BrightMenu User Guide

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Overview

BrightMenu provides restaurants with a touch-less menu solution that enables customers to display a menu on their own mobile devices. Customers connect to a BrightSign player via Wi-Fi, then scan a printed QR code to view the menu. BrightMenu runs on any phone with a browser and any number of patrons can view "the menu" at once. Connecting and viewing the menu does not require an Internet connection, app download, or even HD display. This document demonstrates how to setup a player & use BrightAuthor to publish and "near-cast" your restaurant's menu throughout the location using the provided BrightMenu-v.0.0.93.bpf project.

How It Works

The BrightMenu solution configures the BrightSign player to act as a web server which configures the installed wireless module as a Wi-Fi access point and hosts a Custom Device Webpage containing a restaurant menu. This allows a user to connect their phone to the broadcasted Wi-Fi network or **SSID** which does not offer Internet access (the SSID is set to *My Menu Network* for the example demo). Once the user's phone is connected to the Wi-Fi access point, they can easily scan a printed QR code and view the menu in a web browser on their phone. Instead of scanning a QR code, a user can type in the *hostname* into their browser to view the menu (the hostname is *my.menu* in our example BrightMenu demo). While BrightMenu does not require a display, one can certainly be connected to the BrightSign player to enhance the experience by playing engaging content onscreen while at the same time serving the BrightMenu solution to connected user phones.

Since BrightMenu utilizes essentially the same functionality as BrightLink, but with only 1-way engagement between the BrightSign player and the user phone, a multitude of phones can be linked at once to the Wi-Fi access point to view the menu reliably. BrightMenu also offers an Admin Portal which is a Custom Device Webpage that can be accessed at the URL *hostname/admin* (in the example demo, it is *my.menu/admin*) of a connected phone and offers a user interface to easily upload and activate JPG & PNG menu image files which are then viewable when a connected user scans the QR code. If multiple image files are selected to be viewable, they will display in a vertical scrolling fashion on the user phone in alphabetical order. The Admin Portal also offers a way to update the **SSID** and **hostname user variables** to ones that match the name of the restaurant vs. using the default names provided in the BrightMenu Example Demo.

BrightMenu Package Contents

The ***BrightMenu-v0.0.9-PACKAGE.zip*** has been provided which contains the following:

• ***BrightMenu-v0.0.9*** folder containing an example BrightMenu demo including the BrightAuthor project file, associated source files and content as shown.	• ***BrightMenu-Docs*** folder containing the following files:

Files in BrightMenu-v0.0.9 folder:
- dwp-customDeviceWebPage
- QRcode-Join
- .DS_Store
- BrightMenu-background.jpg
- BrightMenuInstructions.zip
- BrightMenu-v0.0.9.bpf
- httpServer-npm-auto_v3.brs
- npm.zip
- Set_Player_As_Access_Point_plugin.brs

Files in BrightMenu-Docs folder:
- BrightMenu-UserGuide-v09.pdf
- Menu-Template.pptx
- BrightMenu-Placard.pdf
- BrightMenu-Placard-Template.docx

BrightMenu Requirements

BrightSign Player Requirements

- Any series 3 or series 4 BrightSign player running BrightSign OS v8.1.69 or higher which can be downloaded here: https://www.brightsign.biz/downloads/overview
- An installed Wireless Module (WS-103)
  - o The wireless module is solely used for BrightMenu functions and cannot be configured or utilized for publishing presentations or any other functions
  - o Wi-Fi module signal strength can be reduced by using an attenuator or by removing the antenna off the back of the device for maximum reduction of the signal
  - o Video instructions on how to install a wireless module can be found here: https://www.youtube.com/watch?v=_cK3RskJxBQ
- Micro SD card with a published BrightMenu presentation created in BrightAuthor or BrightAuthor:connected

BrightSign Player Setup

A BrightSign player running a BrightMenu presentation configures the installed Wireless Module to act as a Wi-Fi access point. Therefore, the Wireless Module cannot be used for any other purposes such as a Wi-Fi client or for publishing presentations via BrightAuthor or BrightAuthor:connected.

1. If repurposing an existing player, you must factory reset your player
   - Hold down both SVC and Reset buttons while applying power until the red light starts to flash quickly, then release the buttons.
   - If the player does not reset fully, contact our support team for a reset script
   - Install OS 8.1.69 or higher. click here for OS downloads.
2. Setup the player
   a. **DO NOT** enable wireless under ***Network Properties****.*
      - BrightMenu uses the wireless module to connect and communicate with a linked phone & cannot be used for other functions like publishing presentations
   b. Under ***Unit Configuration***, check the box to **enable Diagnostic web server.** This allows you to access the Admin Portal (accessible at ***http://hostname/admin***). If you do not enter a password, no password will be needed to access the Admin Portal. It is highly recommended that you enter a strong password here to ensure that the Admin Portal is secure.
      - Please note that the traditional diagnostic web server is not accessible via the wireless module for BrightMenu applications therefore the only way to access the diagnostic web server is with a wired Ethernet connection utilizing the setup username and password
   c. Under ***Unit Configuration***, check the box to **enable local web server,** but **DO NOT** enter a username and password. If login credentials are set, the user will need them to view your menu content.

d. Under **Unit Configuration**, choose your preferred publishing method, such as Standalone.
  - If you choose a networked publishing method, wired Ethernet must be used – the wireless module cannot support networked publishing for BrightMenu applications.

BrightAuthor Project Requirements

BrightMenu requires the following elements in a BrightAuthor project file to implement its functionality on a BrightSign player. Each of these elements are described in detail in this guide.

- BrightMenu User Variables (appropriately set in a BrightAuthor project file)
- Plugin file ***Set_Player_As_Access_Point_plugin.brs***
- Plugin file ***httpServer-npm-auto_v3.brs***
- ***npm.zip*** file
- ***instructions.zip*** file
- Custom device webpage (created for and optimized to run on a smartphone)
- QRcode-Join HTML

BrightMenu Deployment Requirements

A printed placard communicating to patrons the Wi-Fi Network name to connect to and a QR code to scan to view the menu.

- BrightSign provides a ***BrightMenu-Placard-Template.docx*** file that supports our BrightMenu example demo and can easily be modified for a customized BrightMenu implementation

Wireless Signal Range

When deploying BrightLink, adjusting and testing the WiFi access point signal range of the installed wireless module is a good idea. The typical signal range of a BrightSign player with an installed wireless module and connected antenna is about 15 feet. Attenuators can also be used to help reduce the wireless signal range. When the wireless module antenna is not used, the wireless signal range can drop to about 4-5 feet. Please note that the signal range is also affected by where it is placed – in line of site of the user or not such as mounted behind a display.

What's Not Required

- Internet access to the player is not needed, which makes it extremely easy to deploy in a wide variety of applications
- User phones do not need a particular app installed in order to connect to the player or view the menu
  - BrightMenu uses existing features available on all smartphones to connect to a Wi-Fi access point hosted by the BrightSign player and to scan a QR code using the phone's camera
- A display is not required for BrightMenu to function as the printed placard explains how to connect and access the menu hosted on the BrightSign player
  - A display for setup & testing purposes can be helpful as shown in our BrightMenu example demo
  - Displays are optional and certainly can be connected to the BrightSign player to playback digital signage content and enrich the experience

## Implementing BrightMenu in BrightAuthor

BrightAuthor projects designed for BrightMenu primarily employ the following elements:

1. Configures the BrightSign player as a wireless access point
2. Hosts a Custom Device Webpage that gets viewed as on a connected phone
3. Optionally plays non-interactive content on a connected screen

This section will primarily focus on explaining the components that make up our example BrightMenu presentation. Please visit the section titled ***Optional Connected Screen Implementations*** which discusses playing a digital signage presentation at the same time as running a BrightMenu solution.

In the BrightMenu example demo, a multizone presentation has been created to run on a screen which can be helpful for setup and testing purposes. It displays the following content:

- Background image zone: containing the BrightMenu Title & the 2-Step process a user would follow to connect and view the hosted menu – this content is the same as provided in the BrightMenu-Placard-Template.docx
- QR code zone: displays the HTML QR code content which is auto generated based on the currently assigned hostname user variable value. Whenever the value of the hostname variable changes, this zone is updated with a newly generated QR code to match
- Hostname zone: displays the currently assigned hostname variable directly under the QR code zone to assist with setup and testing
- Live text zones: display the configurable user variables needed for BrightMenu to assist with setup and testing
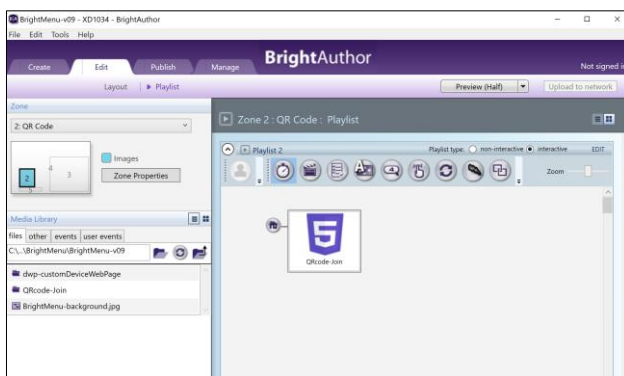
BrightMenu User Variables

BrightMenu supports an array of customizable user variables allowing you to customize the experience for your implementation. These user variables configure the associated plugins which in turn program your BrightSign player to perform as a web server and wireless access point using the installed wireless module which does not

need an Internet connection. Please note that the wireless module is solely used for BrightMenu functions and cannot be used for publishing presentations.

The user variables must reside in the BrightAuthor project file under *Presentation Properties* > *Variables dialog* as follows:

	Name	Default Value	Access	Type
	ssid	My Menu Network	Private	Local
	password		Private	Local
	hostname	My.Menu	Private	Local
	gatewayaddress	192.168.10.1	Private	Local
	ipaddress	192.168.10.200	Private	Local
	ipstart	192.168.10.2	Private	Local
	ipend	192.168.10.255	Private	Local
	frequency	2412	Private	Local
X	connect-status	disconnected	Private	Local

- **ssid**: This variable is the name of the Wi-Fi network broadcasted by your player. It can be as descriptive as you would like to match your application.
  - Note: BrightMenu example demo has users to manually connect to this SSID on their phone by instructing them to do so on the printed placard and on the optionally connected screen.
- **password**: This variable is the password needed to connect to the Wi-Fi named under the SSID variable. If you leave the default value blank, no password will be required by the user to connect.
- **hostname**: This variable is the address assigned to the Custom Device Webpage hosted on the BrightSign player which displays as a menu on a connected phone in a browser. Please note that your name must end with a valid top-level domain name such as **.menu, .com, .eat, .cafe, etc.** (for list of valid top-level domain names, click here). Otherwise, the value can be set to anything you would like to make it easy for the user to understand and identify with your menu such as JPsGrill.menu or JPsGrilleMenu.com. The hostname also offers access to the Admin Portal by typing in *hostname/admin* into a browser of a connected device.
  - Note: Our recommended method of user operation to access this hostname is by scanning a QR code. When scanned, the hostname translates to a URL which a connected phone is pointed to play in its default web browser
  - In the BrightMenu example demo, free HTML code has been provided that automatically generates a new QR code based on the assigned hostname value (please see the **QRcode-hostname HTML** section)
- **ipstart**: this variable represents the start of the IP addresses available for the BrightMenu wireless network hosted by the BrightSign player
- **ipend**: this variable represents the end of the IP addresses for the BrightMenu wireless network hosted by the BrightSign player. Set this user variable to a number that will provide a wide range of available IP addresses in order to support all of the users you would like to be able to connect to BrightMenu at once.
- **gatewayaddress**: this variable is the default gateway assigned to the BrightMenu wireless network
- **ipaddress**: This is the IP address assigned to the player
- **frequency**: This variable sets the Wi-Fi frequency
- **connect-status**: This variable is required but should be set as shown and left unchanged.

Set_Player_As_Access_Point_plugin.brs

This plugin configures the BrightSign player to act as a web server and as Wi-Fi access point which is what allows a user device to connect to it. No Internet is required for the BrightSign player to enable this BrightMenu feature.

This plugin file needs to be referenced in your BrightAuthor project under **Presentation Properties** > **Autorun > Script Plugins.** The name must be **Access** (it is case sensitive) and the path must be indicated.

httpServer-npm-auto_v3.brs

This plugin starts a node server on the player and unzips **npm.zip** & **BrightMenuInstructions.zip** to the card. The plugin creates a **/node** folder with **server.html** and **portal.js** files. These files setup the player proxy to direct the connected phone to the menu's Custom Device Webpage hosted on the BrightSign player. The webpage's URL is accessible via the specified hostname in the user variables described previously. This plugin also builds the server containing the Admin Portal webpage code.

This plugin file needs to be referenced in your BrightAuthor project under **Presentation Properties** > **Autorun > Script Plugins.** The name must be **httpServer** (it is case sensitive) and the path must be indicated.
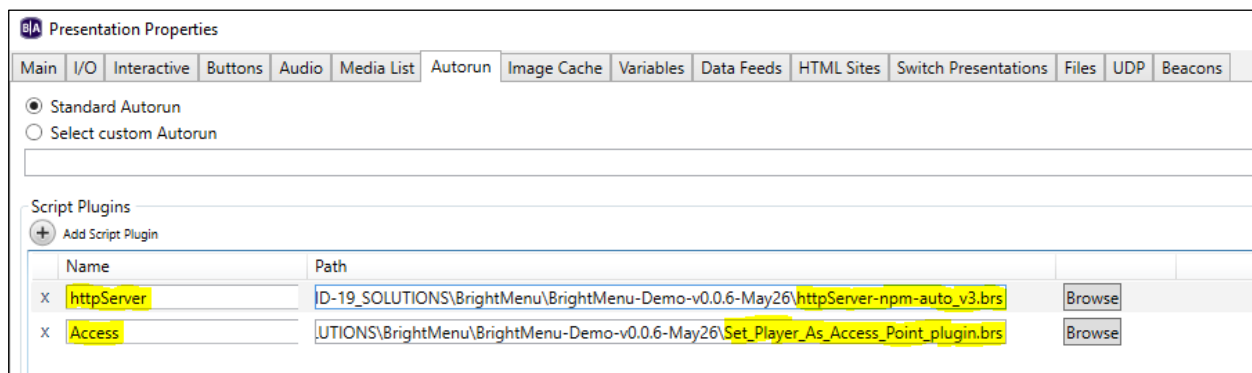
npm.zip

The **npm.zip** file contains all the files for configuring the proxy. You can create your own node.js file which could contain further functionality for the experience.

This **npm.zip** file must be referenced in the BrightAuthor project under **Presentation Properties** > **Files dialog**.

instructions.zip

The **instructions.zip** file contains files which are unzipped and placed into a folder named **uploads** on the SD card when the BrightMenu Example Demo is run for the first time. The files this zip file contains are example menu images to test with as well as a default instructions.png file. The instructions.png file is activated by default to display on a connected phone when it scans the QR code. The instructions detail how to access the Admin Portal and upload menu images and activate them to display on a user's phone.

- **BrightMenuInstructions.png |** instructions image that displays the very first time a BrightMenu presentation is run, and directs the user how to login to the Admin Portal to customize their menu view.
- **Menu1.jpg, Menu2.jpg, Menu3.jpg |** these are example menus that can be activated for testing purposes

The *instructions.zip* file must be referenced in the BrightAuthor project at *Presentation Properties* > *Files dialog*.
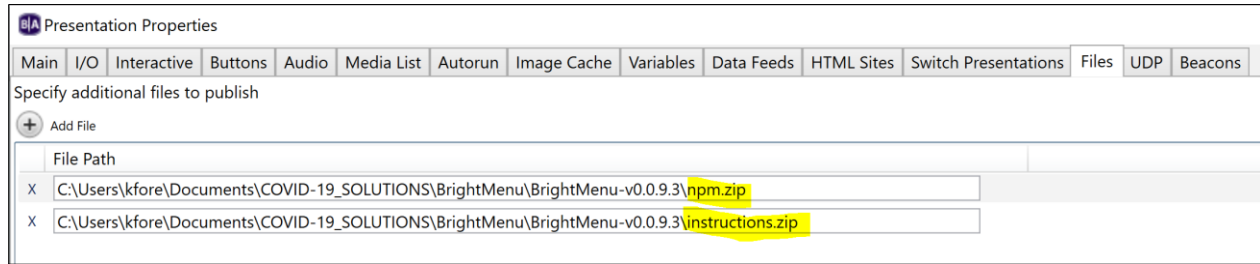

Custom Device Webpage

The restaurant menu content that is viewed on a connected user's phone is implemented using a Custom Device Webpage. When accessed via the user scanning a QR code, it opens the default web browser on a user's phone to display it. There are multiple ways to create a Custom Device Webpage with the menu content.

Our BrightMenu example demo uses a basic approach in the design of its Custom Device Webpage which simply displays one or multiple *JPG* or *PNG* files in a web browser after a single QR code scan. If multiple images are selected to be displayed as part of the menu, they will be viewable in a vertical scrolling fashion and the images will be displayed on the user's screen in alphabetical order. This implementation also supports an Admin Portal which makes it easy for restaurant owners to update menu content directly from their phone. This Admin Portal is explained in detail later in this document.

A more tailored and engaging solution can be created by designing a Custom Device Webpage that supports a wide variety of implementations rather than simply displaying a file to view. The design of a Custom Device Webpage for BrightMenu is not limited to what would run on a BrightSign player, but rather what would run on a smartphone. Custom approaches could include supporting multiple QR codes allowing a user to scan each one to quickly access a specific menu category of interest such as specials, drinks, desserts, etc. Yet another implementation could be to design an interactive Custom Device Webpage that supports buttons allowing a restaurant with a large menu to make it easier to navigate to the menu sections directly on the user's phone. Experienced designers could even build out solutions that narrow choices by selected ingredients, view nutrition information and even display coupons, discounts, or simple games to keep children occupied.

- If you would like a referral to a BrightSign Integrator or VAR partner who is experienced in creating Custom Device Webpages, please contact your sales representative.

In BrightAuthor, the Custom Device Webpage is assigned under the *Presentation Properties* > *Variables dialog*. This webpage is accessed via the assigned 'hostname' variable. If using BSN.cloud or BrightSign Network to publish your presentation, the HTML site name must be a unique name that does not match any other HTML site name saved in your account.
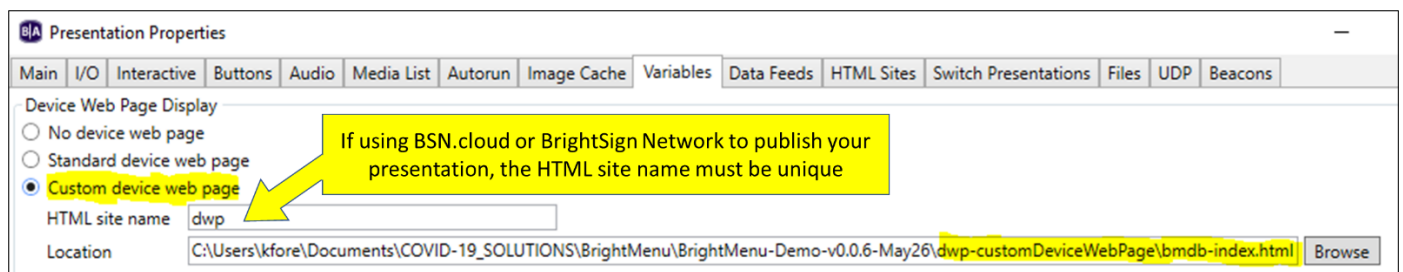

QRcode-hostname HTML

This free HTML code auto generates a QR code based on the currently assigned hostname user variable value. Once that value is changed, the QR code is auto generated for the new value. In the BrightMenu example demo,

this HTML code is used to display a QR code on-screen in a zone that matches the hostname variable value. And this HTML code is also used to create the QR code that is generated and displayed within the Admin Portal when the same hostname variable value has been changed.

This HTML file needs to be referenced in your BrightAuthor project under *Presentation Properties* > *HTML Sites.*
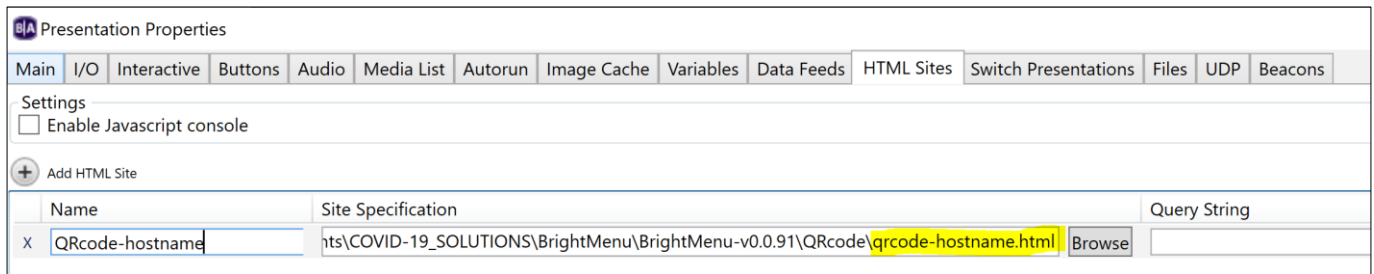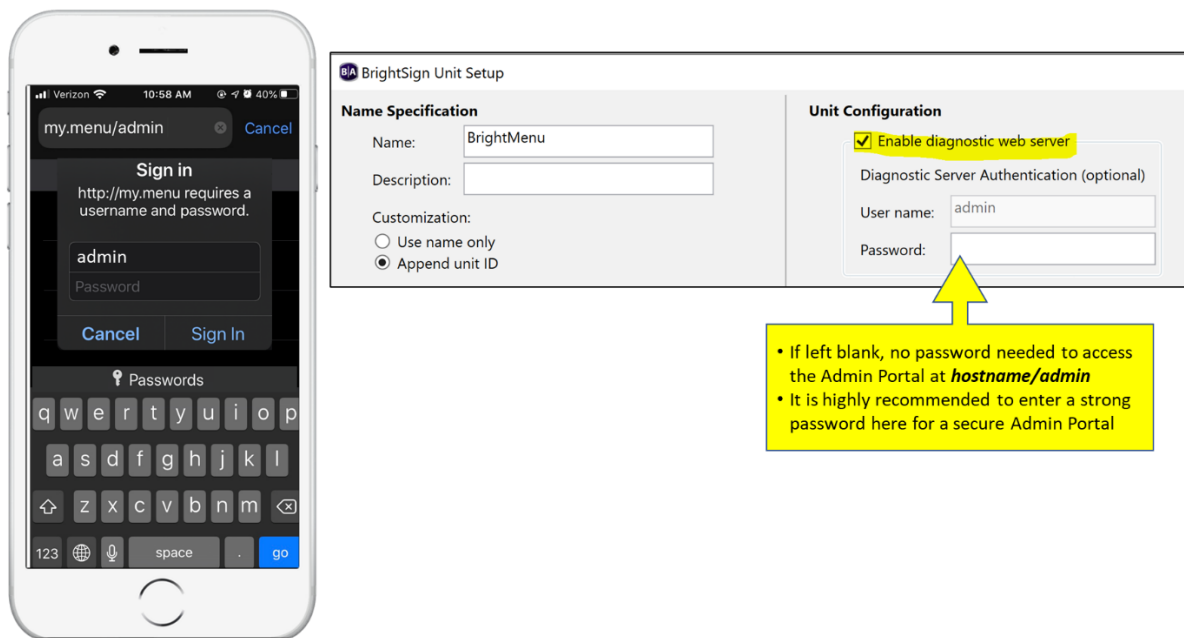

Admin Portal

The Admin Portal is designed for restaurant owners and managers to easily use our default BrightMenu example demo as their own presentation to distribute their menu to patrons by uploading and choosing their menu images to display on user phones. End users can also use the Admin Portal to customize the SSID and hostname to meet the needs of their establishment. Access to the Admin Portal requires you to connected to the default Wi-Fi access point or *SSID* which is *My Menu Network*. Once connected, the Admin Portal can be accessed by typing in the web address of *hostname/admin* into a browser. For the BrightMenu example demo this is by default *my.menu/admin*.

Login Credentials

No login credentials are required to enter the Admin Portal unless a password has been set for the *Diagnostic Web Server* in the player setup process. If the password field is left blank, then no password will be required and the Sign In screen to the Admin Portal will not be displayed. If a password has been set, the username will be set to *admin* and you be prompted with a Sign In screen when accessing the Admin Portal. You can change the password at any time through the Admin Portal.

Resetting a Lost Admin Portal Password

If you forget your password, it can be reset it by visiting ***hostname/forgotpassword*** and following the provided onscreen instructions (for the BrightMenu example demo it can be accessed at ***my.menu/forgotpassword***). Please note that the SVC button is utilized in the process to reset the password, therefore the normal SVC button operation is no longer supported. However, a line of code in the ***httpServer-npm-auto_v3.brs*** plugin can be uncommented out to return the SVC button back to normal operation if desired.
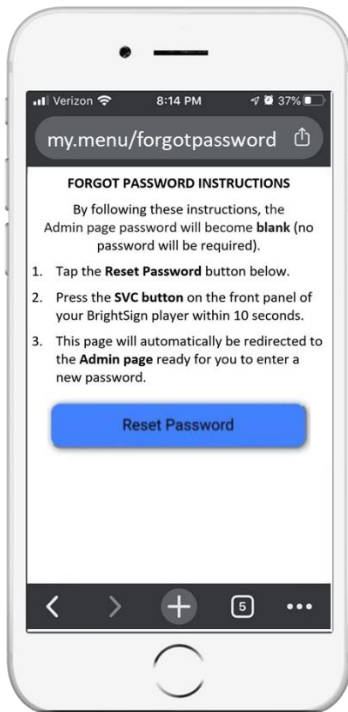

Admin Portal Operations

The Admin Portal supports the following operations and customizations:

- UPLOAD MENU: Uploading a menu in a file format of ***JPG*** or ***PNG***. Only 1 file can be uploaded at a time.
- SELECT MENU: Choosing an uploaded file to be viewable when the QR code is scanned. Multiple image files can be selected and viewable. BrightMenu will display multiple selected images in alphabetical order which can be viewed by scrolling vertically through them in a browser.
- SET SSID VARIABLE: Changing the SSID value to a custom name is supported so that restaurants can easily choose a name for their Wi-Fi access point that is clearly recognized by patrons wanting to connect
- SET HOSTNAME VARIABLE: Changing the hostname value to a custom name is supported so that restaurants can easily choose a URL for their menu that matches their establishment and can be easily typed into a browser by a patron wanting to view the menu in the event that a printed QR code is not available. Please note that the hostname must end with a valid top-level domain name such as .menu, .com, .cafe, etc. (for list of valid top-level domain names, click here)
- PASSWORD: Updating the password to enter the Admin Portal is important to ensure your broadcasted menu is secure.
- QR CODE IMAGE: this image automatically updates when the hostname value has been updated. The QR code image can easily be saved and printed for patrons to use.
- NOTE: BrightSign offers a ***BrightMenu-Placard-Template.docx*** that can easily be edited and printed with updated SSID, Hostname and QR codes to display at each patron's dining table.

Uploading a Menu File

1. Connect your device to the assigned SSID Wi-Fi access
   point.
   - The default SSID is **My Menu Network** in the example
     BrightMenu demo
2. Login to the **Admin Portal** by typing in
   hostname/admin into your browser.
   - For the example BrightMenu demo, type in
     My.Menu/admin
3. Tap on **Choose Files** in the **Upload image** section.
4. Locate and select your menu image file.
   - BrightMenu supports **PNG** or **JPG** files
5. Tap on the **Upload** button which will upload the image
   menu file to the BrightSign player.
   - If you do not have a compatible menu image file, please
     follow the instructions below for **Creating A Menu File**
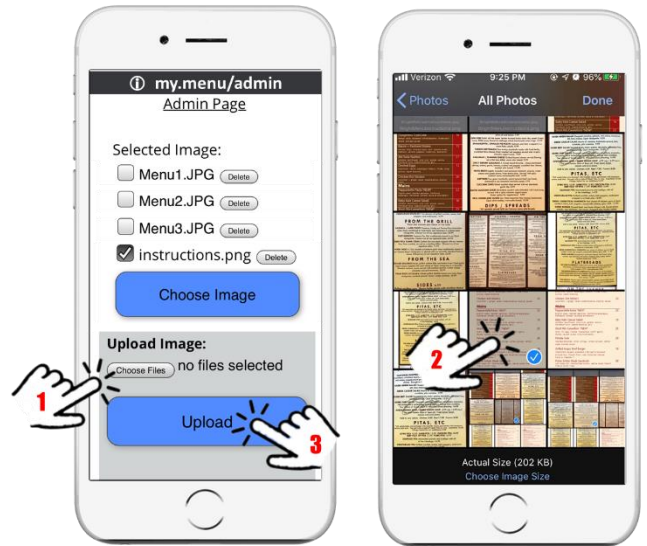
Selecting a New Menu File

1. Select the menu image file or files you wish to display under the **Selected Image** section.
   - A check mark will appear next to files that have been selected
   - If multiple files are selected, they will be displayed in alphabetical order
   - 3 example menu files have been provided to use for testing purposes
2. Tap the **Choose Image** button to activate the selected menu image files
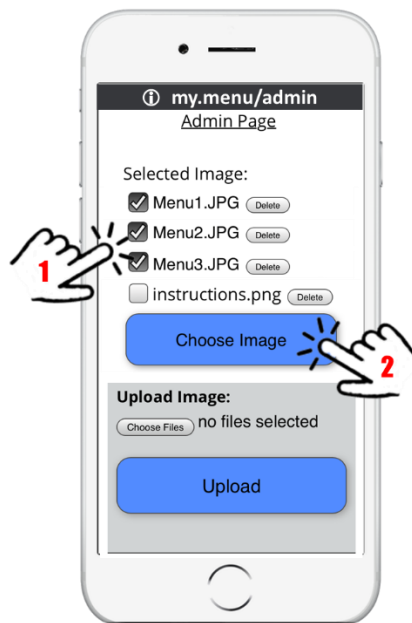
Updating the Admin Portal Password

These fields allow you to change the password to enter the Admin Portal at any time. If the password was not set during the player setup process, then the default password is blank meaning no password is required. Once a new password is entered here and the **Update Password** button is pressed, the user will automatically be logged out and prompted with a Sign In page to log back into the Admin Portal. Note that the *username* = *admin* & the password value is whatever was just applied.
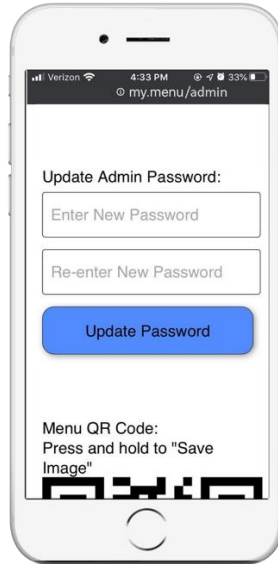
Changing the SSID & hostname

This section walks through how to change the name of your Wi-Fi Network (SSID) and the name of the menu's webpage URL (hostname) so that they match your establishment.

1. Connect to *SSID* on your device.
2. Login to the *Admin Portal* by typing in **hostname/admin** into your browser.
    - For the example BrightMenu demo, type in *My.Menu/admin*
3. Under the *hostname* section, type in the name of your webpage (URL).
    - Please note that your name must end with a valid top-level domain name such as **.menu, .com, .eat, .cafe, etc.** (for list of valid top-level domain names, click here)
    - An example hostname for JP's Grille, could be *JPsGrille.Menu*
4. Under the *SSID* section, type in the name of your Menu's Wi-Fi Network. (for example, *JPsGrille Menu Network*)
5. Choose the *Set Values* Button to apply your new names.
    - Please note that this will reboot your BrightSign player and configure it with the new names. It will also create a new QR code assigned to your new hostname
6. Scroll down to the QR code and save the QR code image that was generated for the menu webpage URL you just created and add it to the
    - Use the provided *BrightMenu-Placard-Template.docx* from and edit the document with the new network name and new QR code and hostname.
    - Print out this placard and display it on each dining table to instruct your customers how to view your menu.
7. Once the player reboots, you will be able to connect to the new SSID name and scan the updated QR code to view your menu

Creating A Menu File

Choose a method below to create a compatible **PNG** or **JPG** image file to use with BrightMenu.

Take Photos of Your Printed Menu

Follow these steps to create a single photo image file of your printed menu.

1. Layout your printed menu flat on a table.
2. Take a photo of each page of your menu.
3. Edit each photo to crop & brighten the image as needed.
4. Follow the Upload & Select menu sections above to upload and choose your menu files to be viewed.

Edit the Provided Template in PowerPoint

Follow these steps to create your menu image files by editing our provided menu template.

1. Utilize the provided **Menu-Template.pptx** file
2. Open the document in Microsoft PowerPoint.
3. Tap on the placeholder logo & delete it. Then click on the placeholder image icon & add your own logo.
4. Tap on the placeholder background image & delete it. Then click on the placeholder image icon & add your own image.
5. Modify the menu items & prices to match your menu.
6. Save each slide as a **PNG** or **JPG** file. (For example, JPsGrille-menu.jpg)
7. Follow the Upload & Select menu sections above to upload and choose your new menu image files to play.
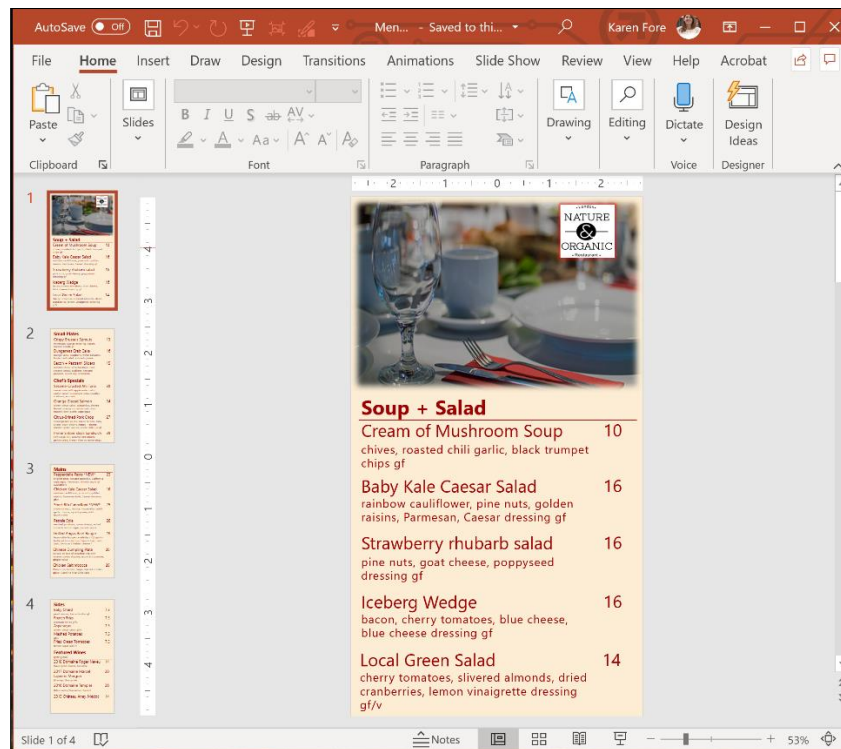
Example BrightMenu Demo Operation

If you publish the BrightMenu-v0.0.93.bpf BrightAuthor project as provided and run it on a BrightSign player setup for BrightMenu as described in this document, below are the user instructions.

Connection Instructions

Setup the player as shown in the diagram below. The player is ready to interact with after it boots up and shows the main screen as shown below if connected to a screen or when the **My Menu Network** becomes available on your Wi-Fi connection screen. You can print out the provided *BrightMenu-Placard.pdf file* if you do not have a screen connected.


User Instructions

1. While connected to *My Menu Network*, scan the QR code on the printed *BrightMenu-Placard.pdf* or displayed onscreen.
    - To scan a QR code, open the camera app and simply aim it at the QR code
2. Tap on the notification to view your menu.
    - If multiple menu images were activated, scroll down to view them
    - Please note that the first time this presentation runs, your phone will display our provided BrightMenu Instructions.png file until you select either our included example menu.jpg files or upload and select your own menu image file. Please see the Admin Portal section for details
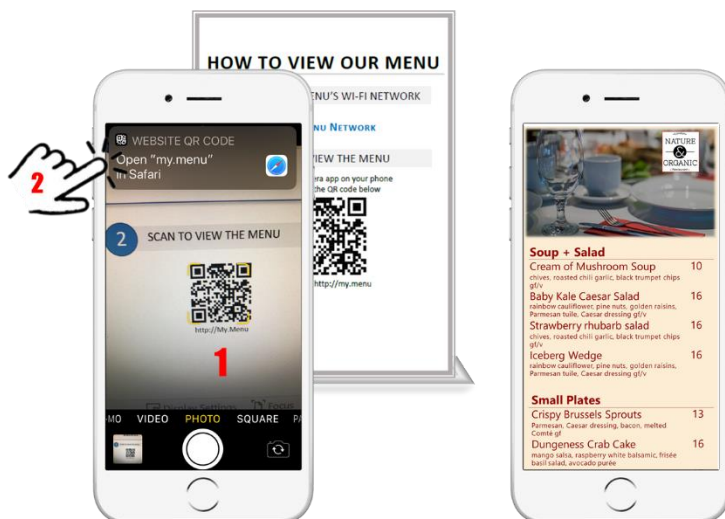
Optional Connected Screen Implementations

While it is unnecessary to connect a display to the BrightSign player for BrightMenu to function, adding a screen to run a digital sign presentation can enrich the restaurant experience. BrightSign players deployed for BrightMenu solutions are powerful enough to run both the BrightMenu experience and a digital signage presentation at the same time. The possibilities are virtually limitless to deploy both a BrightMenu experience on a user's phone via a Custom Device Webpage while simultaneously delivering an on-screen as a digital sign using our vast collection of BrightSign and BrightAuthor features.

Customizing the User Connection

There are different ways for a user to connect to BrightMenu. BrightSign recommends a simple 2-step process as depicted in our BrightMenu example demo which supports:

1. Manual connect to Wi-Fi by the user on their phone with instructions displayed on a tabletop placard.
2. Scan QR code to launch the Custom Device Webpage displaying the menu

Other methods can easily be implemented to meet the needs of any application including:

- Dual QR codes:
  - one QR code to join the Wi-Fi connection (using the SSID/Password variables to generate a QR code can be done from this free site: https://qifi.org/#)
  - second QR code to launch the custom device webpage with your hostname
- Using a QR code to join the Wi-Fi connection & displaying the URL on a placard for the user to type into a browser.

Developer Notes

- If making custom edits to the http servers, etc. is required for your application, a version of unwebpacked portal.js is available upon request.
- The player's diagnostic web server can only be accessed via a hardwired ethernet connection to the player.