Porting the SFTE Reference Handbook into the 21$^{\text{st}}$ Century

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0. Introduction

What do you do?

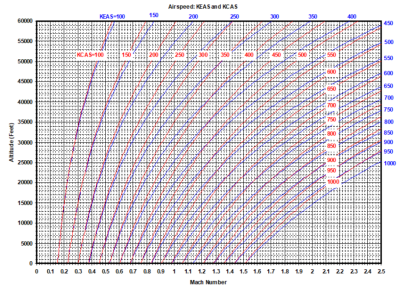- Recreate tools from scratch
- Import/scan pictures
- Recreate pictures with digital drawings

Figure 1: Mach-Altitude-Airspeed Plot

- The highest quality VECTOR (zoomable) graphics
- Reproducible examples in multiple languages and formats
- Universally available content

1. What it was

- A book. . .
- . . . that fit in your hand (debatable. . . see CRC)
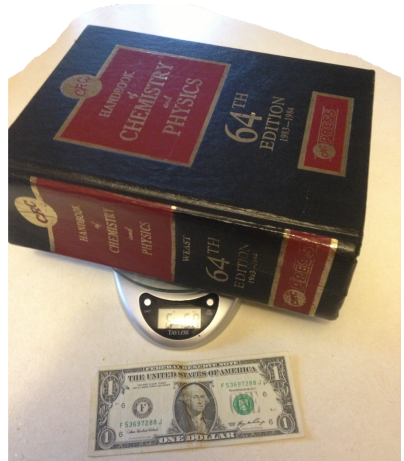- Quick reference for common facts/figures

Figure 2: The CRC: One of the most famous "handbooks" in history

- 2001: First edition
- 2013: Most recent major revision
- 2019: 2 Addenda
- Source
  - Microsoft Word®
  - Microsoft Publisher®
- Production
  - PDF
  - Hardcopy

Issues
- Images of various format, resolution, and quality
- Maintenance
  - Life cycle costs
  - Closed v open architecture
- No clear procedure for amendments and revisions

2. What it is

/pôrt/

verb

verb: port; 3rd person present: ports; past tense: ported; past participle: ported; gerund or present participle: porting

COMPUTING

transfer (software) from one system or machine to another.
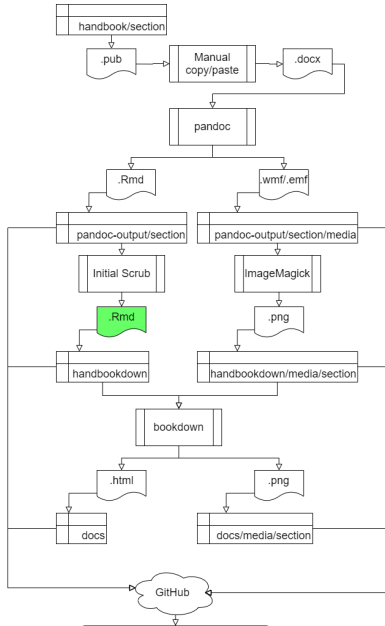   *"the software can be ported to an IBM RS/6000"*

Source
- Unicode Text (Rmarkdown)

Production
- HTML

Required Tools

- `git`
- `R`
- `bookdown`
- text editor
- command line

Optional Tools

- Integrated Development Environment
  - VS Code
  - RStudio

3. What it shall be

Now: Complete HTML

Next: Complete PDF

Next^2:

- Code to. . .
  - generate every plot
  - implement every function
- Dynamic Handbook with. . .
  - interactive visualizations
  - interactive calculations

Next^3: "Refactor" entirely $\rightarrow$ Handbook 2.0
A means of organizing and making accessible FTE knowledge, practices, and standards

- There's a lot to know
- Modern tools allow for
  - more ready access
  - engagement with knowledge
  - reproducibility
  - fine-grained version control
- Things of value require **cultivation**
  - growth environment
  - weeding
  - pruning
  - support
  - attention

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