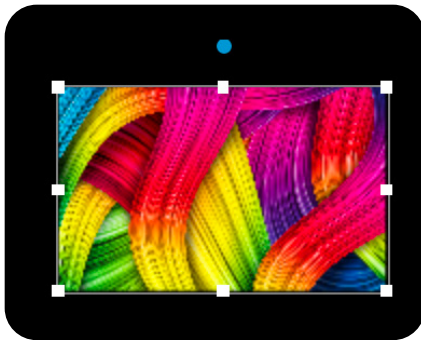
Image

This content imports an image. It supports the following formats:

.tiff

.jpg

.png



Video

Plays a video and maps it with the lights. The Inspector provides controls to play and stop the video. You can also adjust the volume and enable video looping. Although the Protopixel Mapping Tool is capable of playing many video formats, we recommend using the following specifications:

- Container: mp4 (MPEG-4)
- Resolution: 1280x720 or lower
- Codec: H.264

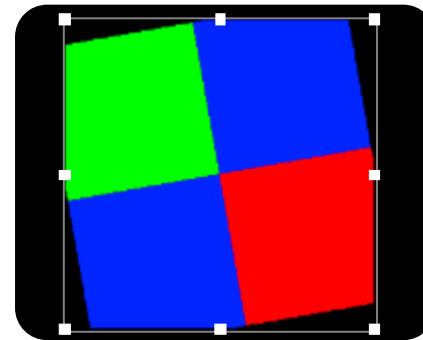
You might find the [Video Codec Specifications](#) for Brain Experience article interesting.

More info on Video Codecs [here](#).

Test

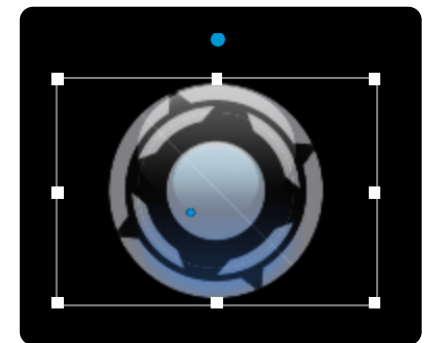
This content provides a quick way to test content on fixtures. It consists of an endless video featuring rotating RGB squares of different colors.

You might be interested in [Content from Library](#)



Syphon

You can create interactive content with software like Resolume, Modul8, Millumin, or even audiovisual interactive tools like Processing. By using Syphon technology, you can import image content directly into Protopixel. To do this in the Protopixel Mapping Tool, activate the Syphon output in the software you want to use. Next, add a Content > Syphon and select the desired application from the Source drop-down menu in the Inspector panel. The content will appear in the view and can be mapped like any other content.



02

Content

Script

The Protopixel Mapping Tool offers scripting capabilities for creating interactive content. It is based on the Python programming language and incorporates bindings to open Frameworks, a popular creative coding library. To familiarize yourself with Protopixel Scripts, you can refer to the provided examples. We recommend using a Python-aware editor, such as pyCharm or Sublime Text with Python addons, to edit the scripts externally. When saved, the programs will automatically reload in Protopixel.

Content Library

With the Mapping Tool, you have access to various default content options that you can customize to unleash your imagination and create incredible new content. [Library contents in the Mapping Tool.](#)

For advanced graphics generation in scripts, you can also use the pyOpenGL bindings after installing them separately. To use a Script Content, create a python file and import it into the Protopixel Mapping Tool. Any errors in scripted programs will be displayed in the Log Window.

During execution, you can add various input elements to the properties of your script. The Mapping Tool will check for new inputs each time you click on the script content.

Shaders

- Make sure that you have installed a text editor on your machine.
- These instructions only work for the Mapping Tool (formerly known as Create) 3.0 or higher versions.

Steps for importing shaders into the Protopixel Mapping Tool

1. Go to the file package that you have downloaded, which contains the MappingTool.dmg file.

- Open the 'examples' folder.
- Open the 'scripting' folder.
- Drag and drop the [shader.py](#).

Python file onto the Mapping Tool workspace canvas.

2. Select the shader you want to import.

- Go to your browser and search for the desired shader in a repository, such as [shadertoy](#)
- Identify the suitable shader for your project.
- Copy the code of the shader.
- Paste the code into a text code editor.
- Save the file on your machine.

3. Import your shader into the Mapping

Tool:

- In the Mapping Tool, select the shader object (represented as a transparent square).
- From the inspector panel, select the shader path where you have stored the code.

Please ensure that your chosen shader does not have any external dependencies (check the information available in the 'iChannel'). If it does, it might not work in the Mapping Tool because those external sources would not be embedded.

02

Export Projects

How to Export

Once the project is correctly mapped in the Protopixel Mapping Tool, from the menu bar select the option Project > Export select a location, and name it. The file will be saved with the extension .ppxexp.

There are two kinds of projects:

1. The bare project is a file with a .ppxproj extension. It is created when you save a project. It only contains the essential parts for it to run on your computer.

- The bundled project is a file that

also has a .ppxexp extension. It is created when you export a project. It contains a bundle of all assets needed to run your project on any computer (videos, scripts, ...). this is the necessary extension to upload a project to the [Brain Experience](#).

To export your project go to Project > Export, or use cmd+E.

02

Recordings and Protopixel Gate

Create a Recording

In order to use the Protopixel Gate SPI Wired in standalone mode you will first need to make content for the Protopixel Gate SPI Wired to playback. This is done using the Protopixel Mapping Tool software which will allow you to make recordings that can be uploaded to the Protopixel Gate SPI Wired.

Step 1: Lighting Fixtures

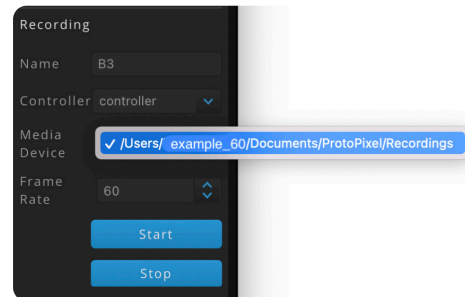
First define the fixtures in the Mapping Tool that you to control using the Protopixel Gate SPI Wired. Make sure that you have a controller with 1 or 2 outputs configured and that these are assigned to the corresponding fixtures that you intend to make the recording for. The recording will capture the all of the information generated when you run the content in the Mapping Tool and "hit record", this includes which output the fixtures are connected to.

Step 2: Lighting Content

You can now start designing and laying out the content in the Mapping Tool that you wish to capture with the recording process.



If you think that you may upgrade your install to use a Protopixel Brain Experience to control the Protopixel Gate SPI Wired in the future now is a great time to export the project



Step 3: Recording Storage

In the Mapping Tool inspector panel, you will find the Recording section. Here you need to define the recording name, select your controller and the path where you want to store the recording. By default, the recordings will be saved in your Documents folder (e.g. on Windows: C:\Users\YourName\Documents\Protopixel\Recordings) You will also need to define the frame rate you want your recording to be saved.



TIP: Add a suffix in your recording name indicating the frame rate (e.g. "_60fps"). It will be useful when uploading the file to your Protopixel Gate SPI Wired with the Player WebApp.



Note that the format you must select from the recording panel in the Mapping Tool for the Protopixel Gate SPI Wired is V1.

Step 4: Record

Once you have completed steps 1, 2 and 3 you are ready to record. Run the content sequence that you wish to capture then click on the "Start" button to record. Once your content sequence is done you need to click the "Stop" button. Your recordings will be automatically saved to the path you defined in step 3.



A REC hint will appear in the Mapping Tool canvas (bottom right) to show when you are recording

02

Global Settings

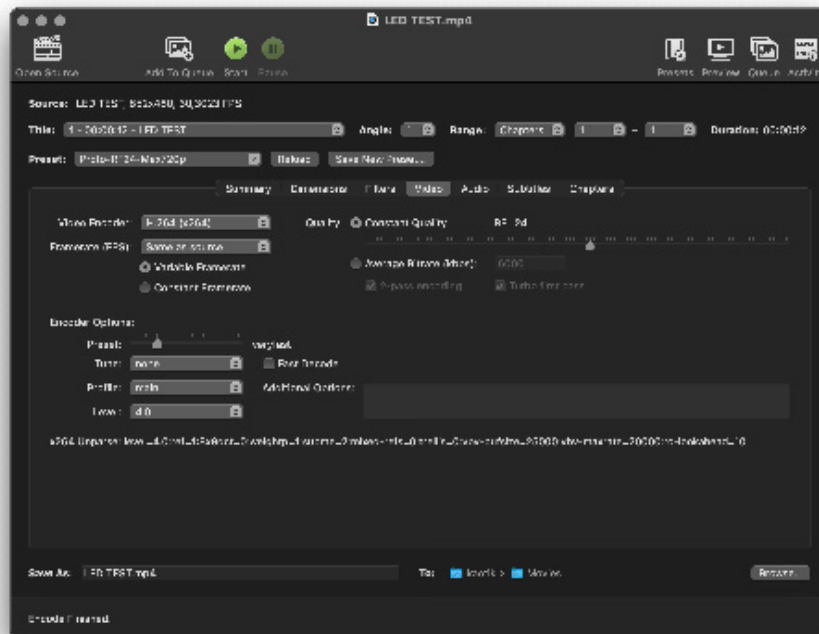
There are several global settings that can be accessed through the global settings button in the Toolbar. Here is a description of each setting:

Installation Name	This name is used to notify you about expiring subscriptions or other installation-related events.	Process Sound	Enables sound processing for scripts that require it.
Starting Project	Specifies the path to a project that will automatically load when running the Protopixel Mapping Tool. This is useful for autonomous installations.	Global Framerate	Sets the maximum framerate for the entire application.
Async Rendering	It is recommended to keep this option activated for better performance. However, some older systems may actually perform better with it deactivated.	Preview Quality	Limits the quality of the preview in the Protopixel Mapping Tool. This does not affect the quality of the LED output, but reducing it can improve performance.
Autosave	The program periodically saves your work so that you can recover it in case of an outage or a crash. If a backup project is found when starting the application, a dialog will prompt you to recover it.	Manual Artnet Devices	Refers to recording output for a single SD Controller
		Scheduler	Refers to the scheduler feature.
		Recording	Refers to recording output for a Protopixel Player.

02

Video Codecs

To avoid issues with projects that include video files, ensure that the video codec is correct.



To use them, you will need to import the presets from the table in the following way:

You can find more info and resources [here](#).

1. Download the file [Proto-RF24-Max720p \(1\).json](#).
2. Open [Handbrake](#)
3. Click on 'Presets'.
4. Click on 'Import'.

If you are using the Protopixel Mapping Tool on Windows, a pop-up will appear during the installation process suggesting the installation of the codec pack. This message typically appears when you open the Mapping Tool for the first time on Windows, as well as when you try to add video content.

If you have ignored the suggestion, you can download the codec pack [here](#).

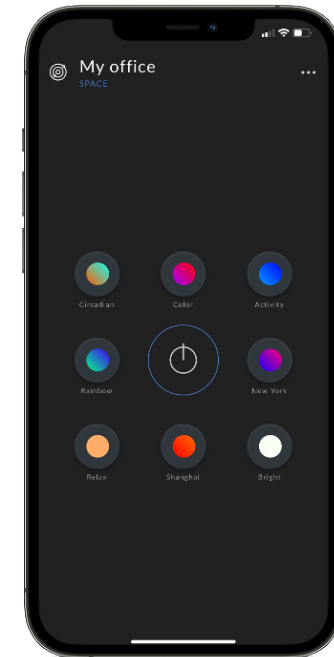
02

Spaces

Spaces is a tool for controlling various types of lighting, from everyday environments like offices to immersive experiences. This guide will demonstrate how Protopixel Spaces serves as the configuration co-pilot of the Protopixel platform, providing a control interface for users. It seamlessly integrates with other components of the suite, including the advanced lighting design software, Protopixel Mapping Tool, and the hardware device, Protopixel Brain Experience. Spaces enable users to create and manage their lighting environments, utilising moods, widgets, and rules for everyday use.

You can use Spaces as if you were on your mobile phone, but directly from the Project Mapping Tool. To do this, go to Window - Spaces. When Spaces is enabled, you will see an “Spaces enabled” alert at the bottom of the canvas, indicating that the installation is being controlled with Spaces.

For detailed instructions on how to use Spaces, please refer to its [manual](#).



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03

OSC Interface

Property Editing

Protopixel has a native Open Sound Control interface exposed in port 2345.

You can affect contents in your project by sending OSC messages to this port. The OSC address schema is like follows:

```
/<type>/<name>/<param> <value>  
/<type>/<name>/<param>
```

With those parameters:

<type> is the entity type, and at the moment it can only be Content.

<name> is the name of the entity

<param> is the parameter of the entity to be modified. You can see those parameter names by accessing the Content section in the WebApp.

<value> is the new value of the parameter. It can be omitted if the parameter is a button.



If the parameter is inside a parameter group, you can use / to separate the group from the parameter name. See the examples.

OSC Messages Examples

```
# enable content  
/Content/mycontent/enabled 1  
  
# disable content  
/Content/mycontent/enabled 0  
  
# play video content  
/Content/rainbow.mp4/params/play  
  
# stop video content  
/Content/rainbow.mp4/params/stop  
  
# change color for a color content (R, G, B, A)  
/Content/color/params/color 255 100 100 255
```

Custom OSC bindings

Custom OSC bindings are also available in scripts. See custom_osc.py example in the examples/scripting folder for more details.

03

Integration OSC & events

Controlling Standard Contents

You can affect the contents in your project by sending OSC messages to this port. The OSC address schema is like follows:

```
</type></name></param> <value>  
</type></name></param>
```

With those parameters:

<type> is the entity type, and at the moment it can only be Content.

<name> is the name of the entity

<param> is the parameter of the entity to be modified. You can see those parameter names by accessing the Content section in the WebApp.

<value> is the new value of the parameter. It can be omitted if the parameter is a button.

Getting all parameters from a Content

```
CONTENT_NAME="color"  
curl -H "Content-Type: application/json" -X POST \\  
--data '{"command": "getSingleContent", "args": ["CONTENT_NAME"]}' \\  
<http://localhost:8181/api/v1/scene/get?> | python -n json.tool  
  
{  
  "result": {  
    "name": "",  
    "color_levels": [  
      255,  
      255,  
      255,  
      255  
    ],  
    "enabled": true,  
    "lock_gui": false,  
    "params": {  
      "color": {  
        33,  
        87,  
        118,  
        255  
      }  
    }  
  },  
  "params_in_manager": false,  
  "projection_parameters": {  
    "height": 1,  
    "width": 1  
  },  
  "projection_type": "flatplane",  
  "python_script": "lib/programs/color.py",  
  "reload": null,  
  "renderable": true,  
  "save_params_in_scene": true,  
  "texture_filtering": "linear",  
  "texture_horizontal_offset": 0,  
  "texture_vertical_offset": 0,  
  "uid": "42f023060"  
}
```

Sending OSC to Custom Scripts

Inside a custom script, you can register an OSC endpoint like this:

```
@content.OSC("/acc")  
def acceleration(x, y, z):  
    """  
    This function handles OSC user input in address "/acc", with 3 arguments: x,y,z.  
    Use pl.OSC decorator to define handles like this. Multiple scripts can listen to  
    the same address simultaneously.  
    """  
    global color2  
    r = normalize(x)  
    g = normalize(y)  
    b = normalize(z)  
    color2 = ofColor(r, g, b)
```

Please take into account that if the number of arguments sent does not match the function signature, the message will not be delivered.

Sending events to Spaces

Protopixel Spaces can integrate with other elements such as presence sensors via its API. For more information consult [here](#).

03

UPD

Interface

There is also a UDP interface in port 2344. The mechanics are the same as the OSC Interface. The messages are composed like the following:

```
/<type>/<name>/<param> <JSON-encoded value>
```

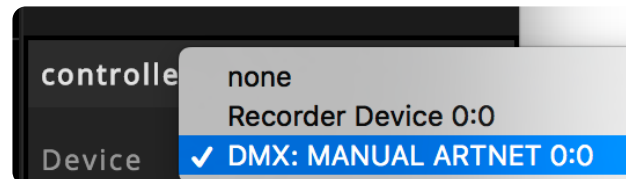
For instance:

```
# enable content  
/Content/mycontent/enabled 1  
  
# change color for a color content (R, G, B, A)  
/Content/color/params/color [255 100 100 255]
```

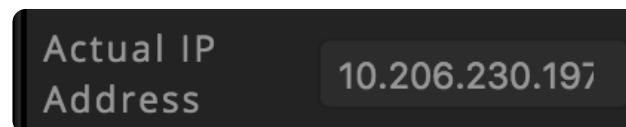
Art-Net

Manual Art-Net Configuration

To manually add an Art-Net device, first check if you have enabled manual Art-Net devices in the Global Settings. Next, select the controller and assign the manual Art-Net device to it.



This device functions identically to the Art-Net detected devices, with the distinction that you have the ability to manually specify the IP address.



For more information
and inquiries, contact
us at protopixel.io