

## Project Structure

A good project directory structure is the key to build scalable and expandable software projects. Therefore each project folder has to fulfill an associated task. Additionally, a good structure facilitates project navigation and the retrieval and reuse of project content. Further on Matlab provides strategies to add content to existing project structures and label it for script based execution of project task to manage project files. To add new content have a look at the links below.

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### See Also

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- [Add Labels to Files](#)

### Directory Overview

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```
GaussianProcessDipoleSimulation
├── [4.0K] data
│   ├── [4.0K] test
│   └── [4.0K] training
├── [4.0K] docs
│   ├── [12K] html
│   │   ├── [4.0K] figures
│   │   ├── [4.0K] helpsearch-v3
│   │   └── [4.0K] images
│   │       ├── [4.0K] avi
│   │       ├── [4.0K] eps
│   │       ├── [4.0K] pdf
│   │       └── [4.0K] svg
│   └── [4.0K] latex
│       ├── [4.0K] BA_Thesis_Tobias_Wulf
│       └── [4.0K] Manual
├── [4.0K] resources
├── [4.0K] scripts
├── [4.0K] src
│   ├── [4.0K] sensorArraySimulation
│   └── [4.0K] util
│       └── [4.0K] plotFunctions
├── [4.0K] temp
└── [4.0K] tests
```

23 directories

*Generated with linux shell command from on directory above the main project directory.*

```
tree -dhn GaussianProcessDipoleSimulation ...
-o GaussianProcessDipoleSimulation/docs/html/Directory_Tree.txt -I ...
"project|Project_*|thesis|images"
```

## Directory Tasks

| Directory                          | Task  |
|------------------------------------|---|
| ./                                 | Main project directory which contains the Matlab project sandbox files and the hidden repository files. Matlab project sandbox directory. Project root directory which contains the Matlab project file, the info.xml, .gitignore, .gitattributes files and all other project related subdirectories. Startup directory.  |
| .git                               | Hidden repository for local standalone work. Saves daily working results. Provide a Git clonable instance of sandbox the directory. Replacable. Not Matlab driven, simulates remote repository.   |
| ./resources                        | Autogenerated directory from Matlab project. Contains the local project versionation and project xml-files.   |
| ./data                             | Contains all project related datasets e.g. mat-files.   |
| ./data/trainig                     | Contains mat-files from sensor array simulation for training cases of the gaussian process.   |
| ./data/test                        | Contains mat-files from sensor array simulation for test cases of the gaussian process.   |
| ./docs                             | Documentation directory which contains m-files only for documtation use and the direcoty where all project remarked files are published into HTML output files.   |
| ./docs/html                        | Publish directory where published m-files are collected and bind to a Matlab help browser readable documentation. It contains html-files and subdirectory for images and figures which are used in the documentaion. The help browser search database is placed here too. Much more important the directory contains the helptoc.xml which pointed by the info.xml from root project directory. |
| ./docs/html/figures                | Contains all needed fig-files which are used in the documentation.  |
| ./docs/html/helpsearch-v3          | Contains autogenerated help search database entries. The directory is rewritten during the publish documentation process.   |
| ./docs/html/images                 | Contains all needed image files like png-files which are used in the documentation.   |
| ./docs/html/images/avi             | Contains video avi-files.   |
| ./docs/html/images/eps             | Contains saved figures as eps-files.  |
| ./docs/html/images/pdf             | Contains saved figures as pdf-files.  |
| ./docs/html/images/svg             | Contains saved figures as svg-files.  |
| ./docs/latex                       | Documentation directory which LaTeX documentation of the project including subfolders for Thesis of each project participant.   |
| ./docs/latex/BA_Thesis_Tobias_Wulf | Bachelor Thesis directory of Tobias Wulf.   |
| ./docs/latex/Manual                | Export directory for documentation written in Matlab as pdf export.   |

| Directory                   | Task   |
|-----------------------------|--|
| ./scripts                   | The scripts directory contains all executable script m-files to solve certain tasks in the project, to generate datasets or execute parts of the toolbox source code.                              |
| ./src                       | Source code directory which contains reusable source code clustered in submodule directories. The code can be function oriented or class oriented or a mix of both. Contains no bare script files. |
| ./src/sensorArraySimulation | Sensor Array Simulation function and class. Contains functions, mathematical functions and classes to simulate an N x N sensor array on base of the TDK TAS2141 characterization dataset.          |
| ./src/util                  | Util function and class space. Function and class source code to solve upcoming help tasks e.g. to manage project content, to support plot framework or reporting or publishing processes.         |
| ./src/util/plotFunctions    | Contain plot functions for reuse.  |
| ./tests                     | For test driven development each function or class needs a own test space or file. The directory contains these test.  |
| ./temp                      | Temporally working directory to save intermediate results or the last software state from session before or scratch files which flies around.  |

## Add New Elements

### Add new folder to project:

1. Create a new folder and add to Project Path after Matlab flow.
2. Run Checks > Add Files.
3. Run tree command from shell to update directory for the documentation (optional).
4. Update directory task table of this document.

### Add new file to project:

1. Create new File and edit the file after Documentation Workflow. and Conventions.
2. Run Checks > Add Files.
3. Label the new file from project pane.
4. Commit file into active branch.
5. Register to the documentation if needed (publish, toc and listings docs).

Created on October 10. 2020 by Tobias Wulf. Copyright Tobias Wulf 2020.