

COMP1710/6780

Web Development and Design

Week 10 10-14 October 2022



Agenda

Why ePubs
What are ePubs
ePub tools
This week's lab

CI sessions were very valuable, thank you to all who participated; we've been able to make some of the changes and will provide a summary next week. In the meantime, CI marks are continuing to be populated

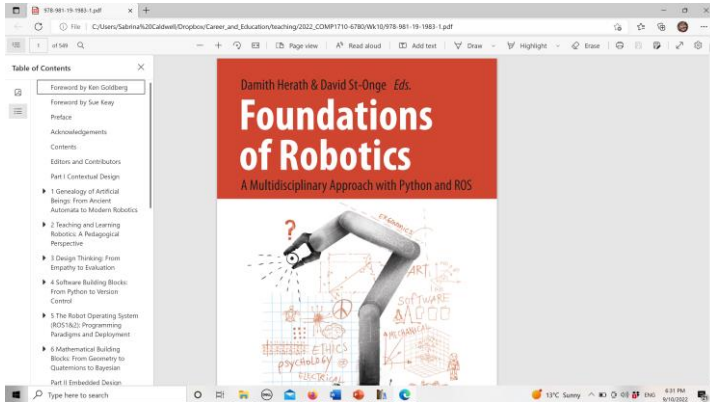
Problems with Partch delayed some marking:

- Assignment Pt2 marks – mark finalisation underway now
- Most but not all Assignment Pt1 review requests are done and will be complete in the next couple days.

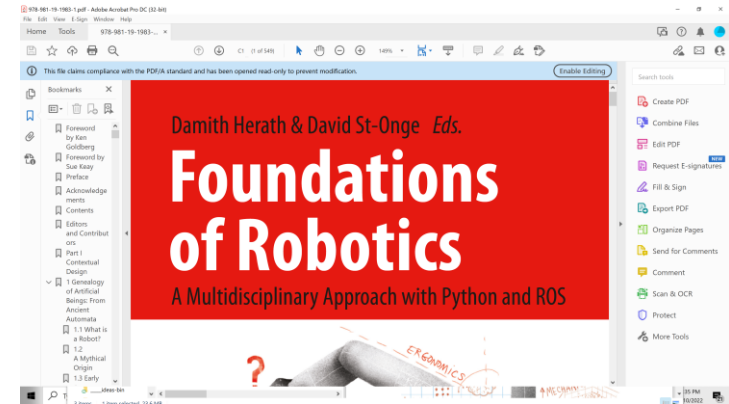
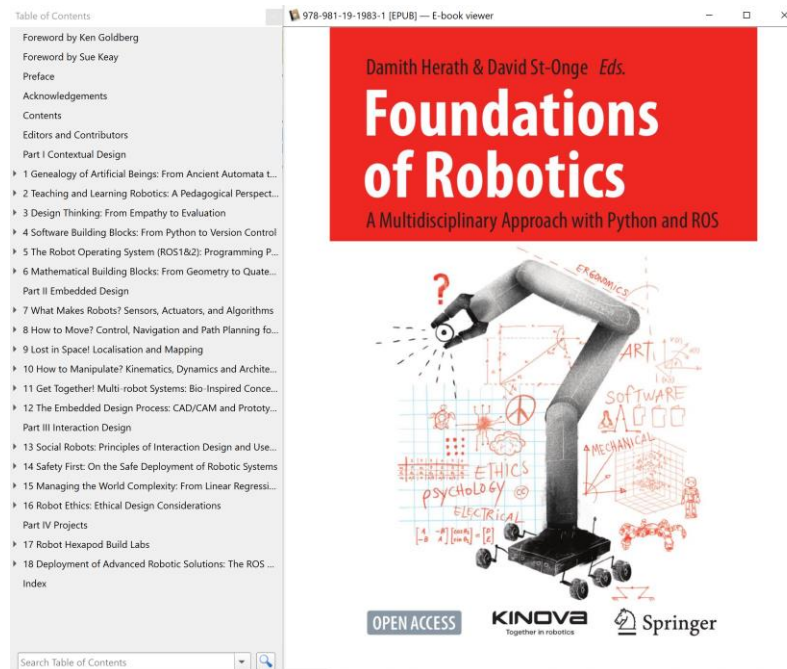
There is a quiz this week opening tomorrow – due a week from Sunday to give you plenty of time for this last quiz.

Why not just a pdf?

Foundation of Robotics book views



...in browser



...in Acrobat

In Calibre ePub viewer
Cross-platform: ~40
different devices,
operating systems,
online viewers
Easy navigation

Foundation of Robotics book views

Edit css files to change styling

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- Foreword by Sue Keay
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978-981-19-1983-1 [EPUB 2] :: 978-981-19-1983-1 - Unknown.epub :: Edit book

File Edit Tools View Search Help

File browser

- Text
 - titlepage.xhtml
 - index_split_000.html
 - index_split_001.html
 - index_split_002.html
 - index_split_003.html
 - index_split_004.html
 - index_split_005.html
 - index_split_006.html
 - index_split_007.html
 - index_split_008.html
 - index_split_009.html
 - index_split_010.html
- Styles
 - page_styles.css
 - stylesheet.css
- Images
 - cover.jpeg
 - index-1.1.png
 - index-1.2.png
 - index-1.3.png
 - index-1.4.png
 - index-1.5.png

index_split_000.html

```

1 <?xml version='1.0' encoding='utf-8'?>
2 <html xmlns="http://www.w3.org/1999/xhtml" xml:lang="en">
3   <head>
4     <meta http-equiv="Content-Type" content="text/html; charset=UTF-8"/>
5     <meta name="calibre:cover" content="true"/>
6     <title>Cover</title>
7     <style type="text/css" title="override_css">
8       @page {padding: 0pt; margin:0pt}
9       body { text-align: center; padding:0pt; margin: 0pt; }
10    </style>
11  </head>
12  <body>
13    <div>
14      <svg xmlns="http://www.w3.org/2000/svg" xmlns:xlink="http://
15      www.w3.org/1999/xlink" version="1.1" width="100%" height="100%" viewBox="0 0
16      498 751" preserveAspectRatio="none">
17        <image width="498" height="751" xlink:href="cover.jpeg"/>
18      </svg>
19    </div>
20  </body>
21 </html>

```

File preview

Damith Herath & David St-Onge Eds.

Foundations of Robotics

A Multidisciplinary Approach with Python and ROS

Search in preview

Line: 1 : 0

calibre 6.6.1 created by Kovid Goyal

978-981-19-1983-1 [EPUB 2] :: 978-981-19-1983-1 - Unknown.epub :: Edit book

State of ePublications (USA Study) [1]

72% of U.S. adults have read a book in the last year.

37% of adults read only print books.

28% of adults read both print and digital (ePubs & audio books)

7% adults read only digital books

Formats people have used for reading in the last year:

65% have read a print book (down 8%)

25% have read an ePub (up 11%)

20% have read an audiobook (up 14%)

[1] Thomas a. Dodson. (2022) Ebooks & Accessibility. Portland State University Online Northwest

State of ePublications (USA Study) - devices used by eReaders - changes since 2016:

Smartphones **+13%**



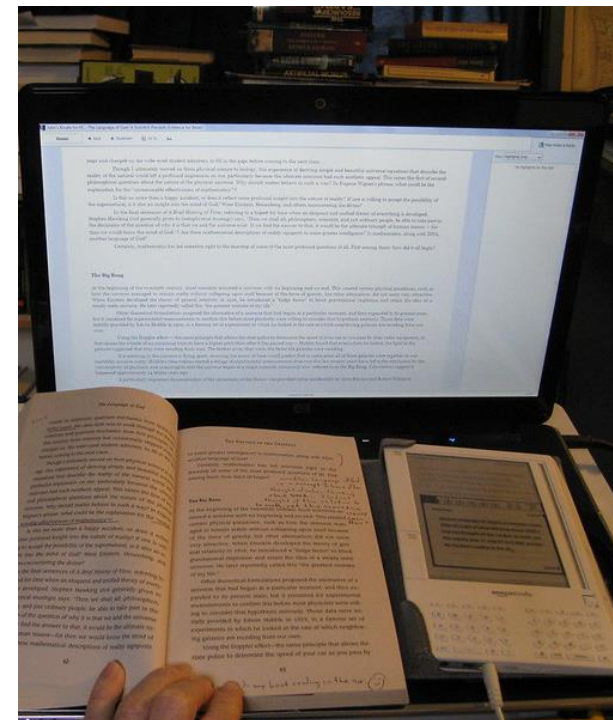
Tony Alter,
<https://www.flickr.com/photos/78428166@N00/8050816442/in/photostream/>

Tablets **+15%**



osde8info
<https://www.flickr.com/photos/8764442@N07/8686288543>

PC/laptops **+11%**



brewbooks
<https://www.flickr.com/photos/93452909@N00/4575290954>

Dedicated devices like Kindle reducing in popularity

From the **user perspective**, an ePub is an online book.

The text is reflowable – displays fluidly on different devices from smartphone to PC monitor

Reader controls font style and size

Usually swipe or arrow for page turns (depending on device/environment)

Images can be difficult to display adjacent to desired text

(From the **user perspective**, an ePub is an online book.)

From a **webdev perspective**, an ePub is a file with the extension **.ePub**, a container file format that holds multiple files of potentially many different types.

ePub is the open standard for e-books created by the International Digital Publishing Forum (IDPF) created November 2014: ePub3 ISO/IEC TS 30135

As at May 2019, EPUB 3.2 consists of 4 open standards covering 1) semantics, 2) structure, 3) containerisation, and 4) media overlays for syncing text and audio.

What you need to know about ePubs

If you are not doing an ePub in your website

Then you really just need a basic understanding, for example what ePubs are, how they are different to other formats like pdfs, how users use them.

If you are doing an ePub in your website

You will need to know the above plus how to create and edit them to create your ePub content in your website.

In practice, EPUB 3 is slowly being adopted with less device and tool support so in many cases you will be better off with version 2 because it is more broadly supported, but there are reasons to use version 3:

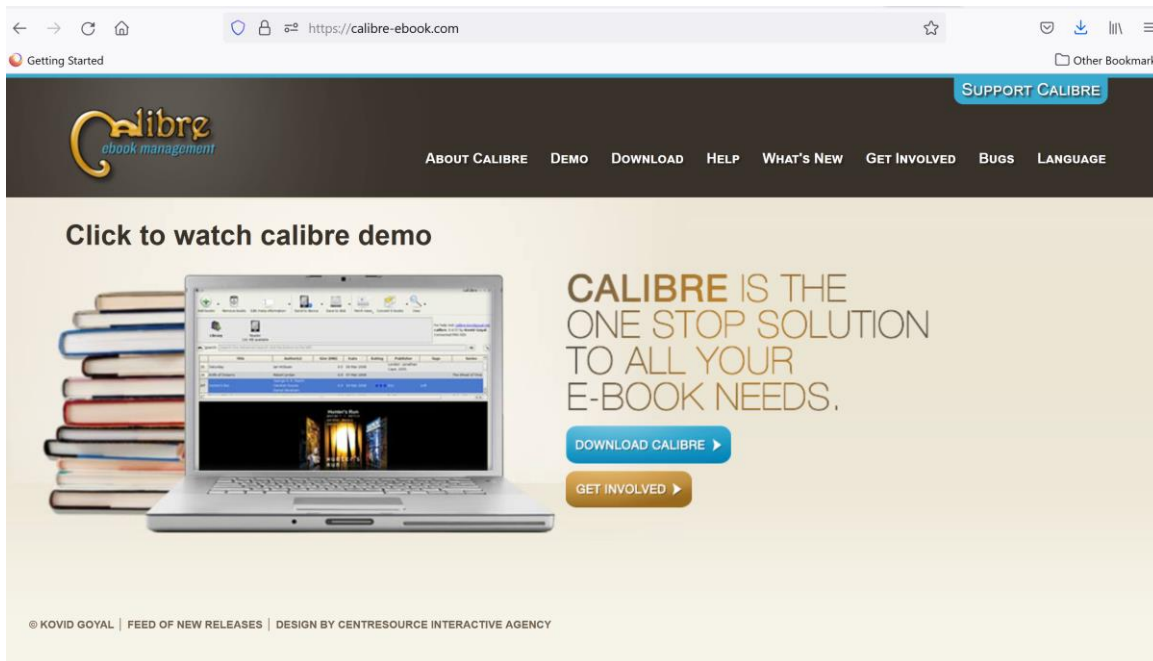
- Version 2 is unsuitable for precise layouts, for example comics
- Version 2 lacks ability to include math equations
- Version 2 can still be error-prone in respect of hyperlinks and annotations; you can learn more about this by visiting <http://epubtest.org>

- Code and write multiple XHTML files, one per chapter
- Link to external pictures, videos
- Handle complex configuration XML files to order chapters
- Package the content correctly so its widely compatible

A collage of various devices (laptop, tablet, smartphone) displaying the Earth-English.com website. The website content is a presentation about Earth, its place in the solar system, and its unique characteristics. The presentation includes text, images of Earth and the Moon, and a table of data. The text describes Earth as the third planet from the Sun, the densest and fifth-largest of the eight planets in the solar system, and the only one known to support life. It also mentions that Earth is the only planet in the solar system with a solid surface, a liquid surface, and a gaseous surface. The table of data provides information about Earth's size, mass, and other physical characteristics. The devices shown include a laptop, a tablet, and a smartphone, all displaying the same content in different orientations and sizes.

Microsoft has a 'help' format that has been around for a long time (since 1996!), and can be used to create ePubs: [Microsoft Compiled HTML Help](#) otherwise known as CHM.

However, there are more prominent ePub tools available. The one we'll be talking about today and suggesting you use in labs is Calibre.












<https://calibre-ebook.com/>

Apple .ibook format

iBooks author is free on Mac, but may not be as easy as Calibre

Apple's free iBooks program can read epub's well

Format	Opens In	Available tools
iBooks		iBooks can only be read in iBooks. Full annotation tools as part of iBooks
ePub	  	ePub is a generic format for something that can be read on an iPad, Kindle, Nook, etc. Full annotation tools are available.
PDF	    	PDF can be opened but NOT annotated in iBooks. PDF can be opened and annotated in PaperDesk, Paperport Notes, Good Reader, ScreenChomp, etc. However, there is NO speak selection.

Creating epubS in week 10 Lab

We'll use the free Calibre and Sigil programs

The lab is under specified – its an advanced lab so we've provided a very quick way to get to an epub

- But to make it better will require digging around
- Provided some links, beyond that, search engines are your friend
- Perhaps you should use your print css (if you did that) and convert from the pdf?

Minimal epub

- .epub: The epub file is just a zipped version of the directory structure.
- mimetype: contains only "application/epub+zip"
- container.xml points to the root file "minimal.opf"
- cover.xhtml is the cover image shown by ePub readers
- -div.xhtml: your content
- .opf: list of all resources, this keeps the "book" together. See also [OPF specs](#).
- .ncx: table of contents

```
minimal-epub
├── META-INF
│   └── container.xml
├── OEBPS
│   ├── cover.xhtml
│   ├── images
│   ├── minimal-div.xhtml
│   ├── minimal.opf
│   ├── nav.xhtml
│   ├── styles
│   │   ├── minimal-defaults.css
│   │   ├── minimal-images.css
│   │   └── minimal-styles.css
│   └── toc.ncx
└── mimetype
```

XML: container.xml

- META-INF/container.xml locates content.opf

```
<?xml version="1.0"?>
<container version="1.0" xmlns=
  "urn:oasis:names:tc:opendocument:xmlns:container">
  <rootfiles>
    <rootfile full-path="OPS/content.opf" media-type=
      "application/oebps-package+xml"/>
  </rootfiles>
</container>
```

- Can include other files, e.g.

```
<rootfile full-path="pdf/tomfile.pdf" media-type=
  "application/pdf"/>
```

XML file content.opf

- Describes and organises the content elements:

```
<?xml version='1.0' encoding='UTF-8'?>
```

```
<package ...>
```

```
<metadata>...</metadata>    ++ title, identifier, language
```

```
<manifest>                    the list of contents
```

```
<item href="..." id="def" mediatype="...">
```

```
<item href="..." id="abc" mediatype="...">
```

```
<item href="..." id="ghi" mediatype="...">
```

```
</manifest>
```

```
<spine>                        the order to show them
```

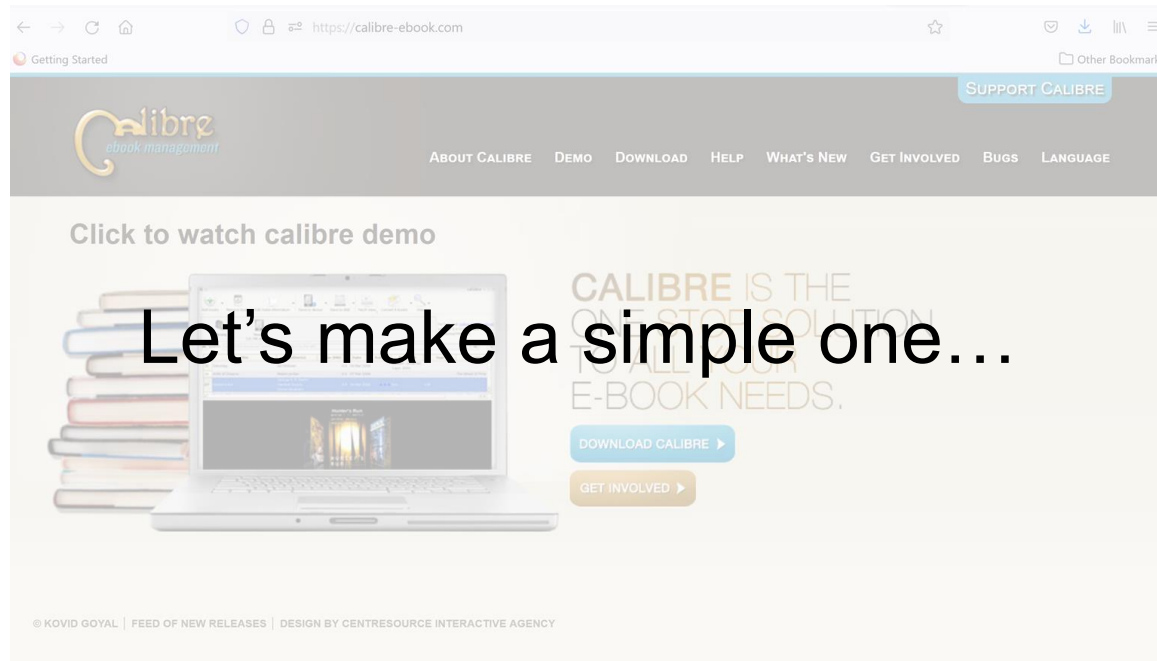
```
<itemref idref="abc"/>
```

```
<itemref idref="def"/>
```

```
</spine>
```

```
<guide/>
```

Word to pdf to ePub



The trick to creating a PDF file that converts properly into ePub is to set up the pages in a way that can be read by an e-reader and to use the word processor's built-in formatting styles. Here are a few tips:

- Use styles to format headings, indented paragraphs, numbered lists, and bullet lists.
- Use page breaks when you intentionally want a page to stop at a particular spot (for example, at the end of each chapter).
- Choose an 8.5" x 11" page size with a portrait orientation and .5-inch margins.
- Left align or center align the paragraphs.

The trick to creating a PDF file that converts properly into ePub is to set up the pages in a way that can be read by an e-reader and to use the word processor's built-in formatting styles. Here are a few tips:

Use a single font for the text. Recommended fonts are Ariel, Times New Roman, and Courier.

- Use 12 pt font size for body text and 14 pt to 18 pt for headings.
- Create images in JPEG or PNG format with a maximum size of 600 pixels tall and 550 pixels wide. Images should be in RGB color mode and 72 DPI.
- Do not wrap text around images. Use inline images where the text is above and below the image.

How would you add a download link in your website to allow your ePub to be downloaded by your visitor?

One option:

```
<a download href="filename-of-your-ePub.epub"> Download ePub now! </a>
```

Tomorrow's lecture is in-person and online as usual.

David will be lecturing on and live coding Javascript