Good Practice on Data Management

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09 Feb 2024

Download materials from:
https://enochytchen.com/talks/2024-dataman

About me

- Born and raised in Taipei, Taiwan
- MSc in PHS—Epidemiology (2018-2020)
- PhD student at KI MEB Biostatistics Group (2021-current)
- Key words: survival analysis, biostatistics, health economics modelling, chronic myeloid leukemia

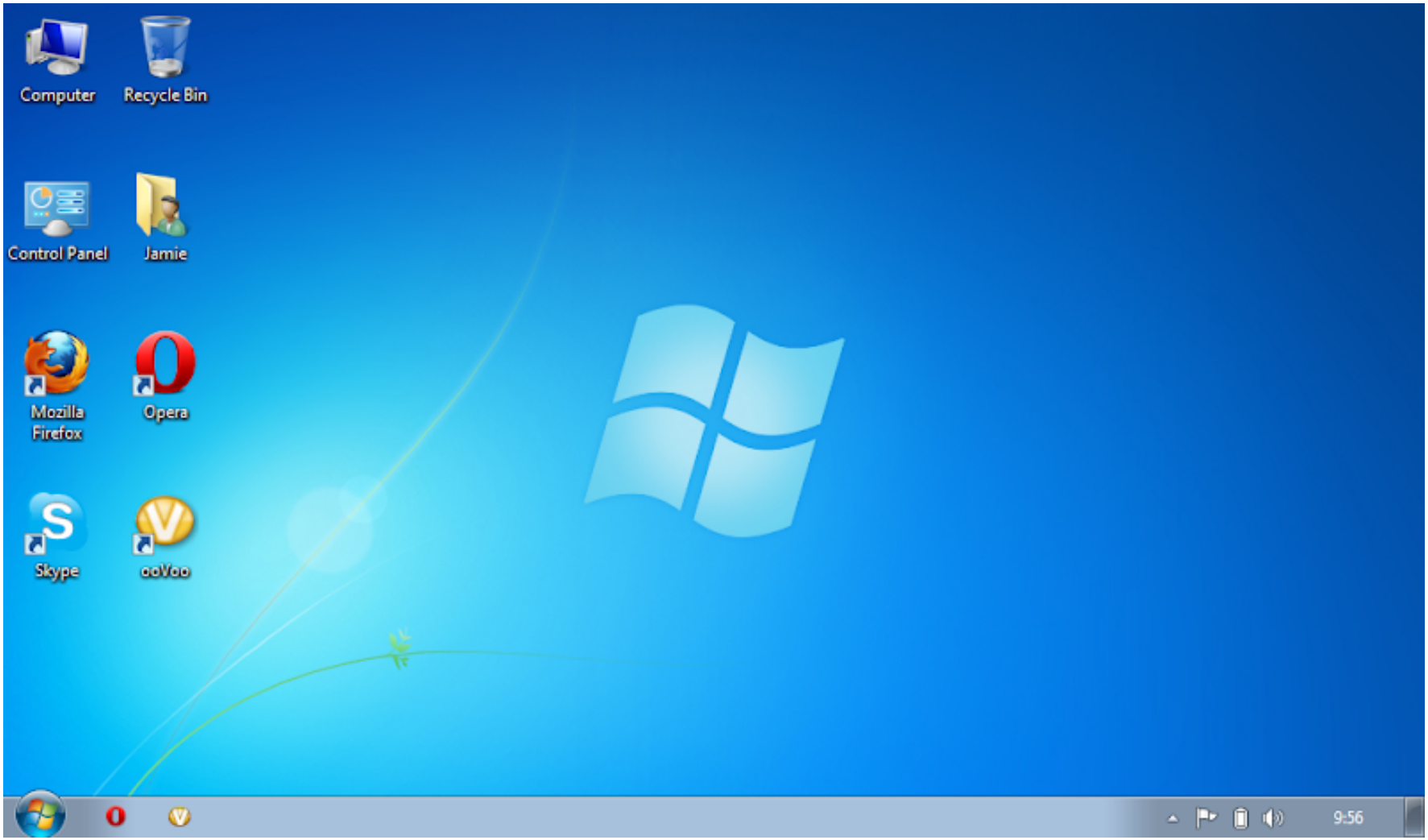
Where are you now?

Metimeter

Outline

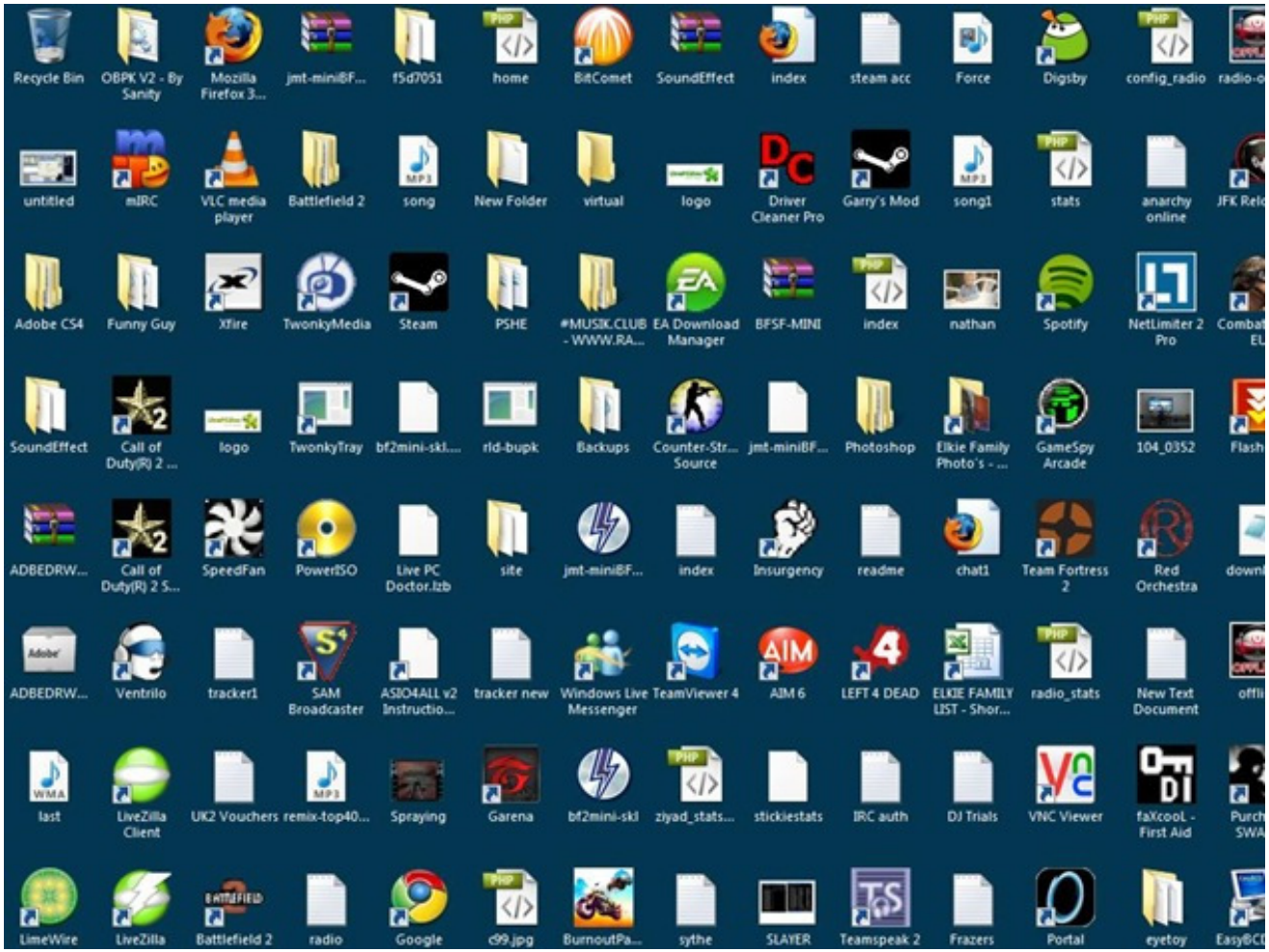
Aims of data management

In the beginning,



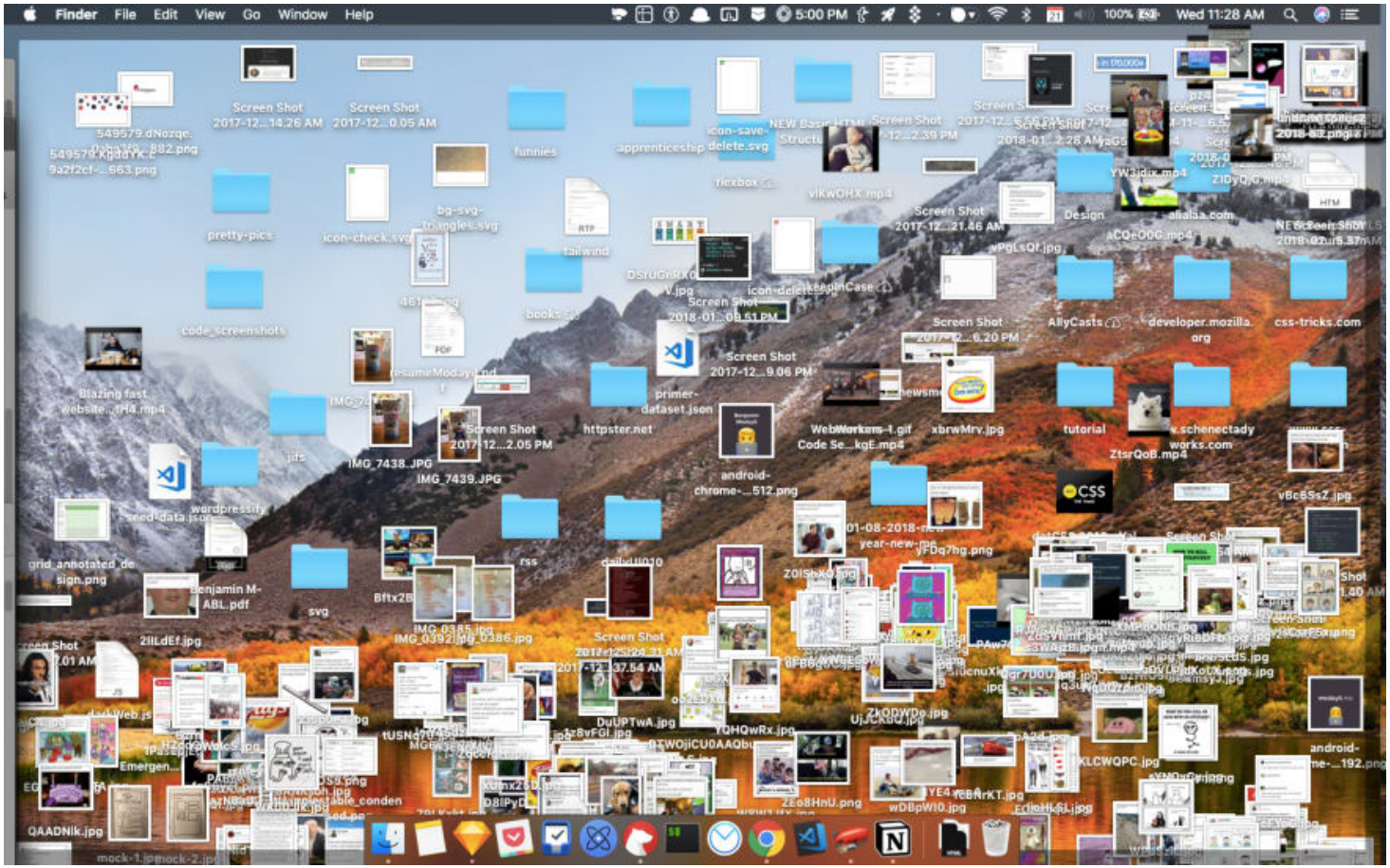
Aims of data management

On the half-way of the research,



Aims of data management

And eventually...



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- if your classmate asks you to teach her how to write a certain Stata code, but...where did you put it?

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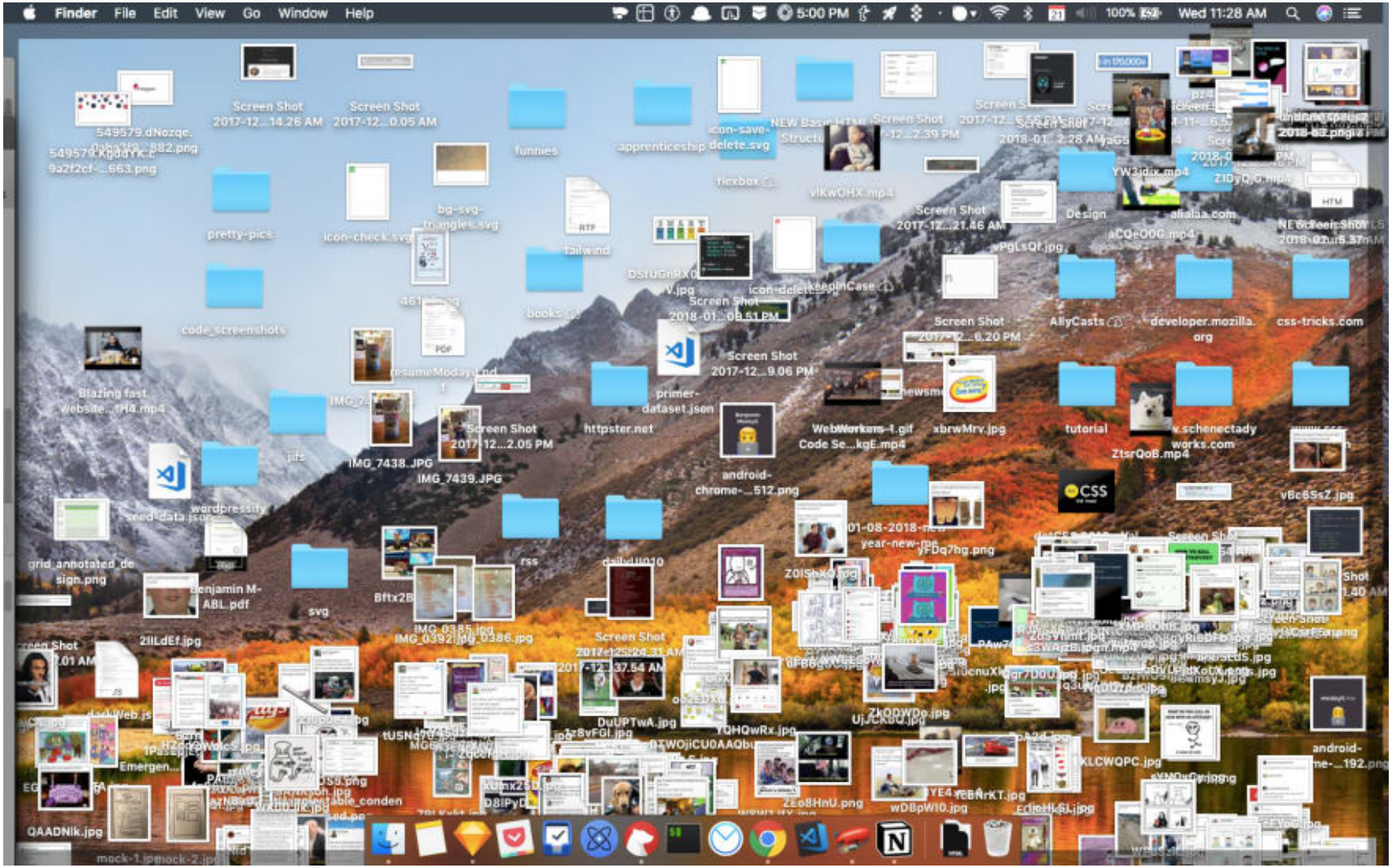
- if your classmate asks you to teach her how to write a certain Stata code, but...where did you put it?
- if your collaborator needs to take over, can he/she understand what you've completed?

Aims of data management



Aims of data management

To make your research

1. **Repeatable**: if you can use your data & code to generate them

Point 1 **Repeatable** is the minimum to aim for your master thesis.

Adapted from: Alexander Ploner. Data management: a brief overview. 2023.

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2. **Reproducible**: if others can use your data & methods to generate them
3. **Replicable**: if others can use their data to generate compatible results

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Benefits of good data management

Reasons for implementing good data management practice

1. Scientifically (be a serious scientist)

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5. Spiritually (who doesn't like "clean and nice"?)

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Good folder structure

The core elements of folders are listed below:

- Data
- Documents
- Log
- Output
- Program

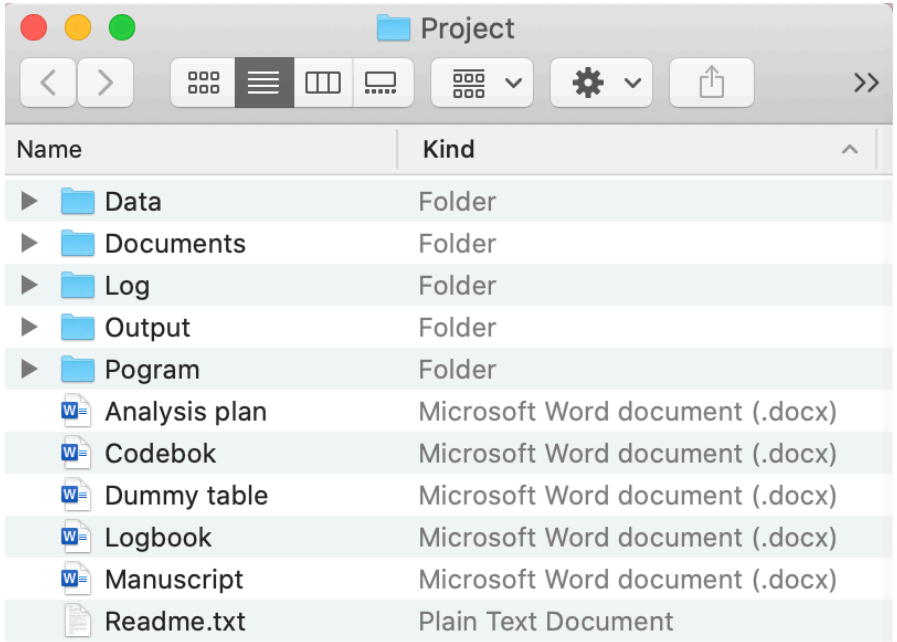


Figure: Project folder structure.

Good documents

Besides good folder structure, also consider keeping good documents

- Analysis plan
- Codebook
- Dummy table
- Logbook
- Manuscript

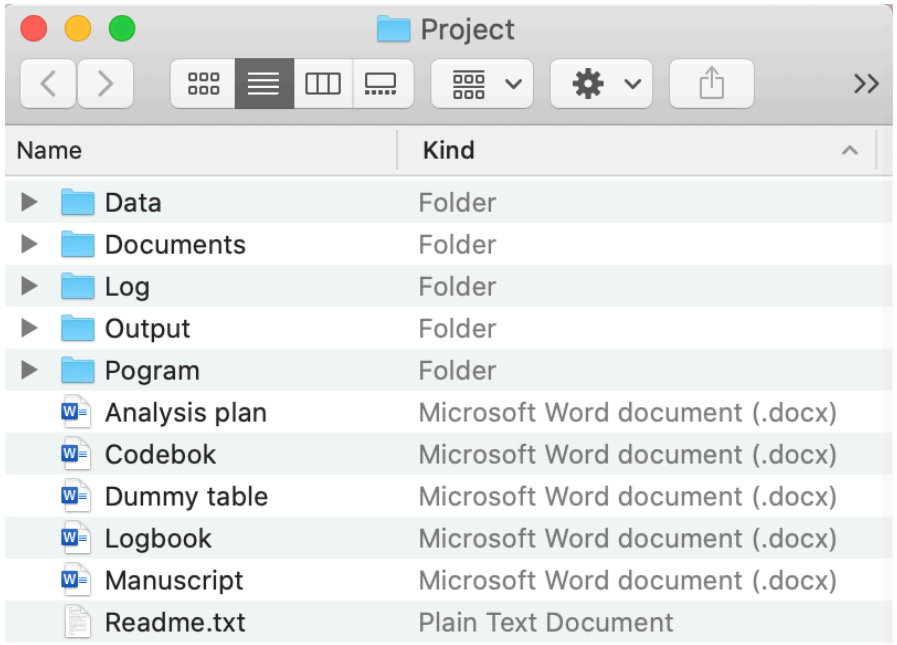


Figure: Project folder structure.

[3] can be included in analysis plan as well

Good documents

- You should illustrate how to use these documents/folders in the Readme.txt.
- A good Readme.txt is a good tourist guide in this project folder.

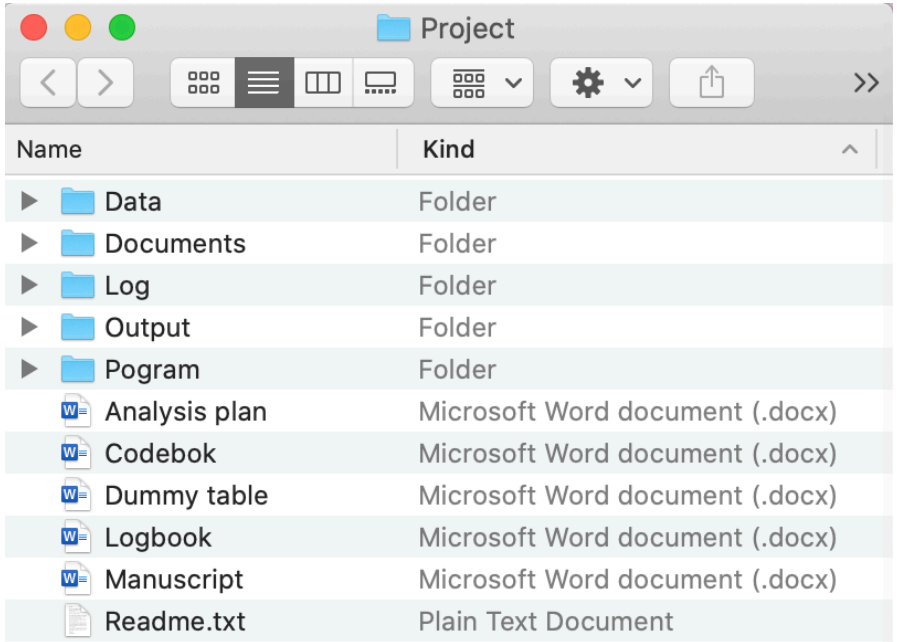


Figure: Project folder structure.

Exercise I: Create your project folder

1. Download the templates for analysis plan, codebook, README, logbook from: `https://enochytchen.com/talks/2024-dataman`
2. Create your own project folder

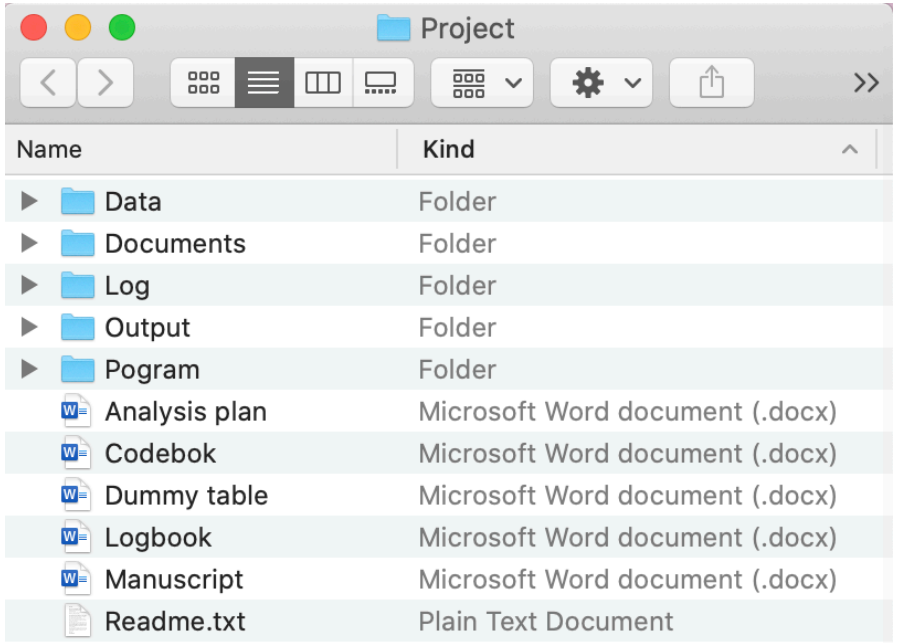


Figure: Project folder structure.

Good habit on coding

- **log on**
- Filename
- Study
- Created
- Updated
- Purpose
- Note

- **Program**

- log close

```
local todaydate: di %tdCYND date(c(current_date),"DMY")
capture log close
log using "your log folder route\do file name_`todaydate'.log",

/*==================================================================
Filename: make_analysis_data.do
Study:    Colon cancer patient survival, Sweden, 2010-2015

Created:  20201015 Enoch Yi-Tung Chen
Updated:  20201017 Enoch Yi-Tung Chen

Purpose:  Conduct data clearance for the project
Note:     Well, this is just an example.
==================================================================
// Start of Stata code

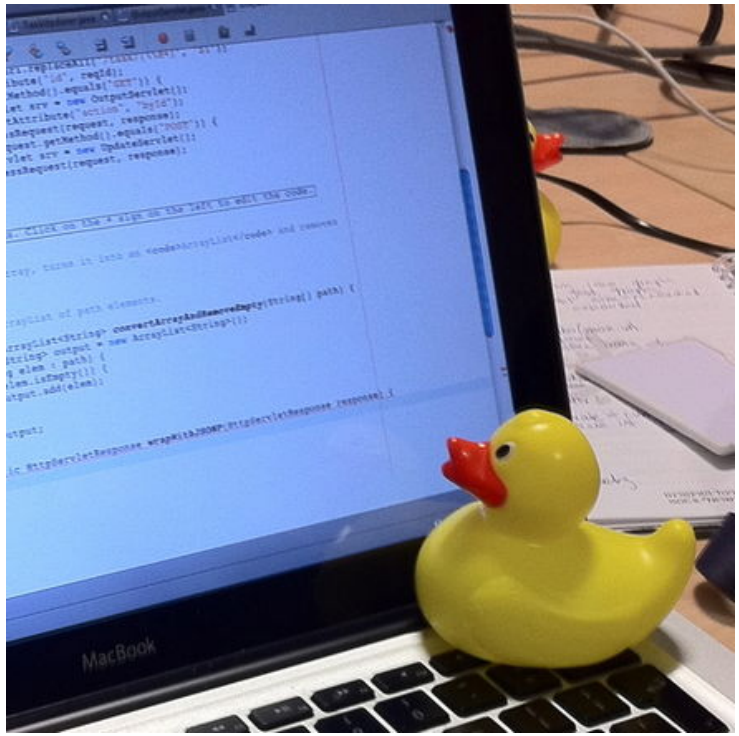


// End of Stata code

log close
```

Good habit on coding

- Talk to yourself what you are doing.
- Rubber duck debugging



Exercise II: Create your do-file header

1. Use the templates from Project/Program downloaded from Templates (`https://enochytchen.com/talks/2024-dataman`)
2. Replace the content with one of your own do/R files.

```
local todaydate: di %tdCYND date(c(current_date),"DMY")
capture log close
log using "your log folder route\do file name_`todaydate'.log", replace

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Other do's and don'ts

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5. Don't edit the data directly. Please write syntax.

Wrap it up

- In summary, a good data management
  1. aims for 3R (Repeatable, Reproducible, Replicable)
  2. with GOOD folder structure, GOOD documents, and GOOD habits
- Further readings: The Department of Medical Epidemiology and Biostatistics, Karolinska Institutet. MEB Guidelines for Documentation and Archiving Version 6. 2018.

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- All the files in this seminar can be found at `https://enochytchen.com/talks/2024-dataman`

Good data management saves your life.

Happy thesis life $< 3 < 3 < 3$