Styleguide for Quantlets
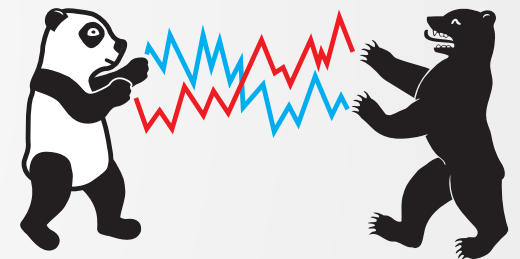## (GitHub.com/Quantlet)

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Outline

1. Structure of Quantlet Folder 1

⊡ Each Quantlet is a program that needs to be accompanied by a
   <u>Metainfo.txt file</u>, both files need to be in the same folder.

⊡ Per folder only one Quantlet. If you have multiple Qauntlets
   structure them in GitHub like this:

   ▶ \RepositoryName\…\FolderName1\QuantletName1

   ▶ \RepositoryName\…\FolderName2\QuantletName2

⊡ Give each Quantlet a meaningful name:

   ▶ The name should start with the project / book / class
      abbreviation followed by a unique name.

⊡ Each Quantlet shall be executable, hence provide the input data! If

   data are classified or too big, provide synthetic data of same structure or talk to the QuantletTeam

   about alternative options.

⊡ Save output pictures in the same folder as png or jpg.

1. Structure of Quantlet Folder 2

- ⊡ If you have a project which includes multiple major steps, split them into multiple Quantlets. For example a Quantlet for each of the following steps:
    - ▶ Data collection / scraping / mining,
    - ▶ Data preprocessing,
    - ▶ Data exploration,
    - ▶ Data visualisation.
- ⊡ The README file is created automatically out of the
    - ▶ Metainfo file,
    - ▶ Pictures in the same folder (in alphabatical order),
    - ▶ Code of the Quantlet.
- ⊡ Existing README files are not overwritten, if you make changes in the Metainfo file or the Quantlet, please delete the README.

2. Metainfo.txt File 1

⊡ **Required** Meta-Information:

▶ **Name of Quantlet**: Same name as the Quantlet without the program ending (.r,.py,.m,...). Select a meaningful name!

▶ **Published in**: Book / Paper/ Class / other place of publication

▶ **Description**: Describe with at least 10 words what this Quantlet does, which techniques are used, what is the applied use case, for what purpose etc.

▶ **Keywords**: At least 5 keywords.

▶ **Author**: Name of the authors

2. Metainfo.txt File 2

⊡ **Optional** Meta-Information:

▶ **See also**: mention related Quantlets, e.g. Quantlets of same project

▶ **Submitted**: state the name and the time of the original submission

▶ **Datafile**: All datafiles used by your code need to be listed here

▶ **Input**: Should contain some new info, which is not written in other metainfo fields

▶ **Output**: Should contain some new info, which is not written in other metainfo fields

▶ **Example**: Should contain a list of generated plots and descriptions, which are not written in other metainfo fields

2. Metainfo.txt File 3

⊡ The Metainfo file has to be a <u>YAML</u> debuggable text file.

▶ A <u>template</u> is provided on GitHub.

▶ If the Metainfo file is NOT debuggable the Quantlet is not displayed on <u>Quantlet.de</u>. You can check yourself whether it is debuggable, e.g. on <u>http://yaml-online-parser.appspot.com/</u>

⊡ YAML rules:

▶ The colon ':' separates the data field (left) from its description (right).

▶ The dash '-' enumerates list items. Avoid them in text.

▶ Put texts in quotes (single or double), especially if the text is multiline or if special characters, e.g. ':', '-', '_', …, are used.

3. README File

⊡ The README file is the representation of the Quantlet, it contains

▶ Name of Quantlet,

▶ Metainfo file,

▶ Graphics in the same folder (only JPEG or PNG),

▶ Source code of Quantlet.

⊡ The README file is automatically created for all Quantlets in the

Github organisation.

▶ README files are not overwritten, thus not updated.

▶ If you need an updated README file, delete the README file, a new one is created automatically.

4. Example Quantlets

⊡ Class projects:

▶ <u>SPL_class_WS1617</u>

▶ <u>DEDA_Class_SS2018</u>

⊡ Projects with multiple Quantlets, e.g. thesis:

▶ <u>FVC - Face Value of Companies</u>

▶ <u>BLEM</u>

4. Special Cases

⊡ R Shiny Apps:

  ▶ Program UI and Server in one R Script, e.g.

```
library("shiny")
ui       = shinyUI(…)
server  = shinyServer(function(input, output)){…}
app      = shinyApp(ui, server)
```

  ▶ See for example SVCJOptionApp.

⊡ If you have a special case that is not listed below ask your

  supervisor and if necessary contact the Quantlet Team.

Contact

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