Towards a Platform for Modular, Open, Reusable Textbooks

**Motivation**

Teachers with proper CS education and teaching resources: key factors for successfully teaching CS for all.

But current textbooks: monolithic and static.

Transition to modular and editable with inspiration from source-control management tools à la Git.

All content always publicly available with automatic per-line author tracking.

**User-friendly, WYSIWYG/M frontend; powerful tools in backend**

- Automatic table of contents
- Insert, delete, move sections around
- Fully responsive layout, incl. edition
- Animations (SVG + JS)
- Learning objectives: grouped automatically per section; highlightable
- Double-click paragraph to edit; click Render to save & publish (possibly new fork)
- Integrated, autocorrective code exercises
- Frontend changes generate new revisions in backend
- Simple, well known markup: Markdown
- Simple text files favour sharing, version control, “blame” view
- Every edition of a book has its own full Git repo: revisions, branches, forks
- Use favourite text editor & tools
- For power users: can manage through terminal, integrate in custom workflows
- Syntax for plugins, à la Gitbook

**Language & Files**

- Student result tracking: summary statistics per exercise
- Version comparison, word by word, with inline visual “diff” tool
- Notifications of activity around modified text by other authors as incentives for author engagement

**References**