The BOAST Style Guide

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21 May 2020

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Chapter 1

Welcome

This guide spells out the styling that should be used for all apps included in BOAST. Keep in mind that there are several different aspects to what makes up Style including:

- Coding (how you write, organize, and comment the code that makes the app)
- Visual Appearance (how you make the app look including tabs, fonts, colors, icons, etc.)
- Wording (how you write information, instructions, and other messages to the users)
- Documentation (how you provide references, including code and data sources, and give credit)

By following this style guide you'll ensure that any app you create will meet our standards.

1.1 Getting Started

Before you get too far into the Style Guide, we would like for you to take a moment and ensure that you have the following tools at your disposal.

1.1.1 Checklist

1. Ensure that you have all of necessary accounts and if not, put in a request to Robert (Bob).
   a. DataCamp

   b. GitHub

c. EducationShinyAppTeam on GitHub

d. ~~RStudio Server~~
   - Upon investigation the TLT and the Eberly RStudio Servers will not be useful for us to do testing. An alternate testing process will be explored.

e. BOAST in Teams (tied to your PSU ID)

2. Ensure that you have all of the proper software.
   a. `R` (version 3.5.* minimum, version 4.0.0 preferred)

   b. RStudio (most current version preferred)

3. Additional Software that we recommend
   a. GitHub Desktop

4. `R` Packages–here are some basic packages that everyone will need; be sure to install their dependencies too

a. `tidyverse`

b. `ggplot2`

c. `shiny`

d. `shinyBS`

e. `boastUtils` (see below)

5. A copy of the Sample App (see below)

1.1.2 `boastUtils` Package

Bob created the boastUtils package to automate much of the design and development process. This will not only reduce the amount of work you'll need to do, it'll also make apps more consistent.

Starting Summer 2020, you will be required to you make use of this tool.

Please check out the package's page for instructions on installing and usage.

1.1.3 Sample App

Bob and Neil have created a Sample App repository that you can use as a template for your own apps. To get started, clone the Sample_App template

repo found on GitHub. This will provide you with a skeleton for organizing your files as well as your code. There are several methods you can use:

1.1.3.1 Command Line

Enter the following in your terminal:

```
git clone git@github.com:EducationShinyAppTeam/Sample_App.git
```

1.1.3.2 Direct Download

You can download the repository directly:

> https://github.com/EducationShinyAppTeam/Sample_App/archive/master.zip

1.1.3.3 GitHub Desktop

If you are using GitHub Desktop and have linked your account that has access to the EducationShinyAppTeam repository, you can do the following from inside GitHub Desktop:

1. Bring up the Clone Repository Menu (File -> Clone Repository…)
2. Enter Sample_App in the search bar and select the option that says Sample_App (not sampleapp)
3. Click the Choose… button for the local path (this is where you want to the clone to live on your computer)
4. Click the Clone button.

Chapter 2

Introduction

You can label chapter and section titles using `{#label}` after them, e.g., we can reference Chapter 2. If you do not manually label them, there will be automatic labels anyway, e.g., Chapter 4.

Figures and tables with captions will be placed in `figure` and `table` environments, respectively.

```
par(mar = c(4, 4, .1, .1))
plot(pressure, type = 'b', pch = 19)
```

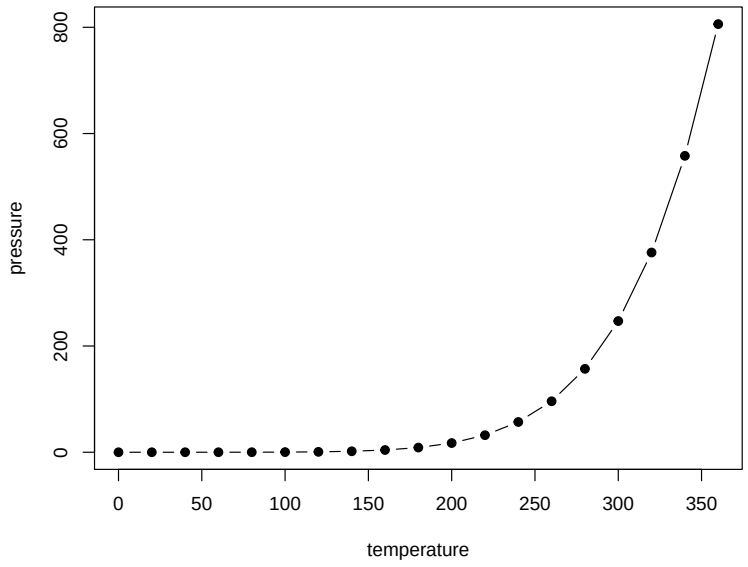

Figure 2.1: Here is a nice figure!

Table 2.1: Here is a nice table!

Sepal.Length	Sepal.Width	Petal.Length	Petal.Width	Species
5.1	3.5	1.4	0.2	setosa
4.9	3.0	1.4	0.2	setosa
4.7	3.2	1.3	0.2	setosa
4.6	3.1	1.5	0.2	setosa
5.0	3.6	1.4	0.2	setosa
5.4	3.9	1.7	0.4	setosa
4.6	3.4	1.4	0.3	setosa
5.0	3.4	1.5	0.2	setosa
4.4	2.9	1.4	0.2	setosa
4.9	3.1	1.5	0.1	setosa
5.4	3.7	1.5	0.2	setosa
4.8	3.4	1.6	0.2	setosa
4.8	3.0	1.4	0.1	setosa
4.3	3.0	1.1	0.1	setosa
5.8	4.0	1.2	0.2	setosa
5.7	4.4	1.5	0.4	setosa
5.4	3.9	1.3	0.4	setosa
5.1	3.5	1.4	0.3	setosa
5.7	3.8	1.7	0.3	setosa
5.1	3.8	1.5	0.3	setosa

Reference a figure by its code chunk label with the `fig:` prefix, e.g., see Figure 2.1. Similarly, you can reference tables generated from `knitr::kable()`, e.g., see Table 2.1.

```
knitr::kable(
  head(iris, 20), caption = 'Here is a nice table!',
  booktabs = TRUE
)
```

You can write citations, too. For example, we are using the **bookdown** package (Xie, 2020) in this sample book, which was built on top of R Markdown and **knitr** (Xie, 2015).

Chapter 3

Literature

Here is a review of existing methods.

Chapter 4

Methods

We describe our methods in this chapter.

Chapter 5

Applications

Some *significant* applications are demonstrated in this chapter.

5.1 Example one

5.2 Example two

Chapter 6

Final Words

We have finished a nice book.

Bibliography

Xie, Y. (2015). *Dynamic Documents with R and knitr*. Chapman and Hall/CRC, Boca Raton, Florida, 2nd edition. ISBN 978-1498716963.

Xie, Y. (2020). *bookdown: Authoring Books and Technical Documents with R Markdown*. R package version 0.19.