|  |  |
| --- | --- |
| SUBJECT: | Instructions for Fusion Documentation |
| PROJECT: | Steps for installing and using Mkdocs to write the Fusion Documentation |
| UPDATED: | 3/27/2018 9:48:00 AM |

Overview:

The following document outlines how to install and use Mkdocs in a Linux environment. I am using the “Bash on Ubuntu for Windows” application which is built in to Windows 10. This document was also tested using the Linux environment on the Fusion Controller.

Mkdocs is written using Markdown language and I would recommend referencing the Mkdocs documentation for more information on specific issues.

**Documentation Github:** [**http://github.com/Modern-Robotics/Fusion-dev .git**](http://github.com/Modern-Robotics/Fusion-dev%20.git)

**Mkdocs Documentation:** [**http://www.mkdocs.org/**](http://www.mkdocs.org/)

**Markdown Cheatsheet:** [**https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet**](https://github.com/adam-p/markdown-here/wiki/Markdown-Cheatsheet)

Installation:

Before installing any Mkdocs component you must first have installed python 2.7 on your system. Check the current version of Python by typing *python --version* into the terminal. If python is not installed, install Python by typing *sudo apt-get install python* into the terminal.

Once Python is installed you can then install Mkdocs on to your system. Type *sudo apt-get install mkdocs* into the terminal. This will install the necessary Mkdocs packages to **/usr/bin/mkdocs**.

Raspberry Pi Install:

**apt-get** update **-**y

**apt-get** install libyaml-dev

pip install mkdocs

Setting up a mkdocs project (not required for continued work on fusion documenation):

To set up a new project using mkdocs you will first need to navigate to a directory where you would like your new project directory to exist.

Once you are in the desired directory, type *mkdocs new my-project* where **my-project** is the name of the project directory. Then navigate within the project by typing *cd my-project*in the terminal. There will be located a directory called **docs** and a file called **mydocs.yml**. The **docs** directory will contain all the pages and content of the documentation.

By default, there is a file titled **index.md** inside the **docs** folder. This will be the homepage of the documentation and the name of this file must NOT be changed.

Files required for working on fusion documentation (Fusion-Documentation):

The following list are the necessary files or folders required within the project directory to create and build the Fusion Documentation. The project directory is named **docsrc** located within the Fusion-dev folder and should not be changed. Always make sure you are using the latest version of the documentation from the GitHub by using *git pull*.

1. **mydocs.yml (required for build)**
   1. This file lists all the markdown files with names as well as points to the custom Fusion theme. The only modification made to this file should be the addition of new markdown files. Changing other fields could affect the build results of the documentation.
2. **docs (required for build)**
   1. This folder contains all the markdown files that make up the html pages. The folder also includes the necessary **img** folder that contains all the images used throughout the documentation. The **ext\_docs** folder contains additional materials need for the Fusion like building instructions. These are mostly PDF files. Every markdown file in this folder must be listed in the **mydocs.yml** file to be accessed.
3. **fusion\_theme (required for build)**
   1. This folder contains the materials that make up the layout and overall look of the html package. Caution should be taken when modifying files within this folder. Any changes made will apply to all pages. Therefore, a change that makes on page look better may have a negative effect on other pages.
4. **Controller\_Images**
   1. This folder contains the raw images used to make the final images that are contained within the **docs/img** folder.
   2. This folder should be included in the project folder (will not be included in the build). Do NOT include inside the **docs** folder as it will include it in the final build.
   3. Programs used for photo editing
      1. Gimp2
      2. PowerPoint
5. **Videos**
   1. This folder contains .mp4 videos that are converted to .gif files that are contained within the **docs/img** folder.
   2. This folder should be included in the project folder (will not be included in the build). Do NOT include inside the **docs** folder as it will include it in the final build.

Using mkdocs:

This section describes the steps to take to create and edit markdown files. If you are building this on the Fusion Controller you will need to connect to a monitor via HDMI. You will also need a text editor to modify the files. It is recommended to use an editor that comes with syntax highlighting for Markdown language.

First, navigate to your project folder (**Fusion-Documentation**) using the terminal. Then type *mkdocs serve* into the terminal to start the Mkdocs server. This allows you to view a live version of the webpage you are creating with the Markdown files. Whenever you save the files within the **docs** folder the webserver will update the webpage. If an error exists, it will be displayed in detail in the terminal.

Once the server is started go to the browser and type in <http://127.0.0.1:8000/> to view the webpage. You will be taken to the homepage which is titled **index.md** within the **docs** folder.

Now that the services are started, it is a matter of writing the documentation in Markdown language. The first step would be to read the Markdown Cheatsheet (linked above) to get an idea of the syntax. The next step would be to review several existing pages of the Fusion Documentation for examples of the formatting scheme. It is recommended to model all new pages after the existing pages so that there is uniformity throughout the documentation suite.

Once you are done editing, push your updated files to the GitHub with a proper comment.

Building mkdocs:

Your documentation is written, and you are satisfied with the preview you saw. Now it is time to build the documentation into an html suite than can be hosted on the Fusion or a website.

To build the documentation, navigate to the project folder (**docsrc**) using the terminal. Then type *mkdocs build* into the terminal. This will build all the files within the **docs** folder into an folder titled **site**. The folder **site** contains all the html, css and java code required for the web suite. This folder can also be renamed to anything you desire. For the Fusion Documentation we rename the **site** folder to **fusion**. Then move (not copy) the folder to the location on the Fusion source (**/Fusion-dev/FusionServer/public/src/assets/docs/fusion**). The Fusion source folder will then need to be built to add the updated documentation to the Fusion distribution. The recommend procedure is to remove the existing **fusion** folder before moving the new **fusion** folder to the Fusion Documentation path.