



# BBN Touchscreen Setup - Local Control

BubblyNet Bluetooth Mesh, Touchscreen Controls System, Gateway

*Owner: BubblyNet LLC*

*Author: Joe Gorecki*

*Version: 2.0*

*Revision Date: 02/21/2024*

<b>Documentation for System Setup:</b> .....	<b>3</b>
<b>Step 1: Create the Control Panel on Cloud Services</b> .....	<b>3</b>
Login to Cloud Services.....	4
Access Network Settings.....	5
Touchscreen Search.....	6
Touchscreen Registration.....	7
Touchscreen Control Panel Configuration.....	8
Understanding Group Topology.....	9
Building a Group Control Structure.....	10
Selecting Scenes for Recall.....	11
Color Customization for Touchscreens.....	12
Control Placement.....	13
Passcode & Screensaver.....	14
Sending a new Panel.....	15
<b>Step 2: Launch and Configure the Local System</b> .....	<b>16</b>
System Setup.....	18
• Setup Checkup Menu.....	19
• Refresh Status.....	19
• Change Brightness.....	19
• Setup internet connection.....	20
Gateway Network Requirements.....	21
<b>Step 3: Access Local Control Panel</b> .....	<b>21</b>
Diagnostics System.....	24

## Documentation for System Setup:

This document is an instruction set for installing and customizing a BubblyNet touchscreen with **Local Control** and configuring a control panel for deployment with a **Version 2 Touchscreen**.

The samples used for screenshots in this document are of a 7" screen in landscape mode and the Cloud control system in a browser. *All steps for any size or orientation are the same.*

Configuration on a Local Control Panel is a three step process.

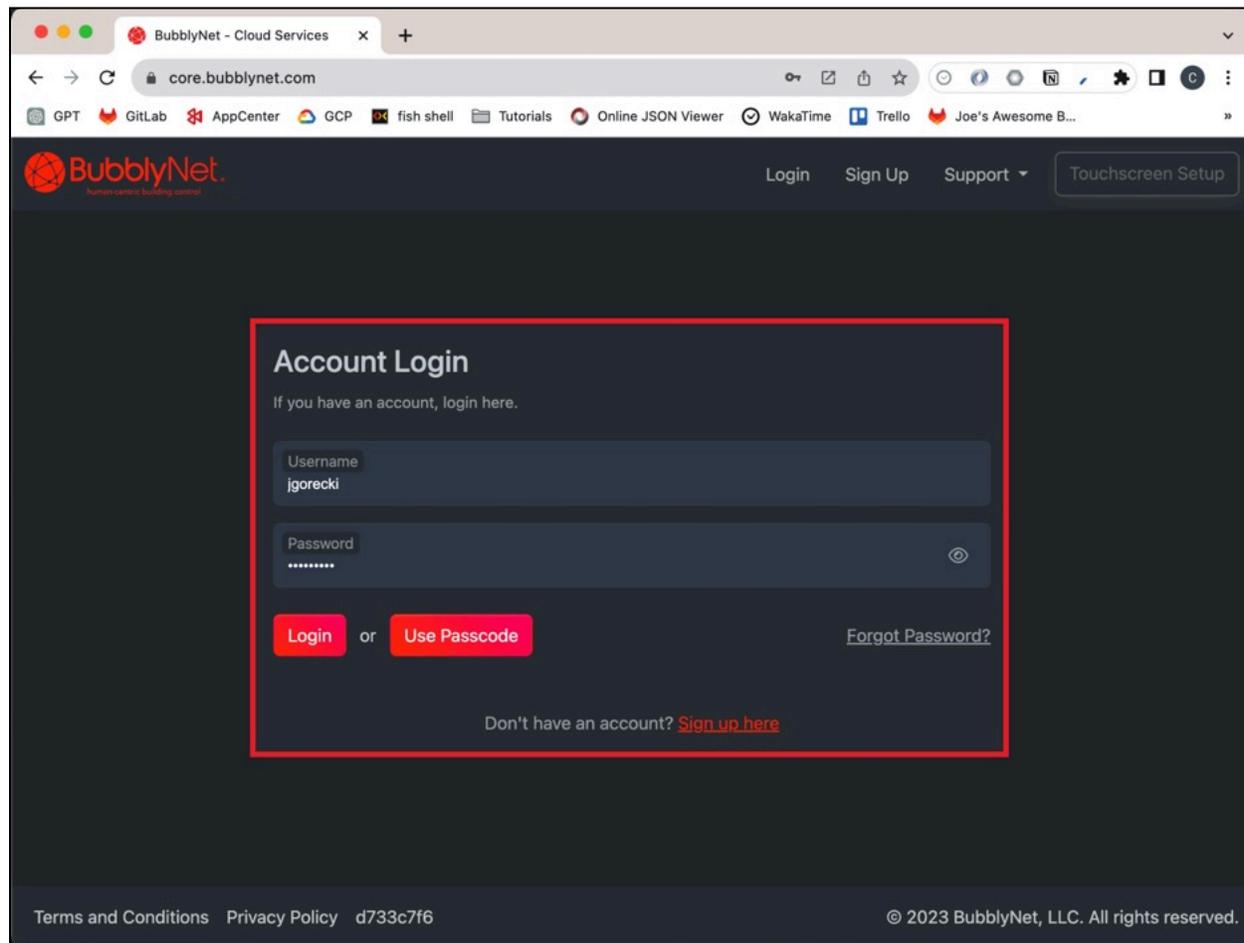
- 1: Create the control panel on Cloud Services,
- 2: Add connectivity to the touchscreen to publish the control panel.
3. Access the control panel to manage the system.

## Step 1: Create the Control Panel on Cloud Services

**Warning!** For the initial step or changes to the system the touchscreen will need online access for the Cloud Services to deploy a system. **Note:** We recommend an Ethernet connection for ease of setup.

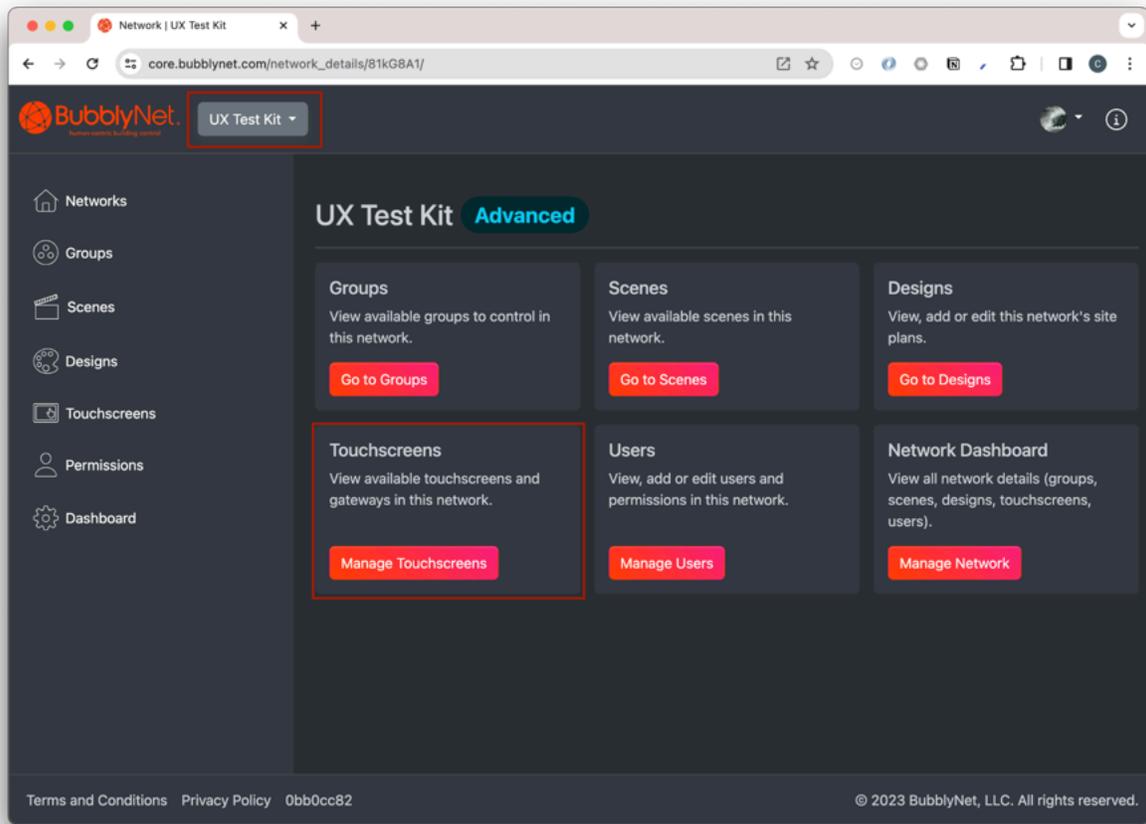
On BubblyNet's cloud services platform, a control panel can be configured for layout and deployment. Once completed, this control panel will be published to the selected touchscreen for control.

## Login to Cloud Services



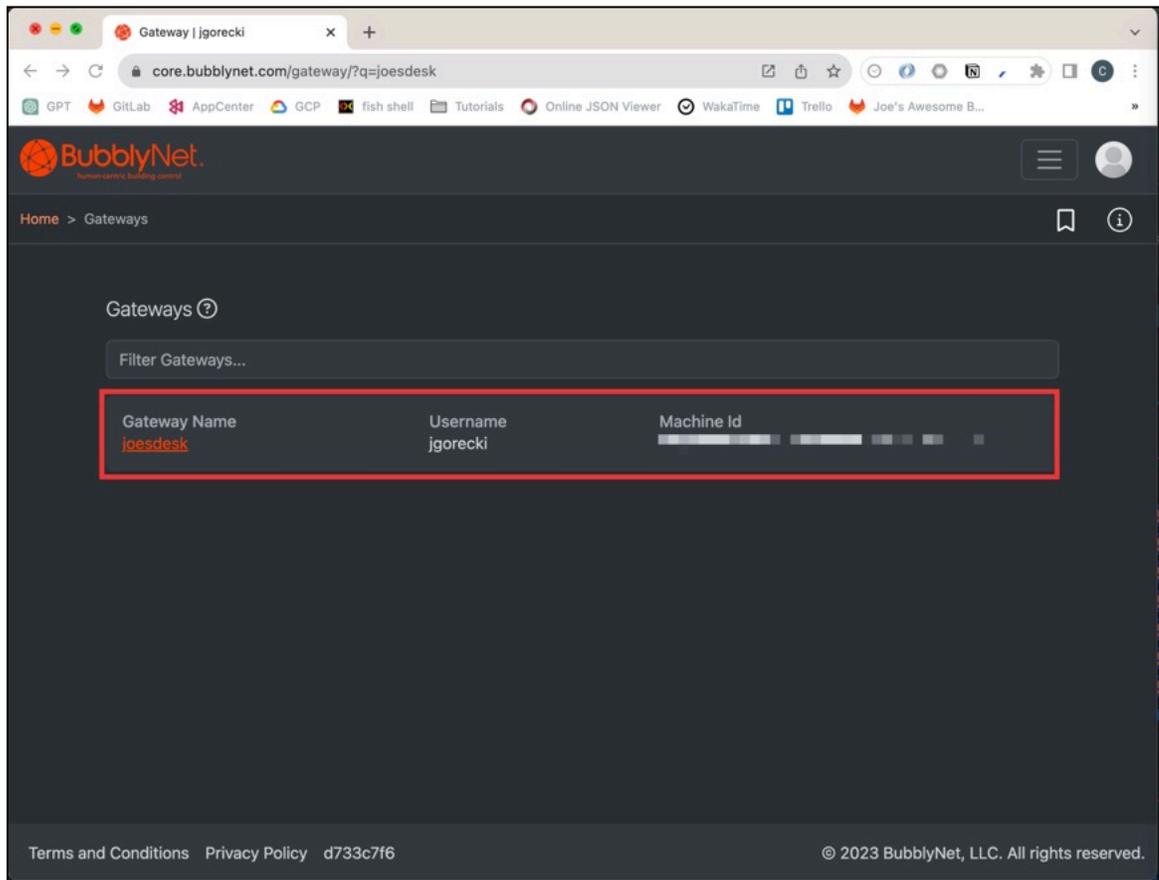
- Sign-in to the Cloud services with the username and password for core.bubblynet.com
- If the user does not have an account, they can create one and request access permissions from the network administrator.
- If a user has forgotten their passcode, they can use the Forgot Password function and have a new one sent to their email address. *BubblyNet can not tell you your password.*
- **Warning: This must be registered as the owner of the touchscreen/gateway device or they will not be able to access the control panel for the touchscreen.**

## Access Network Settings



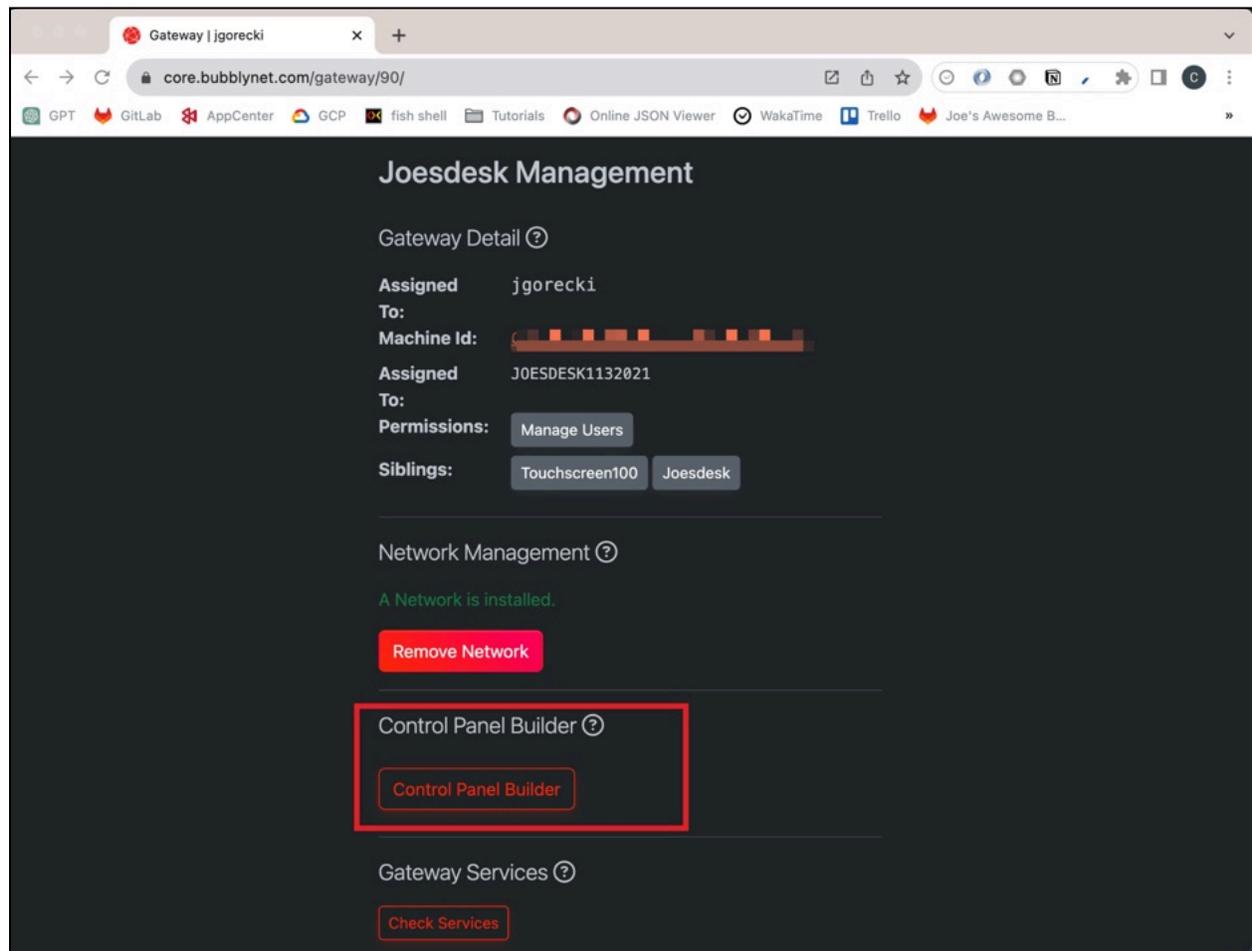
- Choose the correct network from the drop in the upper top navigation.
- Use the network settings page to access cloud control, scenes control, manage users, or view the network dashboard.
- Select Manage Touchscreens from the Network Settings page.
- **Warning: Network Settings can change based on the user's permissions on that network.**

## Touchscreen Search



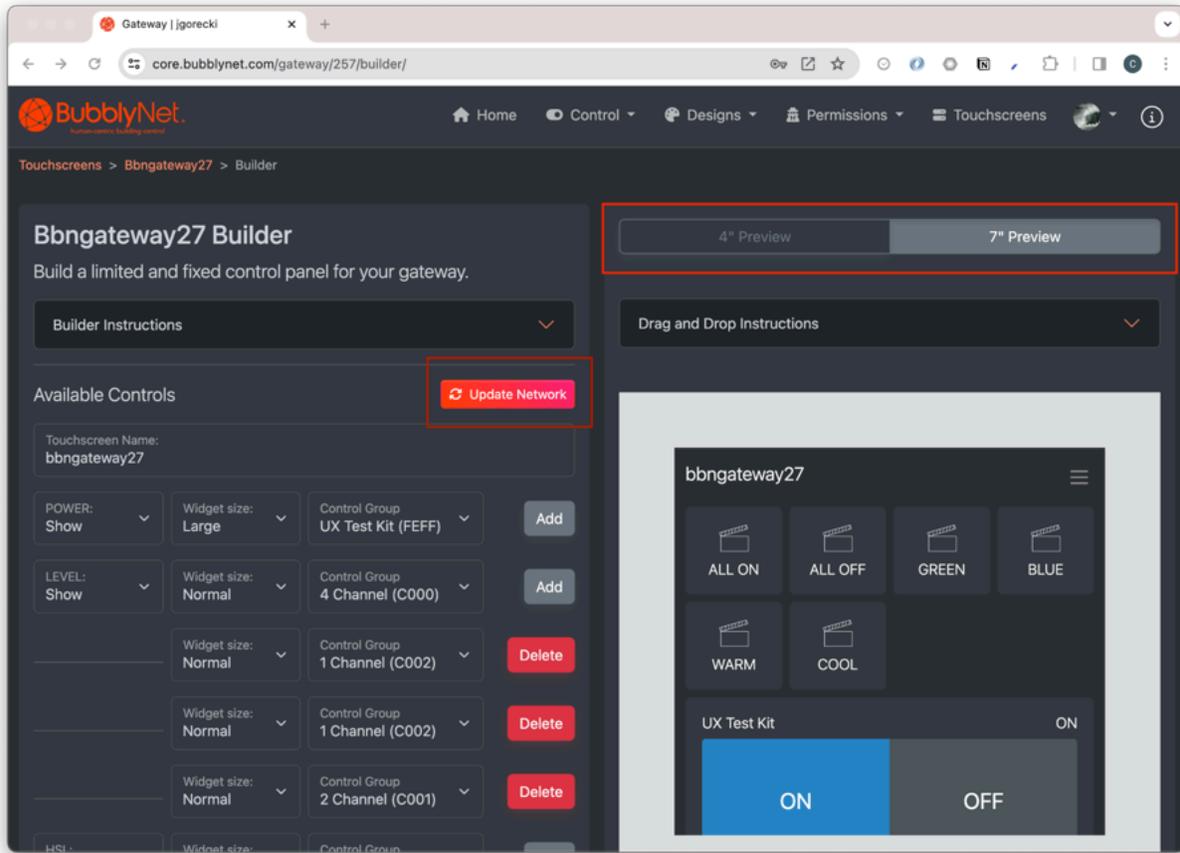
- Choose the touchscreen or gateway for configuration.
- Filter registered devices by tag name.
- Tag name should be located on the front or back of the device.
- After locating the touchscreen, select the name to access the device's registration page.

## Touchscreen Registration



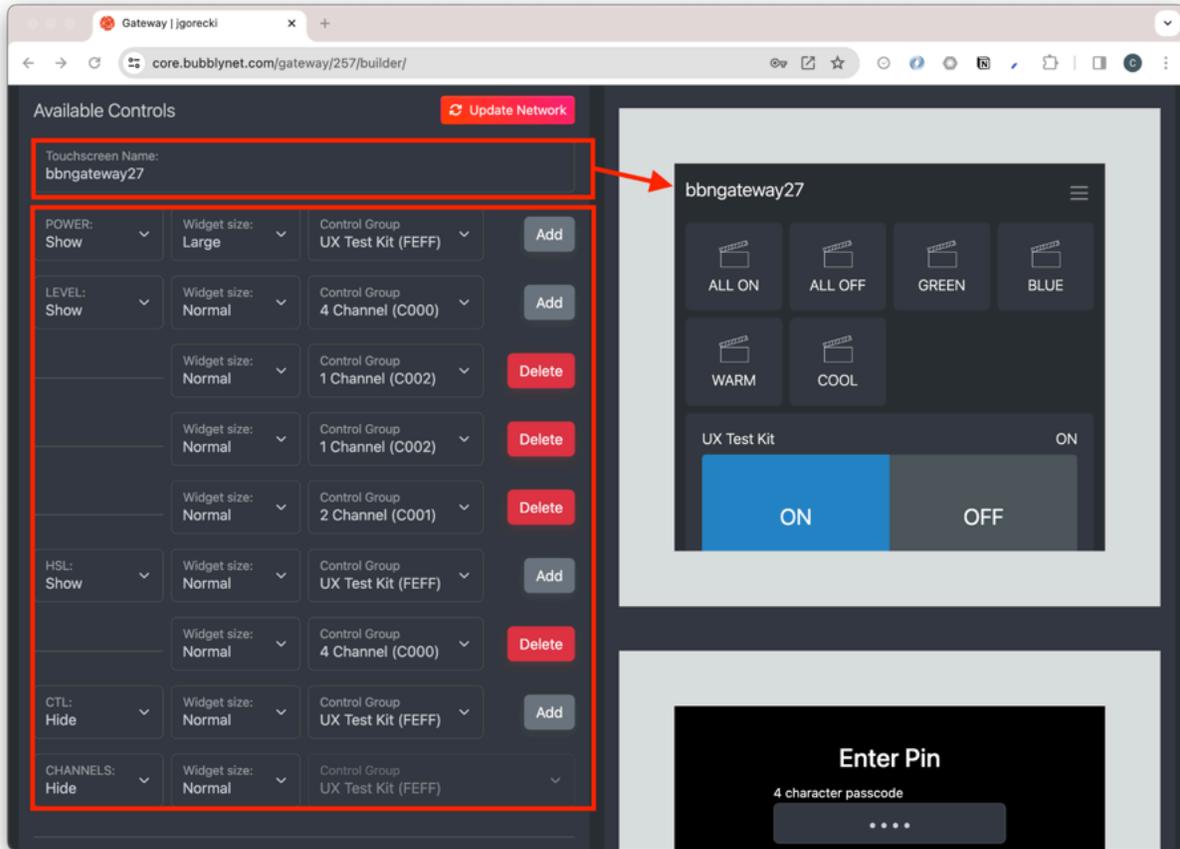
- The touchscreen registration page allows the user to manage their touchscreen.
- From this screen they can complete the following tasks:
  - Remove / replace the network the touchscreen is associated with.
  - Customize and add a control panel to a touchscreen that is currently online.
  - Run the Config Tester (BETA) to check device messaging with the device's installed network.
  - Request gateway service status to make sure the device is operating to specification.
  - Request network information for the touchscreen's installed network.
- Select the Control Panel Builder button to begin the layout of the control panel.

## Touchscreen Control Panel Configuration



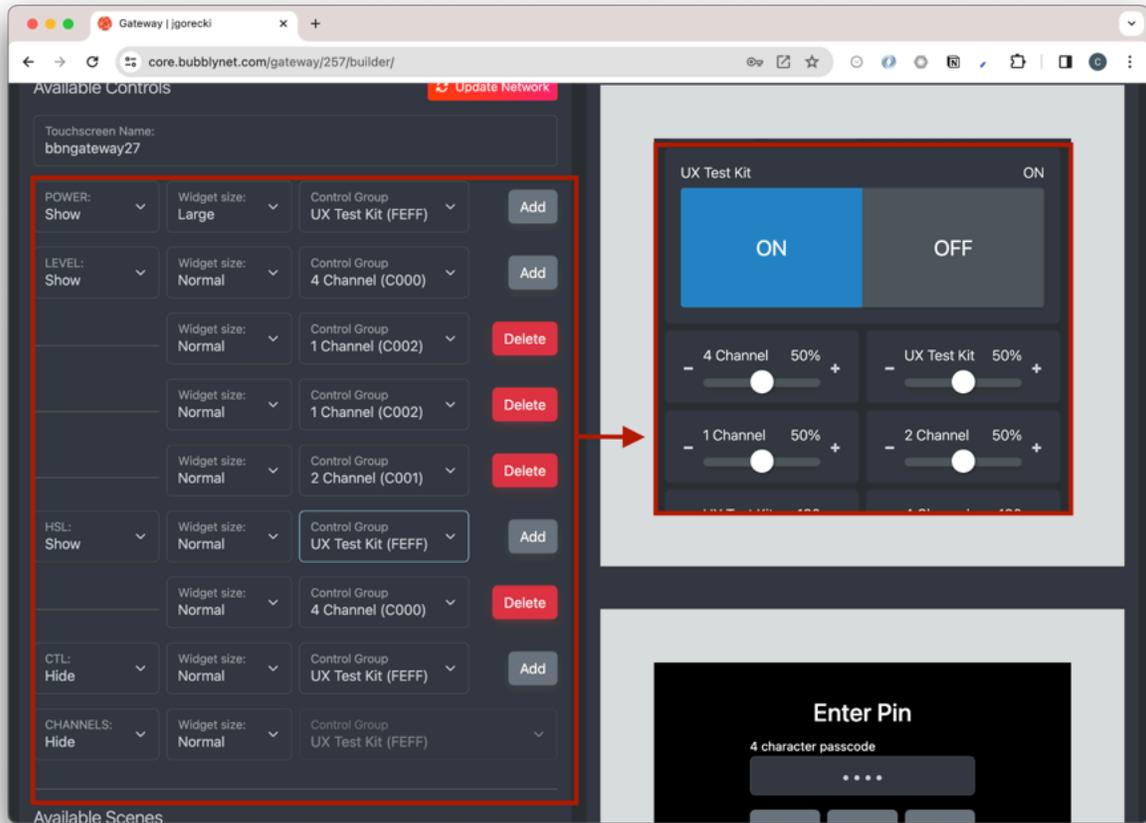
- This screen allows you to create a custom control panel for every touchscreen device you have installed and access to configure.
- Touchscreen control panels can only be updated via a live and functioning internet connection. (See Gateway Network Requirements to get your touchscreen system online)
- Choose Update Network to load network changes into the control panel. This will add new groups, scenes, and update any changes.
- Choose the correct screen size - 4" portrait versus 7" landscape.
- **Warning: this is an approximation of the screen on the device and may have minor deployment differences.**

## Understanding Group Topology



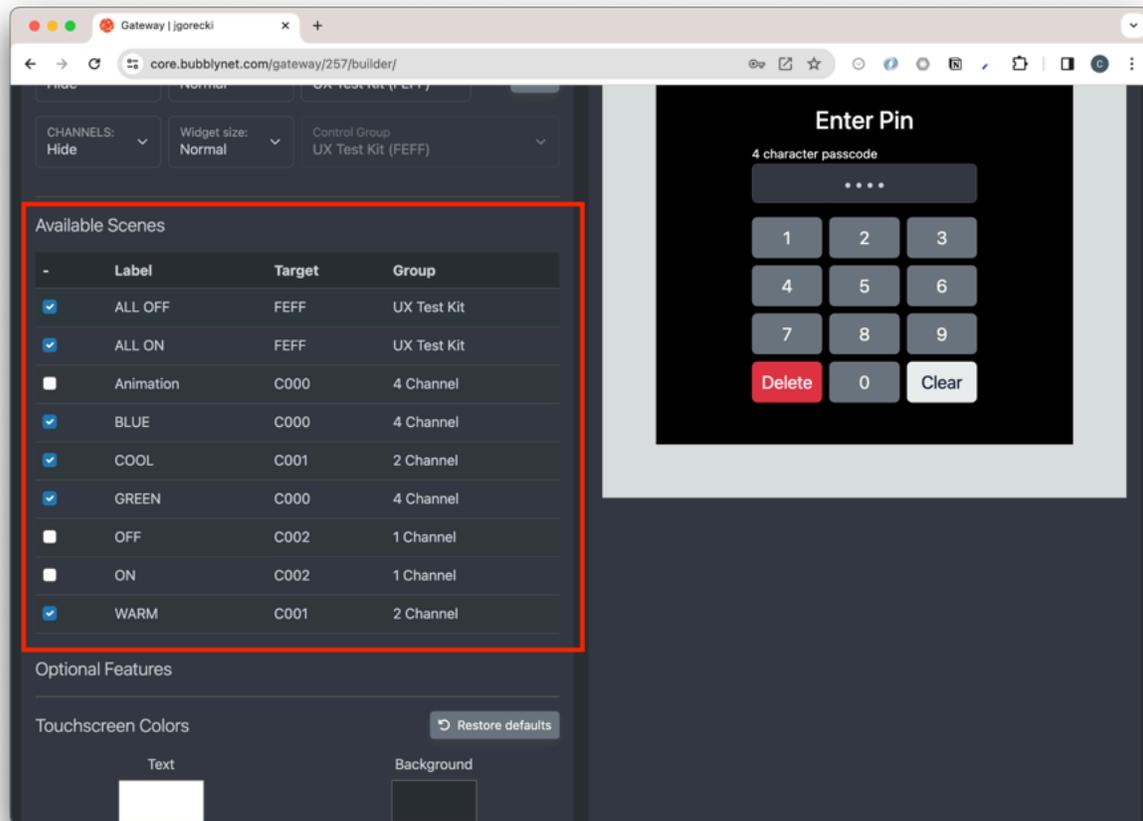
- A Control panel is configured to support parent-descendent groups or target specific groups. With this setup, a control panel can be configured for precise configurations.
  - *Example 1: Power off the whole building. A power button that controls a parent will send the power command to the parent group and all subgroups (children) and the children's subgroups (grandchildren).*
  - *Example 2: Power off an individual office. A power button that controls a child group will not send the power to the parent.*
- A control panel can support multiple group controls.
  - *Example 1: A dimmer control for every group allows fine level control.*
  - *Example 2: A dimmer control for the parent group will set the level control to all the groups in the parent.*
  - *Example 3: Dimmer controls are mixed and the parent group and child groups are used on the same panel.*

## Building a Group Control Structure



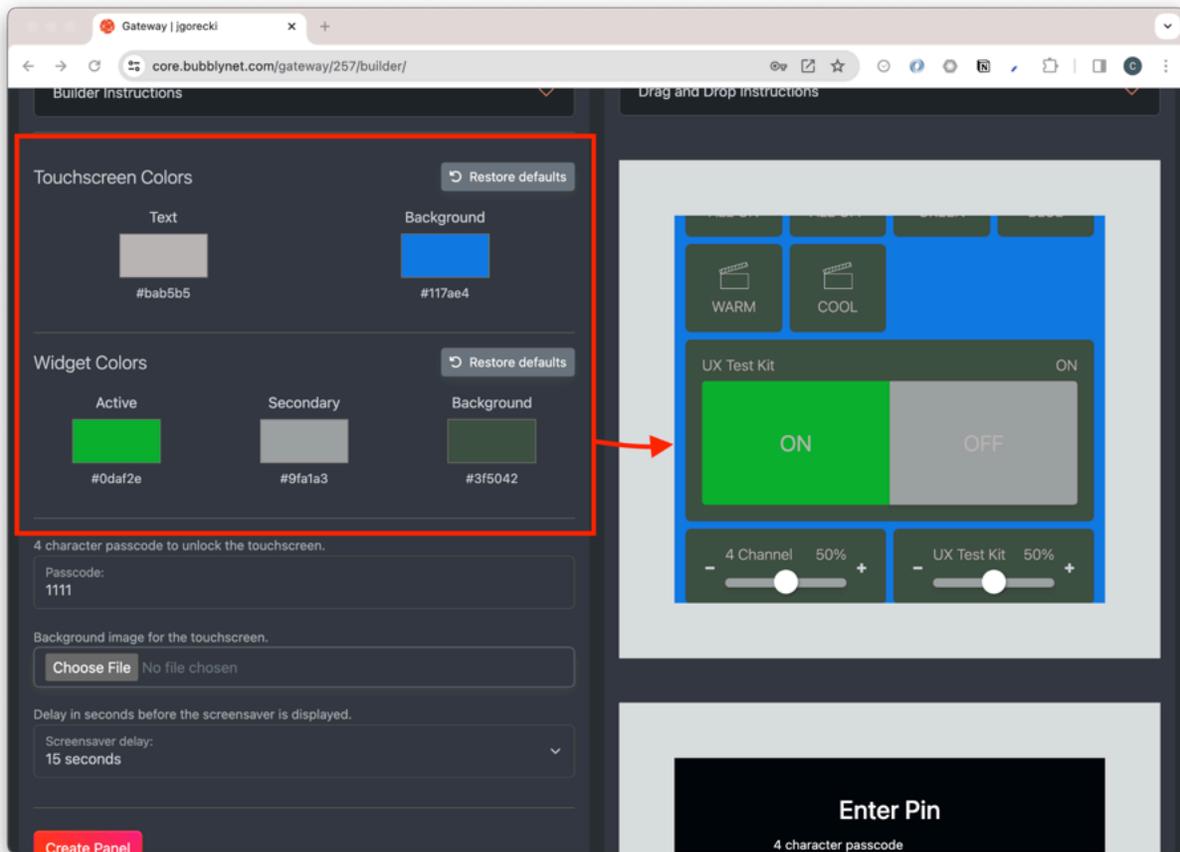
- Choose the controls, the size, and the group to be controlled.
  - *Example 1: A single power control that turns off the entire network.*
  - *Example 2: Control setup for an admin to control a building with scenes.*
  - *Example 3: All enabled controls for a single office or physical location.*
- Choose the appropriate controls to be used for the control panel.
  - Choose the size of each control group to best fit the needs of the end user.
  - Choose the controls that are required for the groups.
  - **Warning: A control can be added to the control panel that is not supported by the devices.**
    - **Bad: A user adds a HSL control to a group that only has CTL enabled devices.**
    - **Good: A user adds a HSL control to a group that has all some HSL controls.**

## Selecting Scenes for Recall



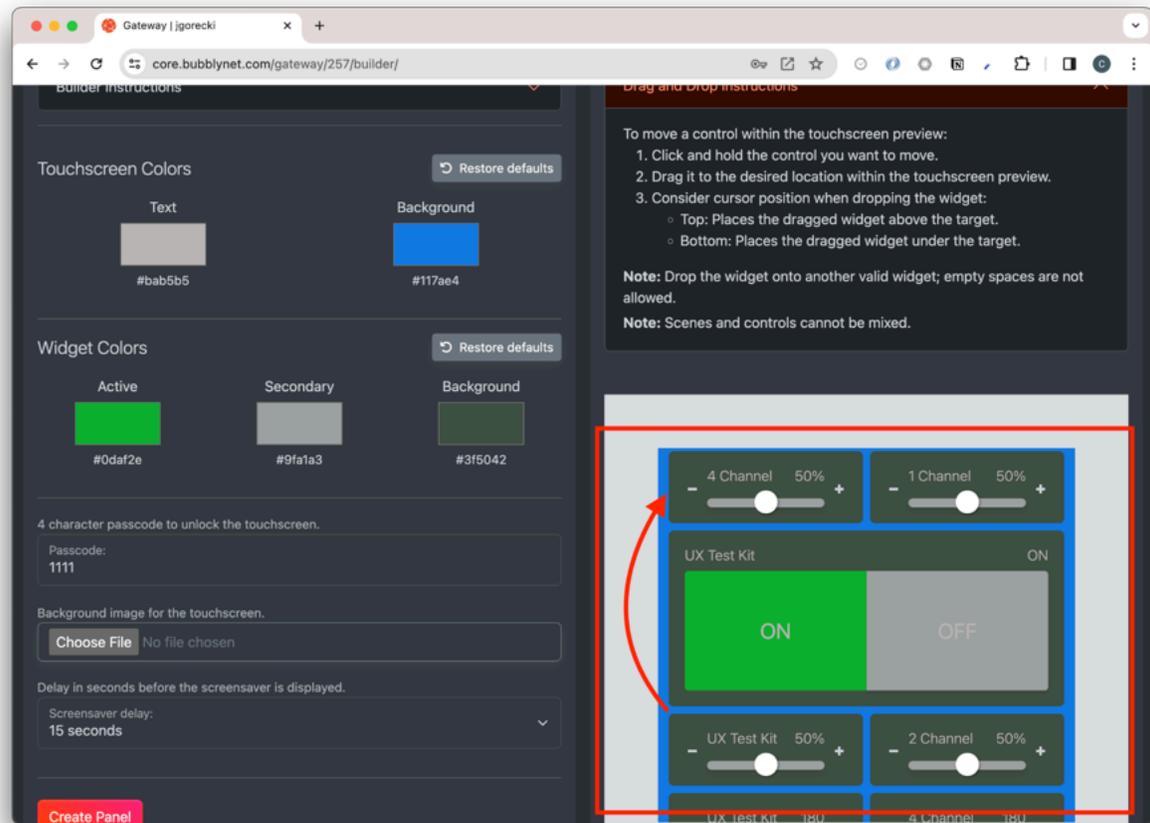
- A control panel supports scenes to be added to the touchscreen.
- Choose the Scenes to be used for the control panel. Similar to setting up groups, scenes can be selected for individual groups.
  - A scene can be added that is outside the parent group of the control panel.

## Color Customization for Touchscreens



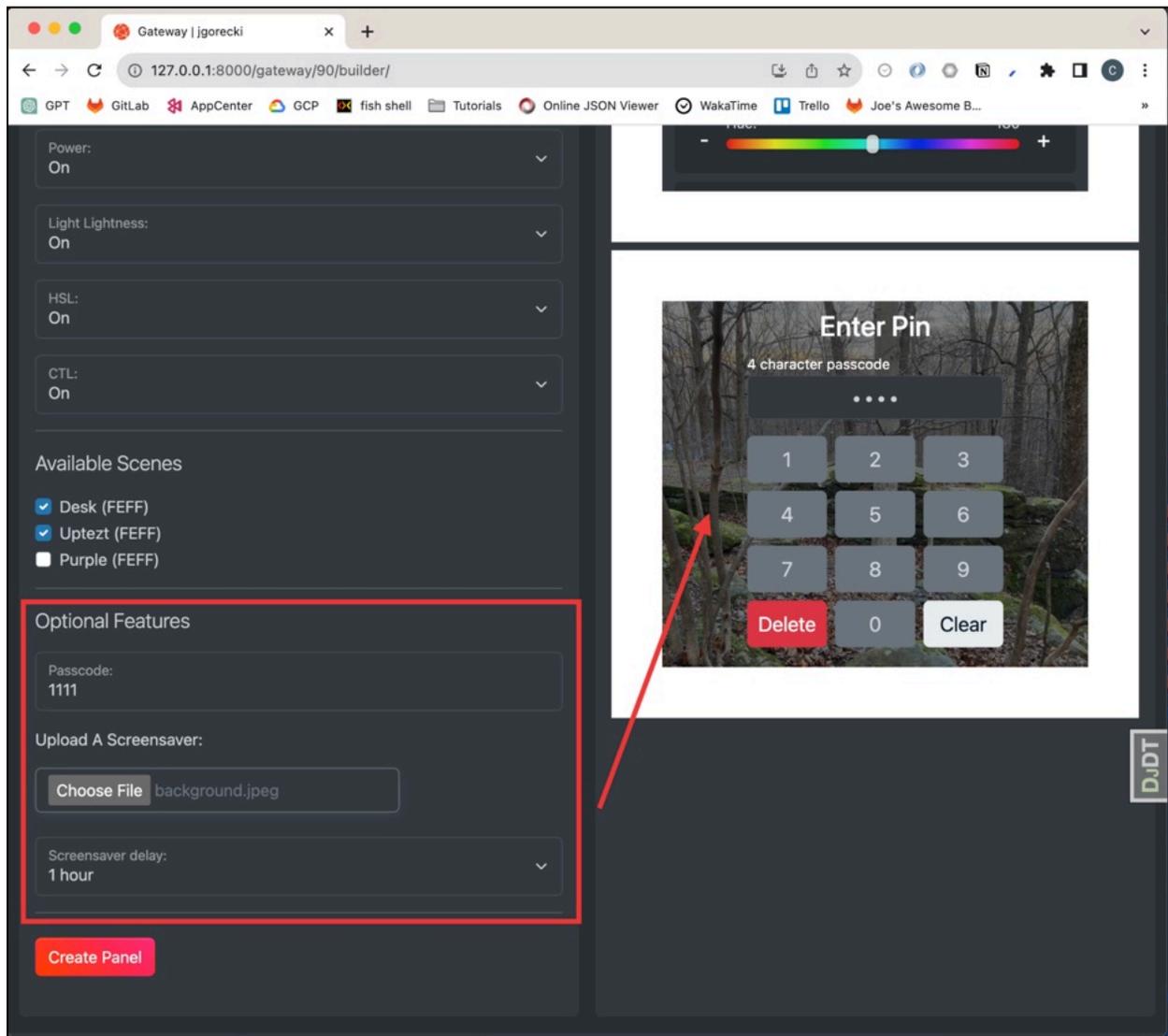
- Use the Touchscreen Colors to set the palette of the touchscreen.
- This will allow customization of the control panel to match any requested color schemes.

## Control Placement



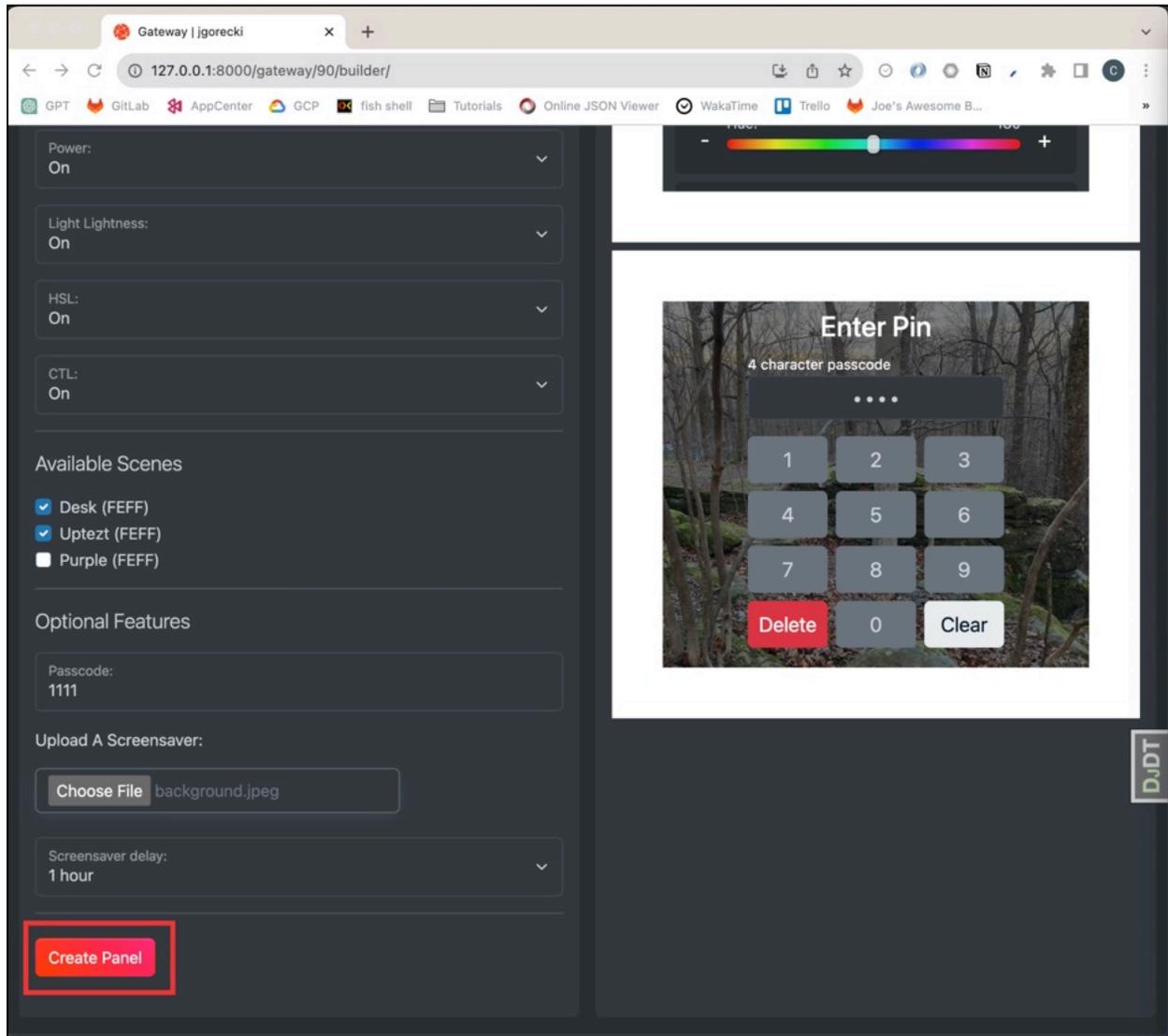
- Drag and drop the controls to different places on the control panel.
- Move the most important controls to the top of the screen and prevent scrolling.
- **Warning: Scenes and controls position can't be mixed. Scenes will always remain on top of all other controls.**

## Passcode & Screensaver



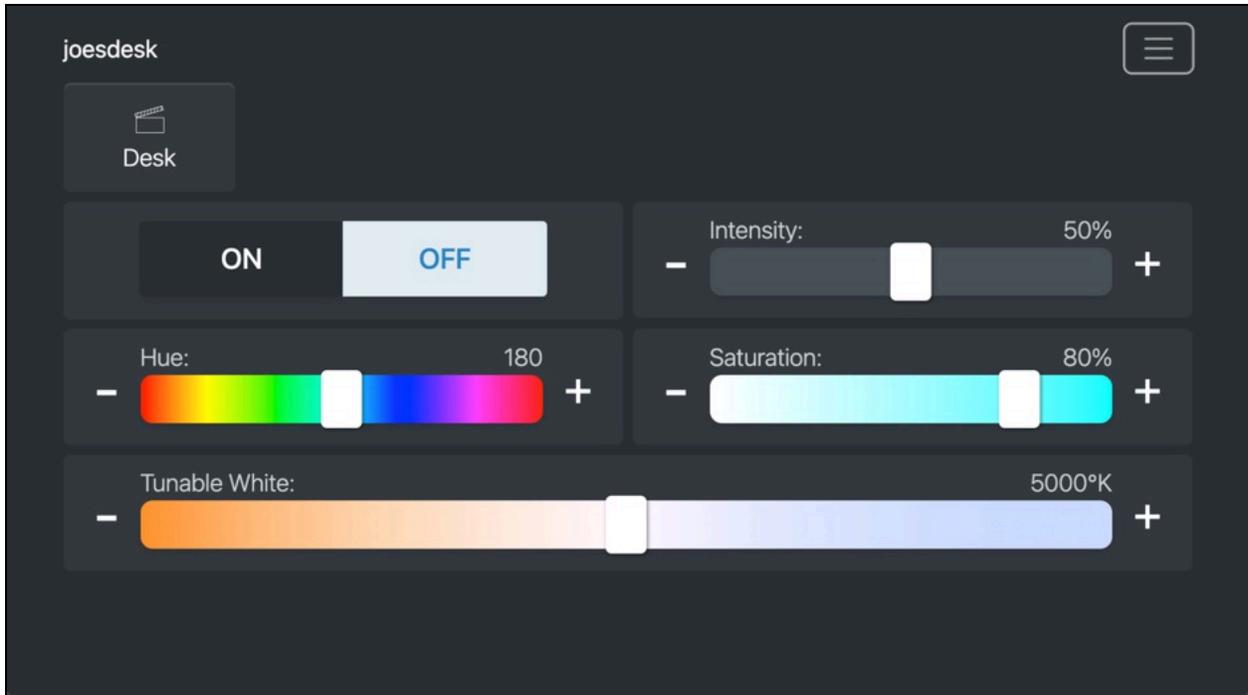
- Choose to add and enable a passcode with lockscreen. This will be a 4-digit minimum (exp: 1111)
  - **Warning: 0000 is not a valid passcode and should be avoided as a default.**
- Choose to add a screen saver image (with customizable time out)
- Passcode input will fade out after 10 seconds of inactivity.
- A touchscreen with no image will default to an opaque black background.

## Sending a new Panel



- Pressing Create Panel will publish the selected choices to the Touchscreen.

**The first step is now complete and when available the Local Control Panel is built on the local touchscreen and served on 0.0.0.0:5000/control/.**



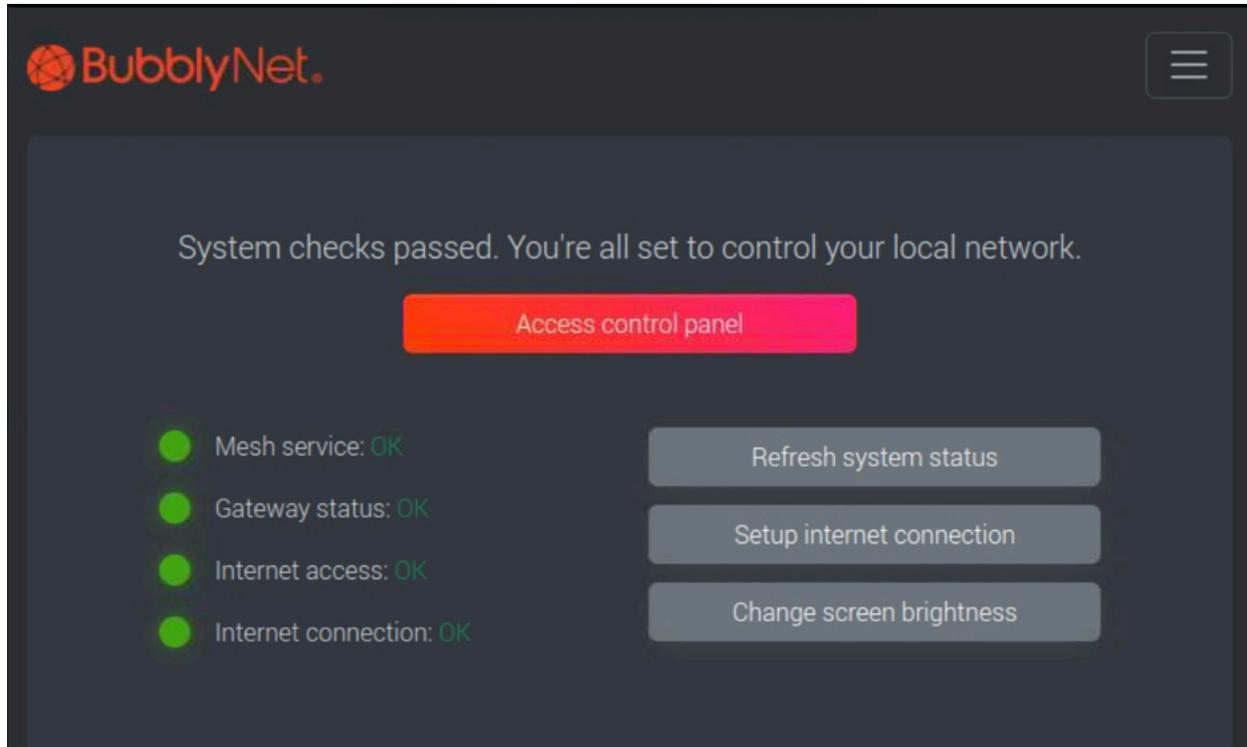
- *Example of a 7" Landscape with a local control panel.*

## Step 2: Launch and Configure the Local System

Upon startup, the operating system will boot up and launch system services. Services will show the status as Green for passing and Red for not-ready. Press the refresh status button to re-run tests.

For local control click the “Control Locally” button to access the local control panel after configuration.

*Warning! While both buttons are enabled and available, the Cloud Services requires internet access and open access to the web portal.*



Note: This screen will return when the system:

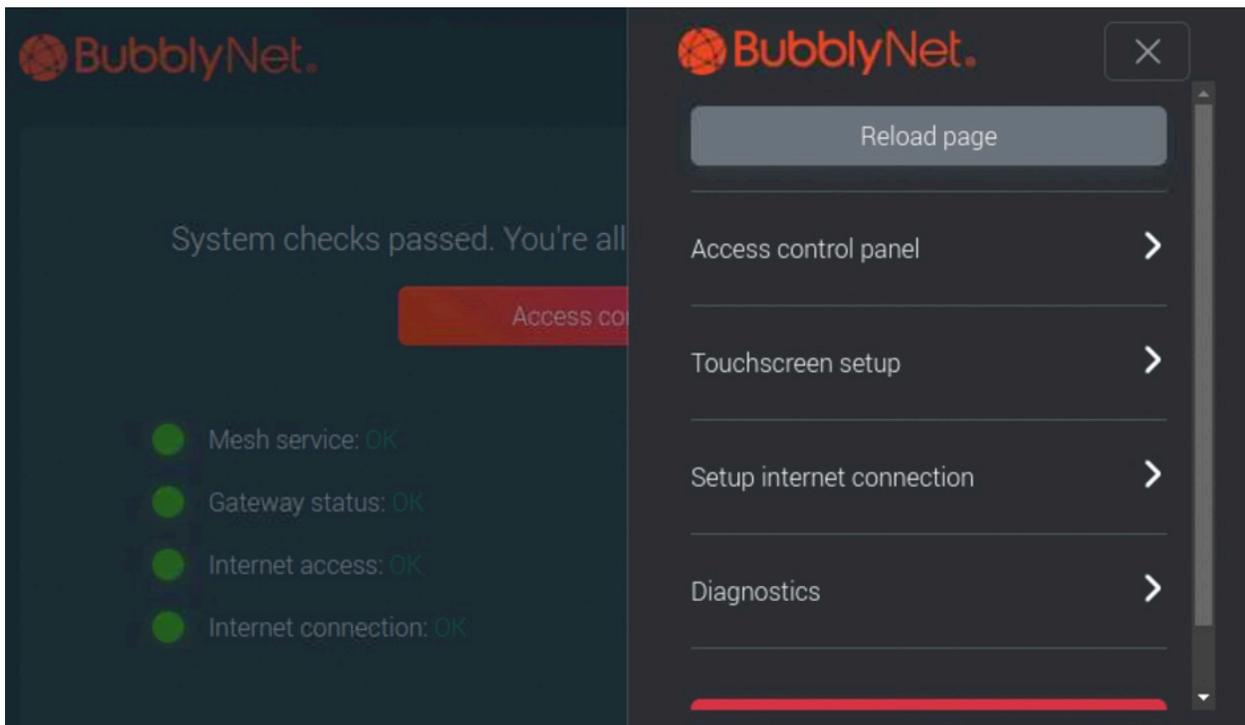
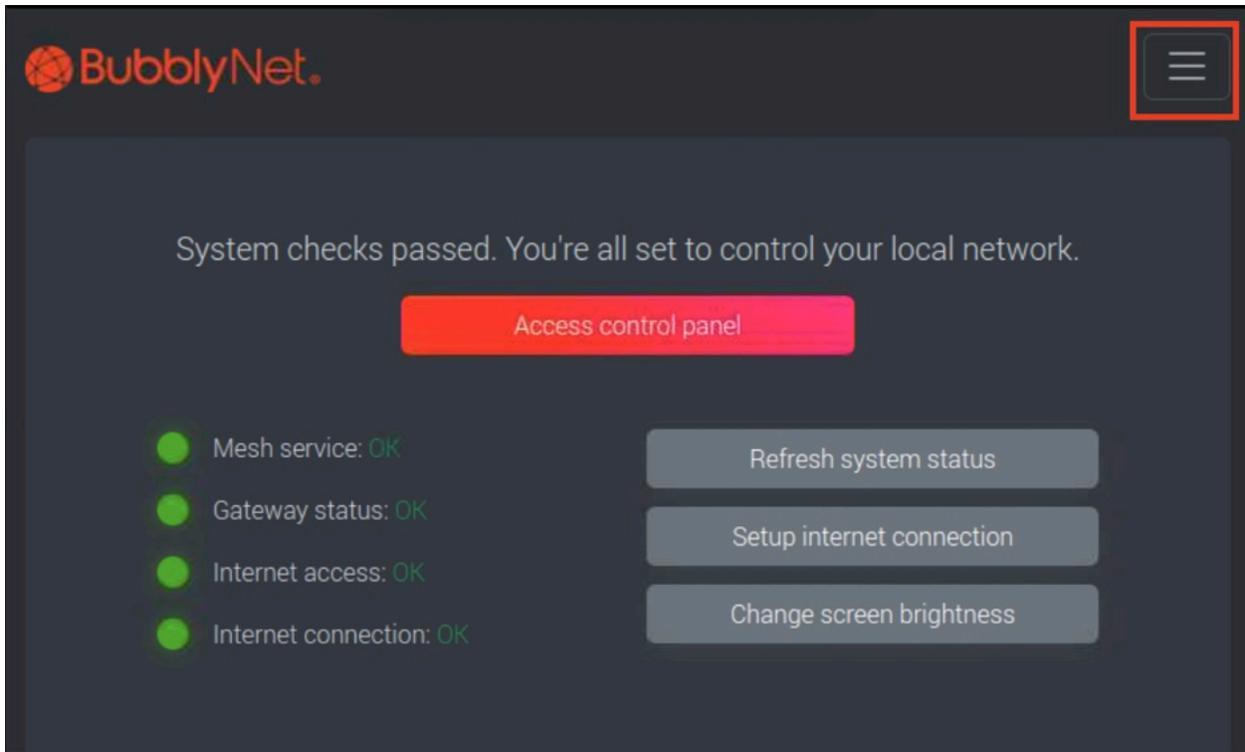
- Loses Power and the system reboots.
- Loses network connection for longer than 5 minutes (if cloud configured).

*When all services are green and passing, then the system will be ready for usage.*

*Warning! If the touchscreen page says 0.0.0.0:5000 can't be found after a reboot, press the refresh page button. If this issue continues, contact [support@bubblynet.com](mailto:support@bubblynet.com).*

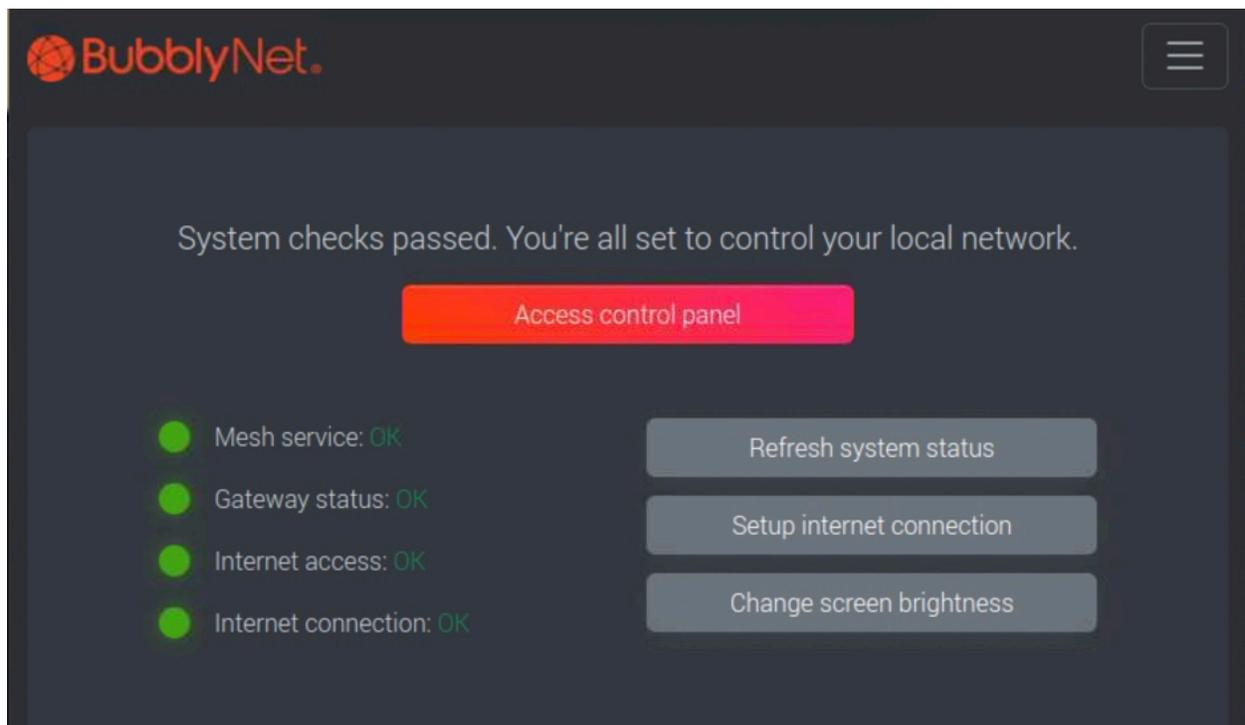
## System Setup

The default touchscreen contains the following setup controls:



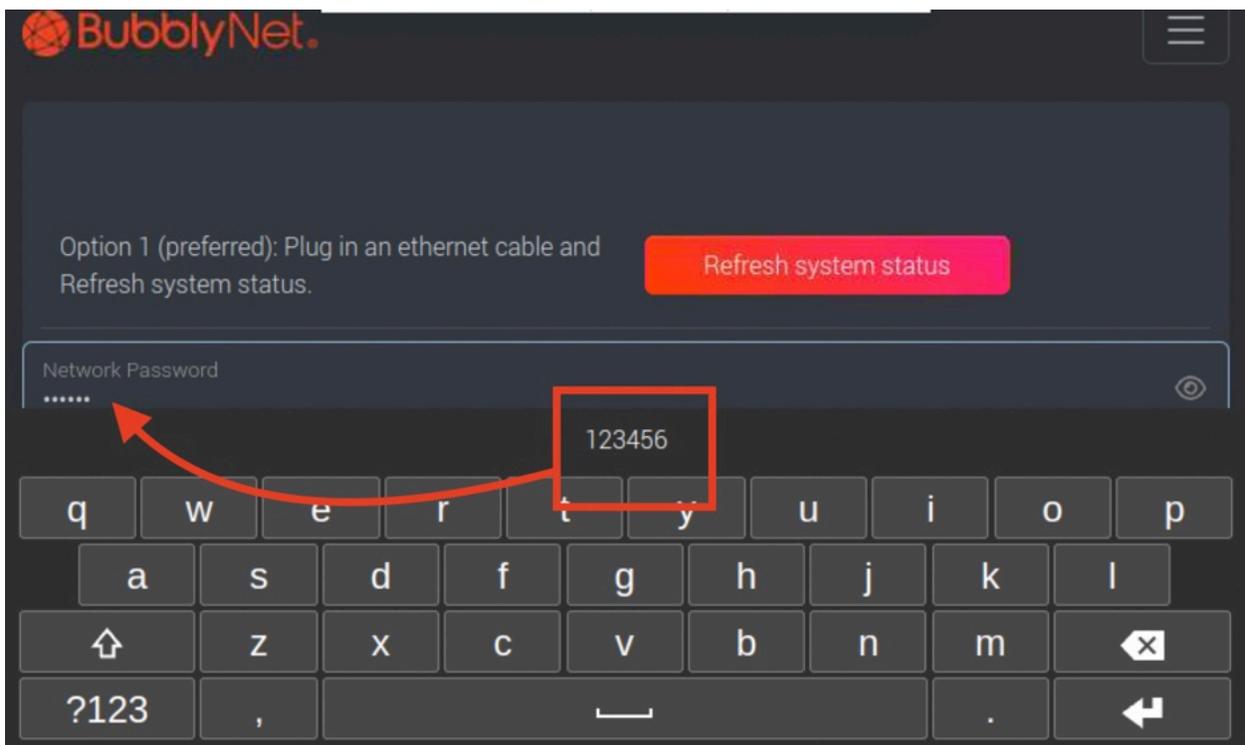
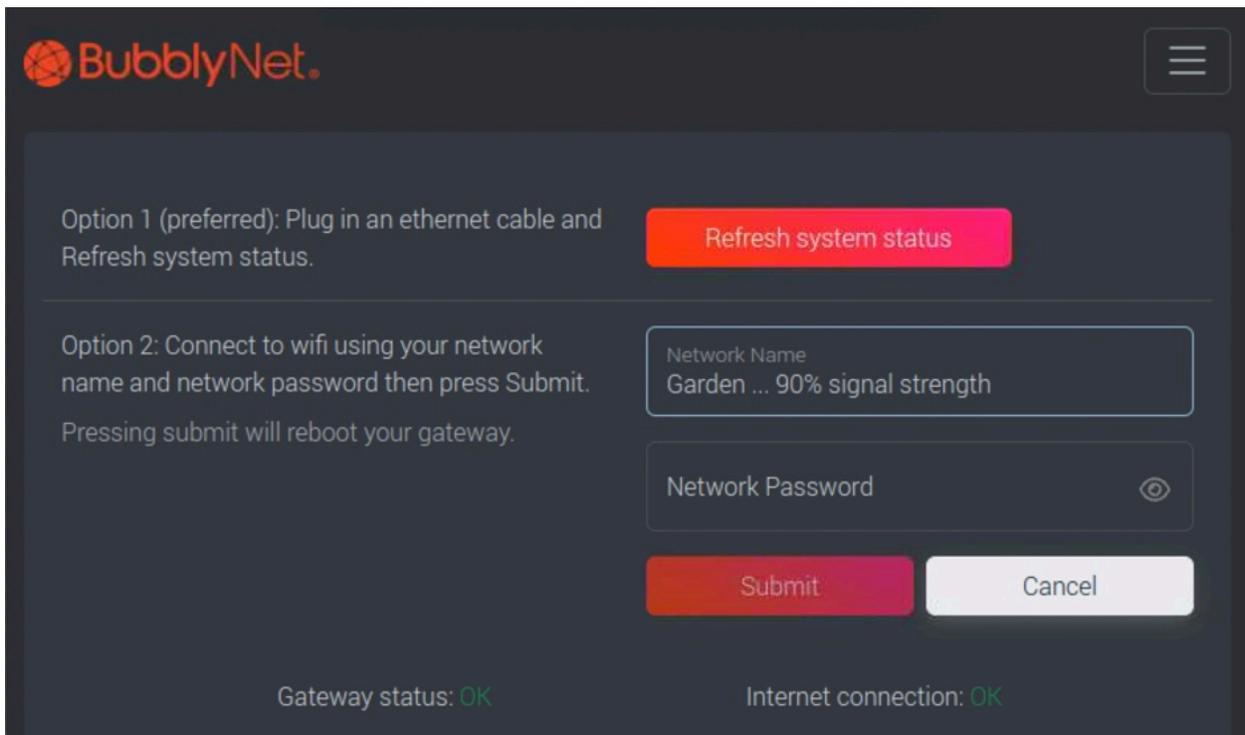
Touchscreen Setup - Local Control

- Setup Checkup Menu
  - To access the touchscreen setup, choose the menu icon
  - The setup menu provides a jumping off point to the control panel, setup, internet setup, and Diagnostics.
  - It also provides access to the Reload page and reboot device.



- Refresh Status
  - Systems may not come online in required order. Please press Refresh Status
- Change Brightness
  - Touchscreen screen brightness can be modified by changing the display brightness from 1-255.

- Setup internet connection
  - An ethernet connection is preferred where possible.



- A Wifi connection can be added to the machine by adding your Network SSID and Network Password.
  - The Gateway supports 802.11ac - Wi-Fi 5.
  - The Gateway supports 2.4 GHz and 5 GHz frequency bands.

*Warning! The touchscreen panel does not support Guest networks with authentication screens. An exception will be required for a touchscreen to bypass the Guest authorization capture screen.*

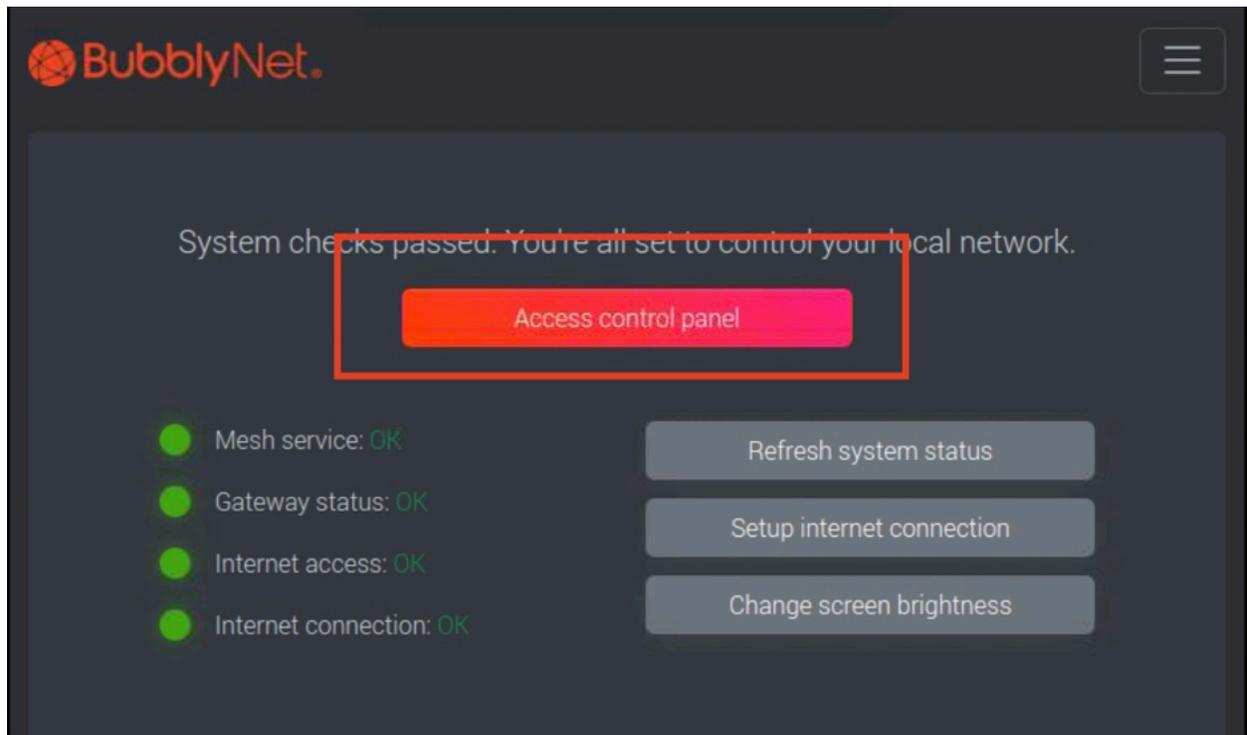
## Gateway Network Requirements

Note: This is only required for the Control Panel setup. After setup, the touchscreen will no longer require a network connection unless support is requested or a new control panel is configured for update..

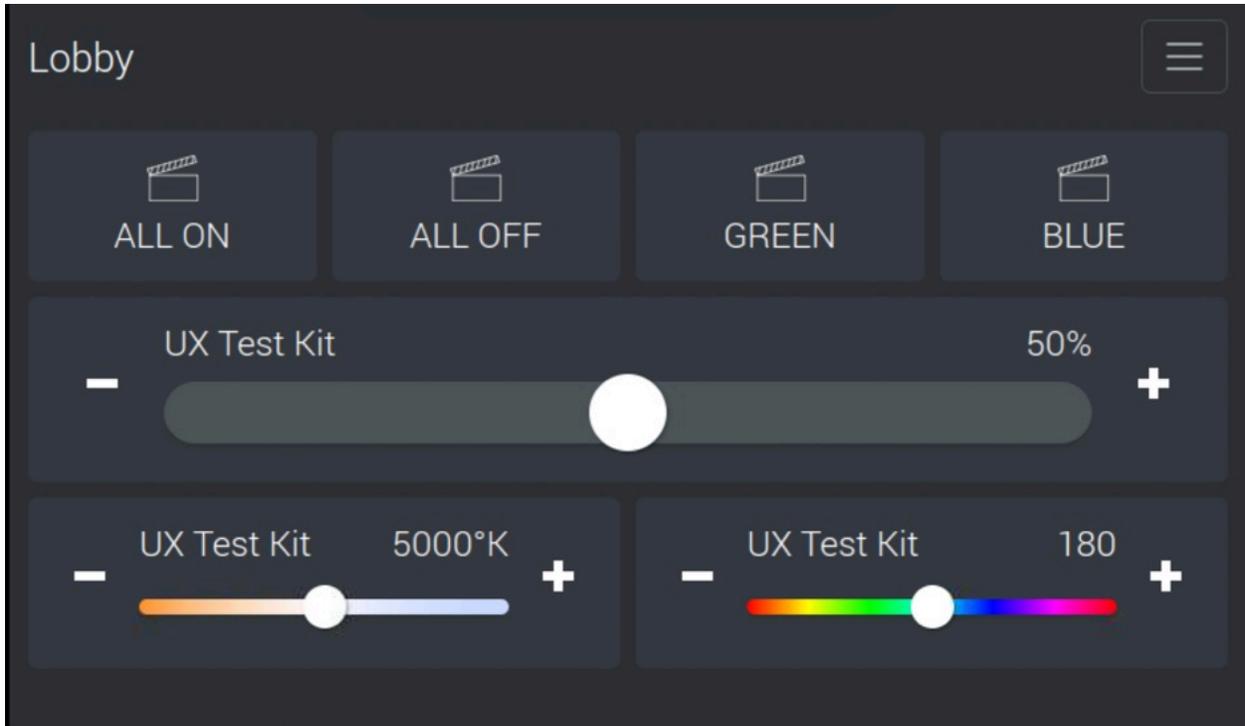
- The following standard protocols are used for the remote control and will need ingress/egress permissions:
  - HTTPS/SSL: The Remote Control panel is available at [core.bubblynet.com](https://core.bubblynet.com) and requires external webpage access on port 443. No content is served on http.
  - MQTT: Messaging is sent to 127.0.0.1 on port 1883 and port 8883. If an internet connection is available, messages will be sent to [mqtt.bubblynet.com](https://mqtt.bubblynet.com).
  - BubblyNet Remote Access: Touchscreens use UDP ports 1194 and 51820 to connect to IP 34.75.157.72.
- Hostname, MAC addresses, and any IP addresses are available in the Diagnostics Menu.

## Step 3: Access Local Control Panel

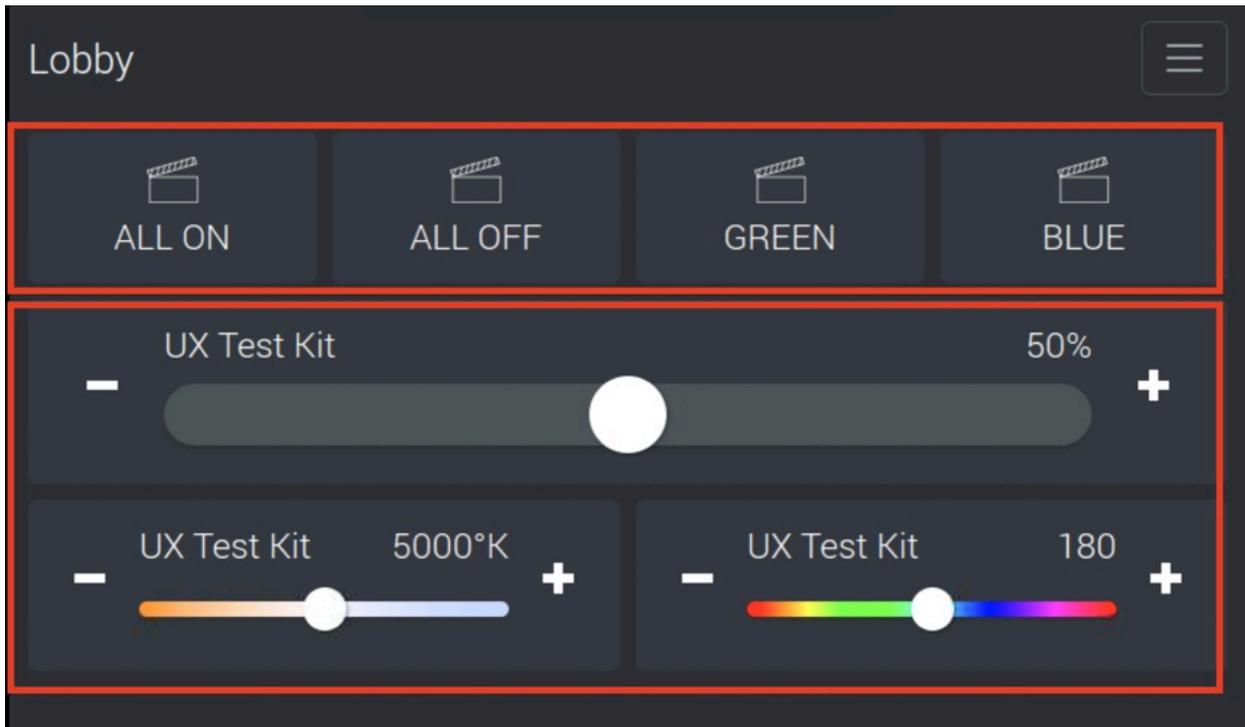
The local control panel is loaded from the control panel that was selected on Cloud Services. These can be configured and reconfigured as needed.



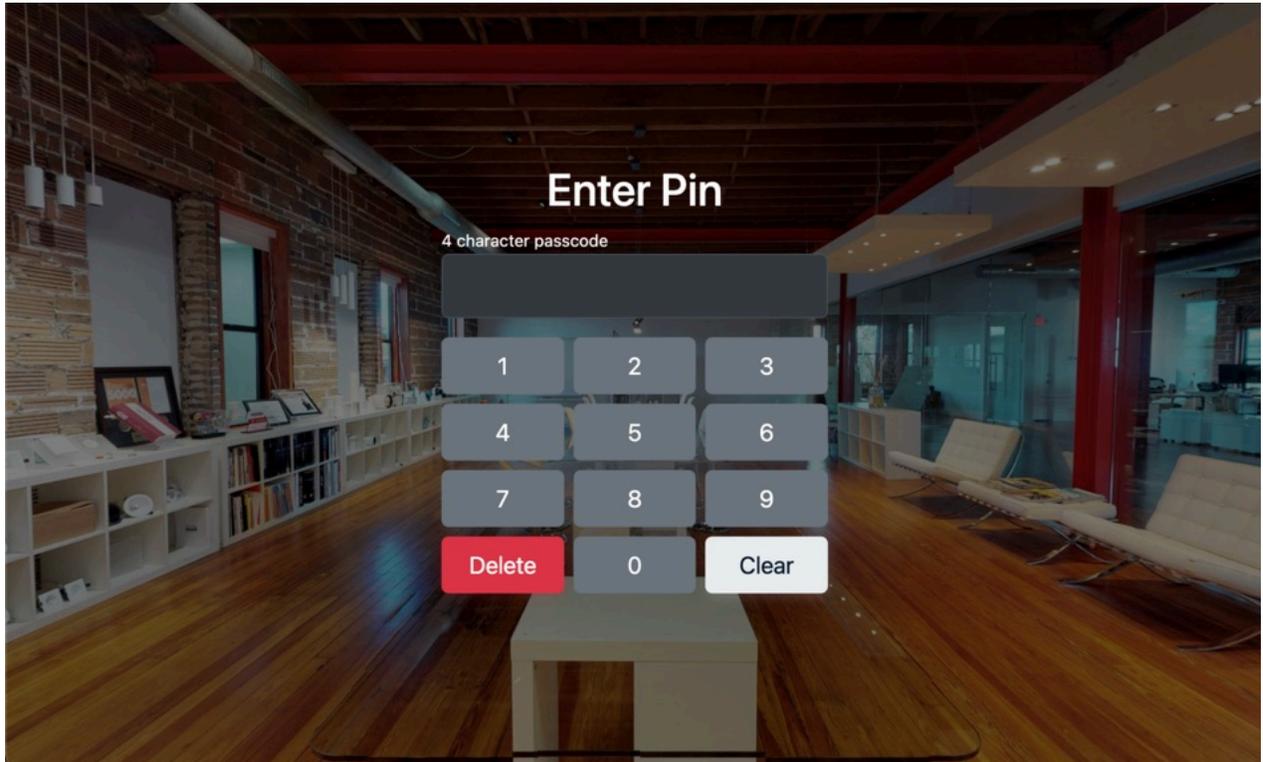
For local control, choose the "Control Locally" button to access the local control panel after configuration. This will be a fixed control panel for the selected group.



Sample control panel in light mode. Click the control panel menu screen to change from Light Mode to Dark Mode or return to the Touchscreen setup system for system maintenance.



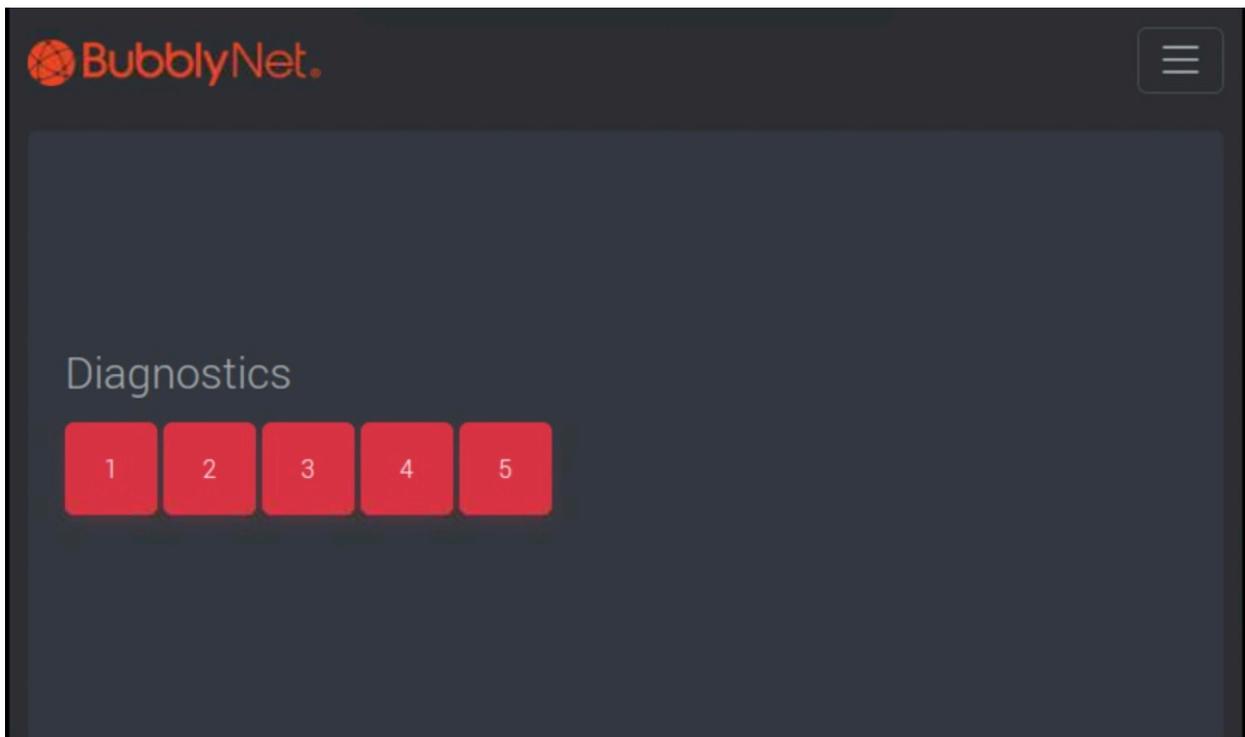
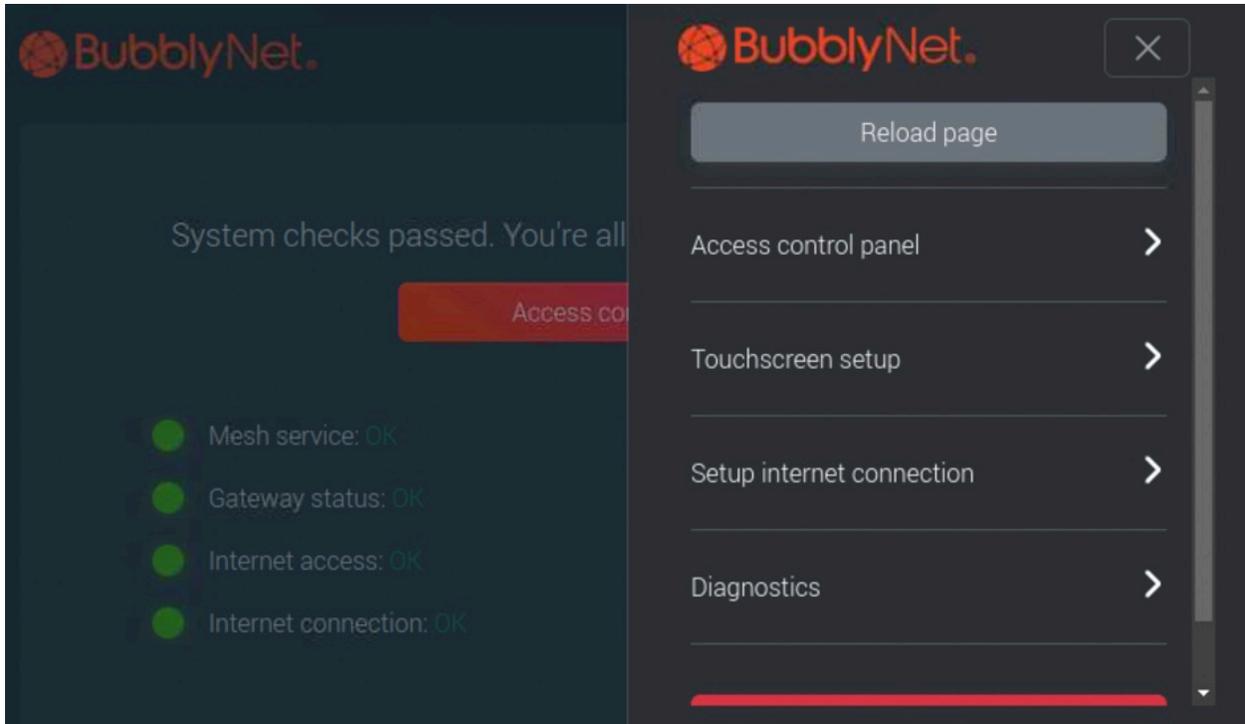
The Sample control panel with 1 scene selected, and all available controls available.

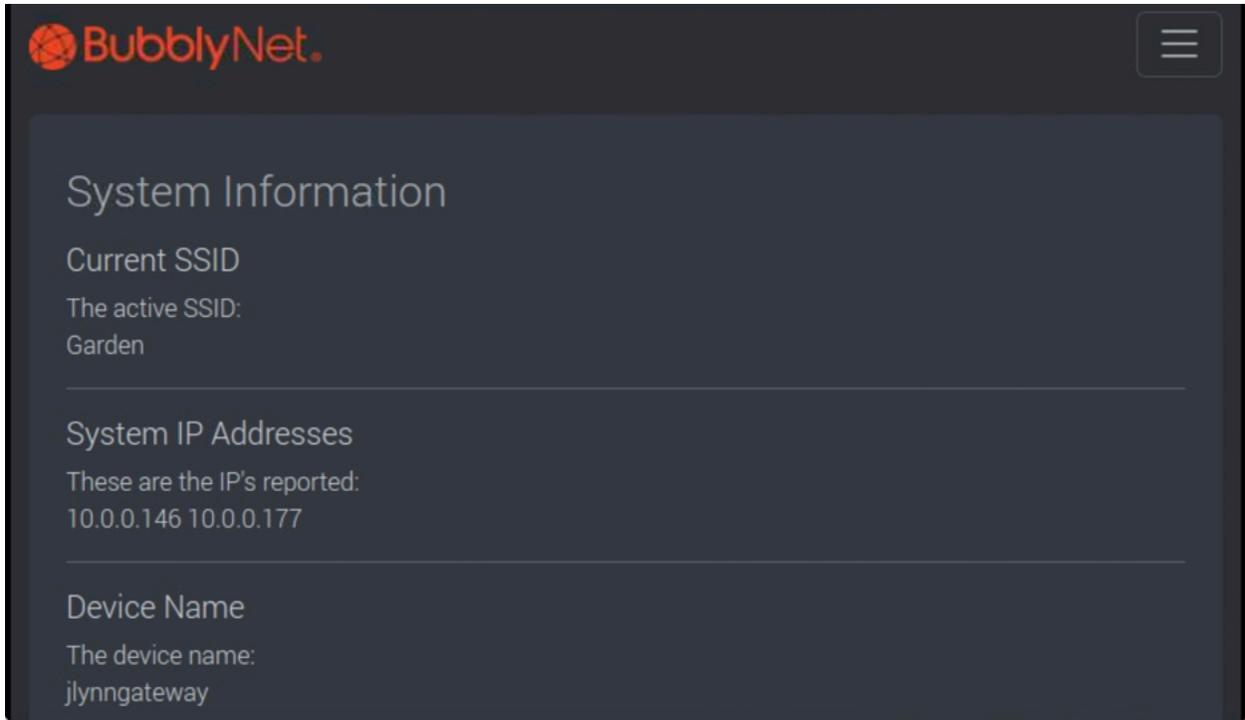


Sample control panel with a screensaver splash image after a 5 minute delay and a passcode screen.

## Diagnostics System

The touchscreen can be modified on site by using the Diagnostics System. The Diagnostics System has a universal passcode screen blocking general user access. The diagnostics system allows onsite modifications, updates, and system settings.





The screenshot shows the BubblyNet logo in the top left corner and a hamburger menu icon in the top right corner. The main content area is titled "System Information" and contains three sections: "Current SSID" with the value "Garden", "System IP Addresses" with the values "10.0.0.146" and "10.0.0.177", and "Device Name" with the value "jlynngateway".

**BubblyNet.**

## System Information

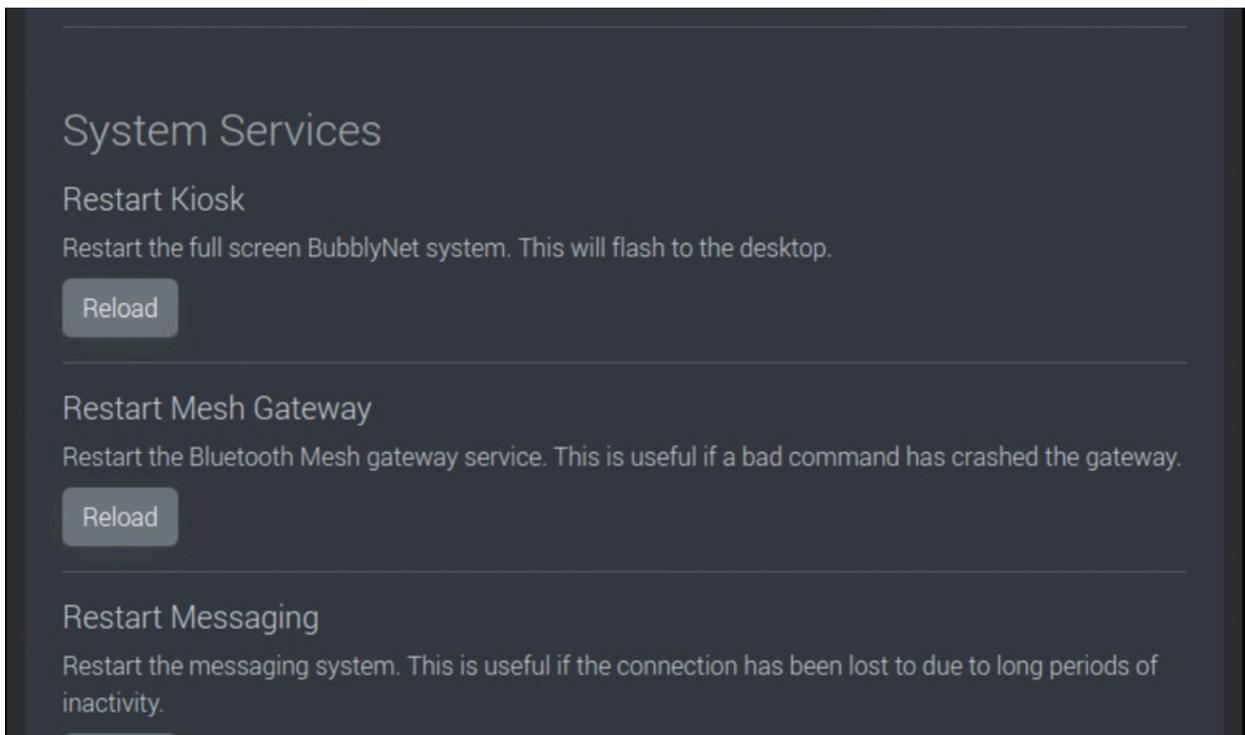
**Current SSID**  
The active SSID:  
Garden

---

**System IP Addresses**  
These are the IP's reported:  
10.0.0.146 10.0.0.177

---

**Device Name**  
The device name:  
jlynngateway



The screenshot shows the "System Services" section of the BubblyNet interface. It contains three service options, each with a "Reload" button: "Restart Kiosk" (which flashes to the desktop), "Restart Mesh Gateway" (for Bluetooth Mesh gateway service), and "Restart Messaging" (for the messaging system).

## System Services

**Restart Kiosk**  
Restart the full screen BubblyNet system. This will flash to the desktop.

Reload

---

**Restart Mesh Gateway**  
Restart the Bluetooth Mesh gateway service. This is useful if a bad command has crashed the gateway.

Reload

---

**Restart Messaging**  
Restart the messaging system. This is useful if the connection has been lost to due to long periods of inactivity.

### Rotate Landscape

Will rotate to a landscape view. Will restore OS task bar, screen coordinates, and will require a manual restart of the unit.

Rotate to Landscape

### Rotate Portrait

Will rotate to a portrait view. Will hide OS task bar, change screen coordinates, and will require a manual restart of the unit.

Rotate to Portrait

### Cloud Mode

Will set the unit to cloud mode. Local data will be removed from the unit. An error will be displayed until the unit is manually restarted.

Change Mode

## Experimental Updaters

### Install VPN

Danger! Will attempt to install OpenVPN configuration for remote access by BubblyNet. This will require a restart of the unit.

VPN Install

### Update Touchscreen

Danger! Will attempt to install a new version of the Touchscreen software. This will require a restart of the unit.

Update touchscreen software

THIS PAGE IS LEFT BLANK