

Online Interactive Textbooks

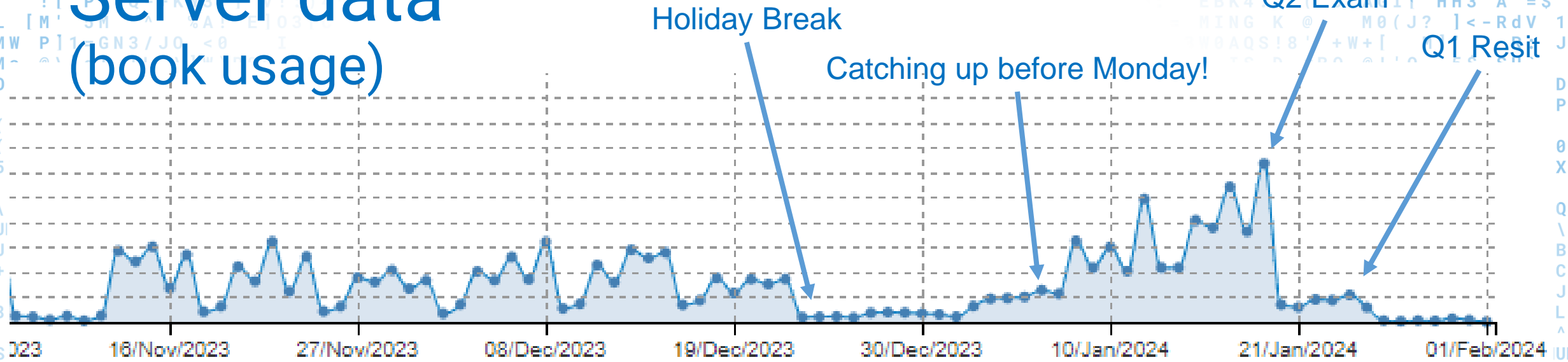


TeachBooks: Teachers'
Educational Assistance for
interActive Hands-on Browser-
based Online Open Knowledge
for Students

This presentation: doi.org/10.5281/zenodo.14068657



Server data (book usage)



Usage of website during Q2

In-class Sessions

Study continues through afternoon

Usage of website by hour of day (all days)

Server data (book usage)

Holiday Break

Catching up before Monday!

Q2 Exam

Q1 Resit

How to produce this type of work, activity, interaction in your own classroom?

Vertical scales are
of activity for 260 active students.

>>> Now for a more general look at the tools

afternoon

Usage of website by hour of day (all days)

How students perceive the book (100% response rate)

Strongly Disagree Disagree Neutral Agree Strongly Agree

A website is better than a paper book

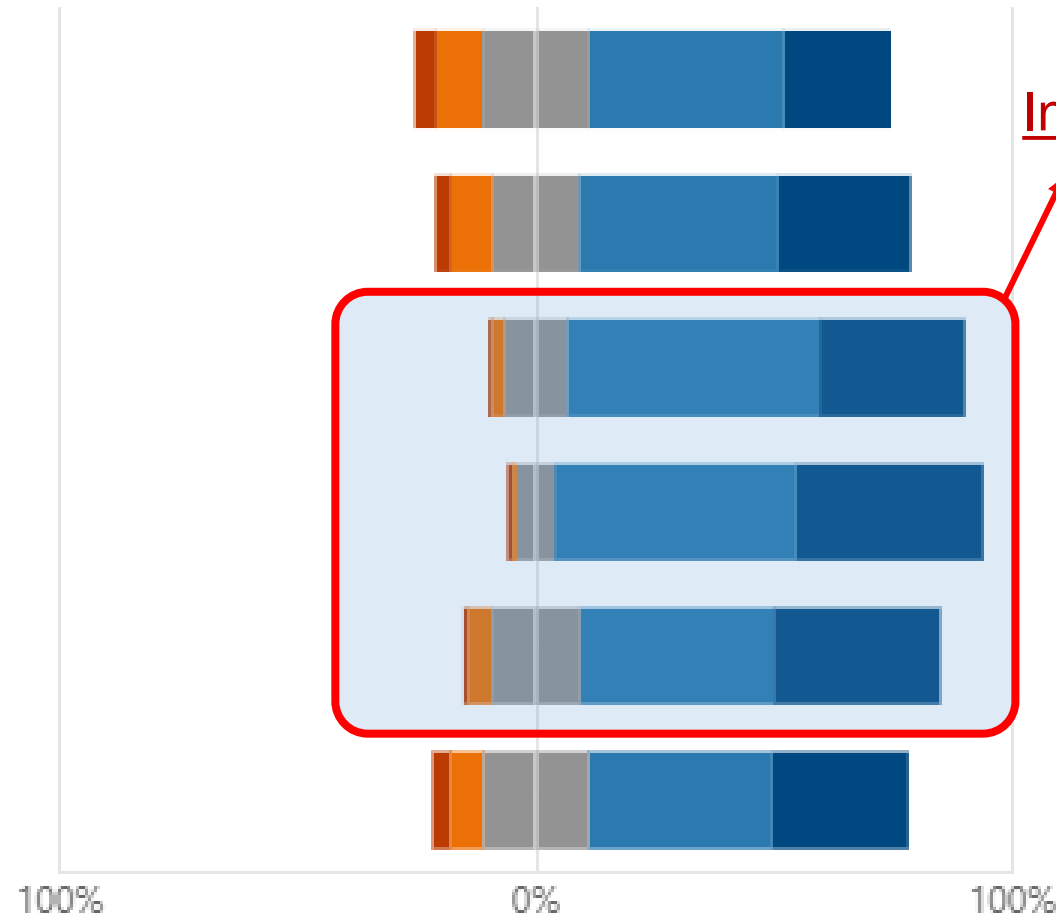
A website is better than a PDF book

Videos in the book were useful

In-line quiz questions were useful

Python-enable pages were useful

More courses should use this type of book



Interactivity is appreciated!



How students perceive the book (100% response rate)

Strongly Disagree Disagree Neutral Agree Strongly Agree

A website is better than a paper book

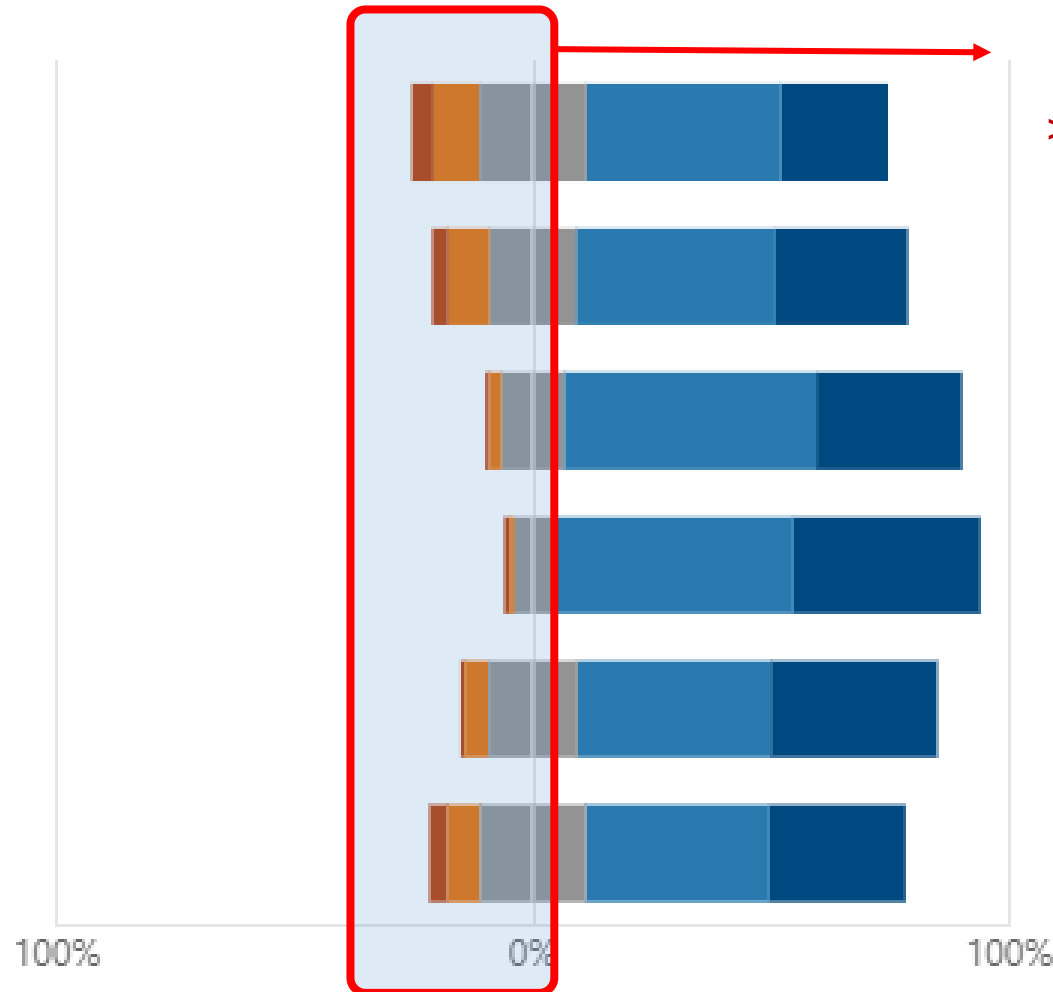
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Students want their "own"
version to study

>>> New tools in development,
get in touch if interested!



What our Students say

Possibility to Google-Translate the content

*Option to have a PDF version to highlight
and annotate parts of the book*

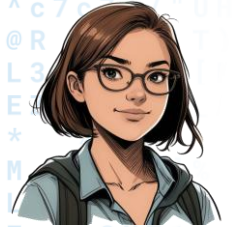
*There was one day where TU Delft servers were down for a
short time. At that moment I really hated the fact that we use
an online textbook.*



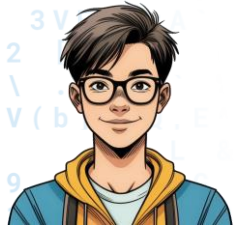
What our Students say



Run and adapt code gives a more intuitive feeling of the code



Interactive figures with sliders perfect way to describe mathematical systems, the more the merry-er :)



High threshold to start up python locally, in book I can immediately use it!



Quizzes are an effective way to check understanding, I wished every chapter could include them

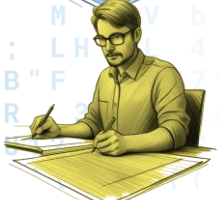
What our Colleagues say



My students tell me I need a book like yours! How can I start?



I'd like to reuse your content!



Can I have that interactive python feature as well?

Git, python, markdown, CLI, servers?

I cannot do any of that myself!



How to Make an Online Book for Beginners

The screenshot shows the GitHub interface for the repository 'TeachBooks / template'. The repository is a public template with 2 branches, 0 tags, and 129 commits. The commit history table lists recent changes:

Commit Message	Author	Date
Update call-deploy-book.yml	Tom-van-Woudenberg	3 days ago
Revert "Merge branch 'main' into main"	Tom-van-Woudenberg	2 days ago
Improved description	Tom-van-Woudenberg	yesterday
started stripping down risk-and-reliability to cre...	Tom-van-Woudenberg	2 months ago
massive transfer of risk-reliability book	Tom-van-Woudenberg	2 months ago
Merge branch 'manual_description'	Tom-van-Woudenberg	yesterday
[Feature] Use PyPI version of teachbooks	Tom-van-Woudenberg	2 weeks ago

The repository includes files such as .github/workflows, book, figures, .gitignore, LICENSE.md, README.md, and requirements.txt. The README section is titled 'Your first TeachBook using the GitHub template'.

[github.com/
TeachBooks
/template](https://github.com/TeachBooks/template)

[teachbooks.tudelft.nl/
jupyter-book-
manual/external/tem
plate/README.html](https://teachbooks.tudelft.nl/jupyter-book-manual/external/template/README.html)



Template live demo

The live demo is not included in this PDF, but can be viewed at the following YouTube link: youtu.be/nOpzEnMta4

- The GitHub repository can be found here: github.com/TeachBooks/template
- The manual describing the template can be found here: teachbooks.tudelft.nl/jupyter-book-manual/external/template/README.html

TeachBooks



Teachers' Educational
Assistance for interaCtive
Hands-on Browser-based Online
Open Knowledge for Students

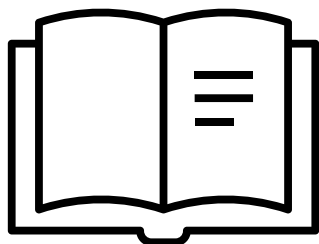


teachbooks.tudelft.nl



TeachBooks

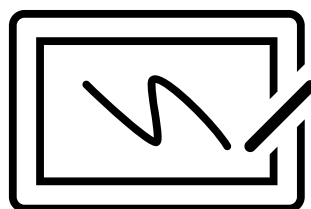
Manual



On collaborative
book-editing

Team Teaching

Template for your
own book



Create your book
in 10-clicks

Software
package



Improve student
experience.
Streamline editing
process (teachers).

Support and
promoting
advanced usage



Inform and
engage with
third parties



Deploy book action workflow

TeachBooks/**deploy-book-workflow**

Reusable Actions workflow for
TeachBooks/template



4

Contributors



112

Used by



3

Stars



0

Forks





Books



Part 3 - Folder Organisation

3a. Relevance:

? Why does folder organisation matter to me and my collaborators?

BEFORE:

With a cluttered desktop like this, it can be difficult to see what's where, and hard to stay organised.



"Desktop Chaos" by TU Delft Library - Education Support is licensed under [CC BY 4.0](#)

AFTER:

With an organised system of folders, it's easier to locate exactly what you need.



"Desktop Harmony" by TU Delft Library - Data Analysis Team is licensed under [CC BY 4.0](#)

A system of sub-folders helps you organise items into more intentional and manageable categories. This will make it possible to find elements more easily and save you time in the long run, especially during big projects.



3. Semantic errors

According to the Oxford Dictionary, 'semantic' is an adjective relating to meaning. Therefore, a 'semantic error' is an error in the meaning of your code. Your code will still run without giving any error back, but it will not result in what you expected (or desired). For that reason, semantic errors are the hardest to identify. Below an example:

I want to raise 2 to the 3rd power. However, I apply the wrong syntax that does not represent "pow()".

No error message is created, because this syntax is used for another function in Python. However, this results in an output I did not expect nor desire.

```
power_of_2 = 2^3
print(f'2 to the 3rd power is {power_of_2}')
```

```
2 to the 3rd power is 1
```



10.1. Spans in steel

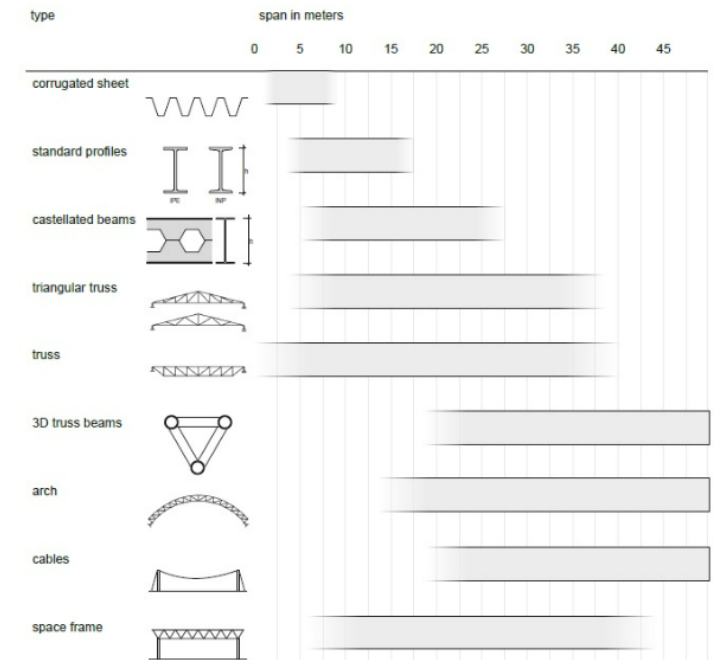


Fig. 10.1 Spans in steel.





TeachBooks

- Over 30 books actively used in education
- Multiple thousands of students impacted
- Books from all TU Delft faculties + Leiden / Rotterdam
- Teaching Teams size 1 to 50 use our tools