

Applied Epidemiology I: Data Management

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Acknowledgements

This course material in data management is based on my learning from Anna Johansson's workshop at KI library¹, teachings in Good Data Management Practice in Epidemiological Research, and MEB Guidelines for Documentation and Archiving Version 6 ². I personally want to thank for their effort on education in data management. I especially want to thank Marlene Stratmann for reviewing the slides and Prof. Paul Dickman for providing me with suggestions to improving the teaching.

¹This workshop is currently available on KI Play as well.

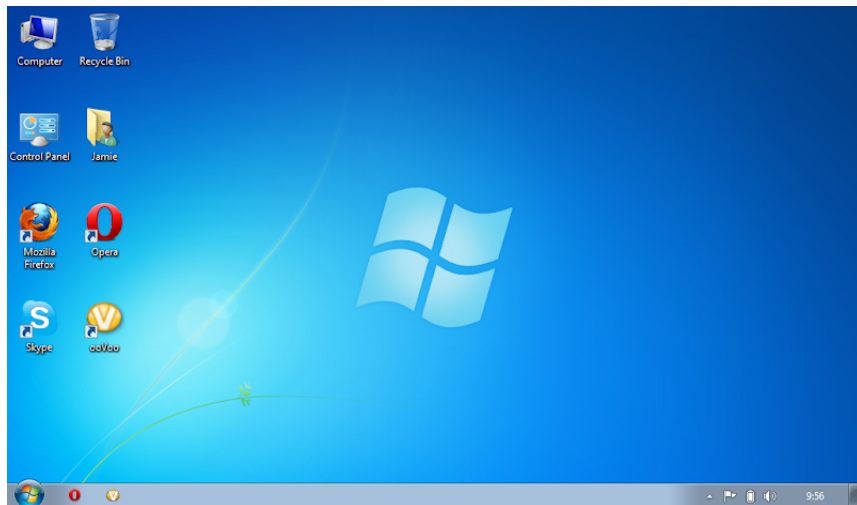
²The Department of Medical Epidemiology and Biostatistics, Karolinska Institutet. MEB Guidelines for Documentation and Archiving Version 6. 2018.

Outline

- ① What if no data management?
- ② Aims of data management (also learning outcomes)
- ③ Good folder structure
- ④ Good documents
- ⑤ Good Readme.txt
- ⑥ Good habits on coding
- ⑦ Other do's and don'ts
- ⑧ Wrap it up

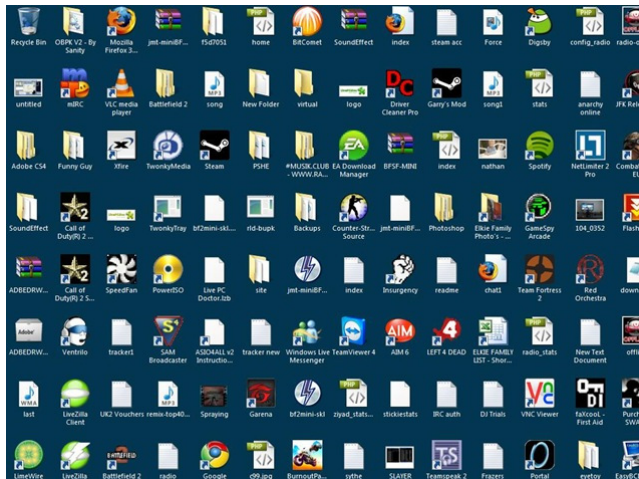
What if no data management?

In the beginning,



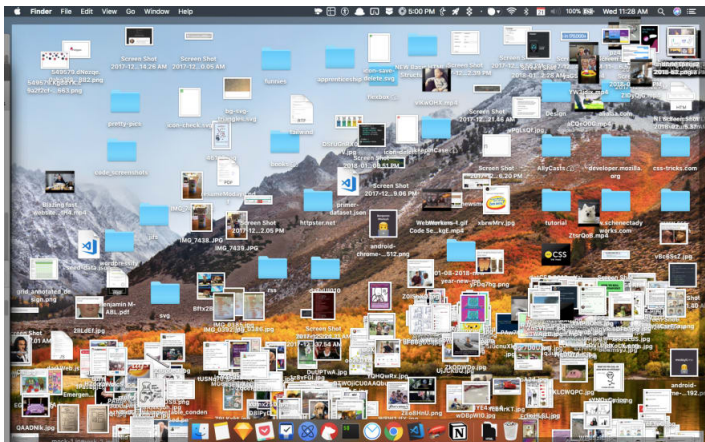
What if no data management?

In the half-way of the research,



What if no data management?

At the end, or saying you cannot even walk till the end?



What if no data management?

Imagine now

- if you want to correct Table I, where is the do file for descriptive analysis?

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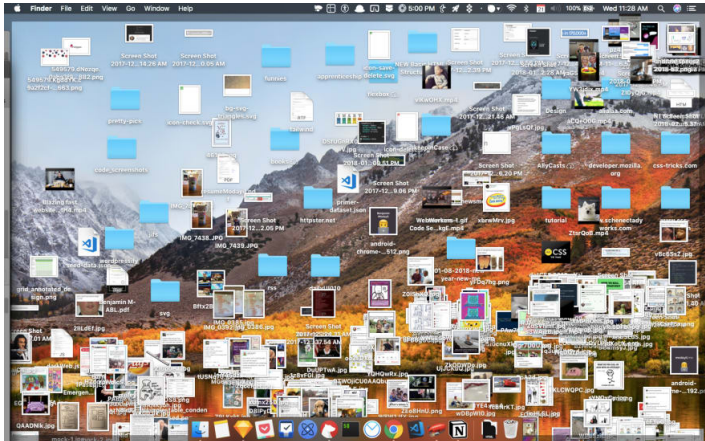
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- if your supervisor says, "Please summarise how far you've gone in this project." You probably cannot just drop him/her your syntax.
- if your classmate asks you to teach her how to write a certain Stata code, you remember you've done it before, but where did you put it?

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

What if no data management?



What if no data management?

So I would say you need to have a friend called

Data Management

Aims of data management (also learning outcomes)

- To ensure the analysis is reproducible

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- To ensure the analysis is reproducible
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- To ensure the project can be understood by others (supervisors, collaborators, and future readers)
- To create a good work flow and enhance accuracy of work

Good folder structure

The core elements of folders are listed below:

- Data
- Documents
- Log
- Output
- Program

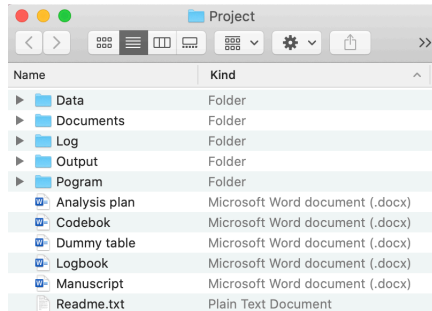


Figure: Good project folder structure.
(Please bear with me that I am Mac user!)

Good documents

Besides good folder structure, you should also consider keeping good documents

- Analysis plan
- Codebook³
- Dummy table
- Logbook³
- Manuscript

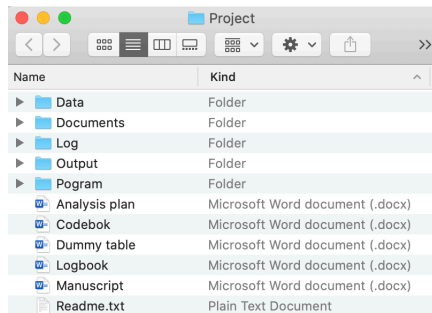


Figure: Good project folder structure.

³can be included in analysis plan as well

Good Readme.txt

- 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.

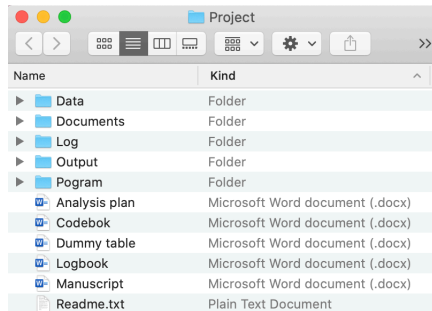


Figure: Good project folder structure.

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

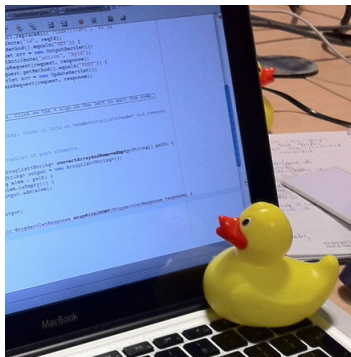
Purpose:   Conduct data clearance for the project
Note:      Well, this is just an example.
=====
// Start of Stata code

// End of Stata code

log close
```

Good habit on coding

- Talk to yourself what you are doing.
- You've got a friend in me! (Parallel analysis)
- Rubber duck debugging



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(Required to do that because of data privacy.)

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4. Don't replace the original files or variables.
5. Don't edit the data directly. Please write syntax.

Wrap it up

- In summary, a good data management contains GOOD
 1. folder structure
 2. documents
 3. readme
 4. habits

Wrap it up

- In summary, a good data management contains GOOD
 1. folder structure
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- How can this lecture help you?
- The templates you can use for DM your current and future projects.