COSC346 Assignment 2 - Report

GUI Decisions

The UI was designed in order to give as much space to the lecture display as possible. We had to sacrifice some space in order to fit the notes, as we didn't find enough time to implement a pop-out panel. Controls were grouped according to function. PDF controls were placed together below the PDF display while File controls were placed above. This separation was intended to logically group buttons by their functions so that the user would be able to find a button quickly.

Slide navigation controls were placed on either side of the page number. This was better than the alternative of having the left and right buttons next to each other because it clearly separated the controls by left (back) and right (forward). The controls to move through lecture files were placed like this for the same reason, and to match the page controls.

The Search Bar was placed in the top right for the sake of familiarity because it is the convention in most web browsers. The timer was placed in the bottom right to make it less distracting for someone giving a presentation, but a large font was used so a user can read the time at a glance.

Zoom controls and the Fit To Page button could have been placed together, but we sacrificed the grouping for the sake of symmetry.

Object Oriented Decisions

The application was structured using a Model-View-Controller design. The views were constructed using a storyboard. The model consists of a PDFContainer class, which holds all the note, slide timing and bookmark information related to a specific PDF file. This class also adheres to the Object Oriented principle of single responsibility by conforming to the NSCoding to protocol, making it responsible for its own data saving and loading operations. The other model class is TimerModel, as seen in lecture examples. This class exists to decouple the timing logic from the timer view controller.

The controller layer is split into three different ViewControllers. ControlViewController is where most of the application logic is. It is responsible for controlling the main view. It implements all of the PDF controls such as next page and previous page as well as opening PDF files, loading and saving data, creating new windows and receiving input from text fields. It also provides the ControlDelegate protocol that is adhered to by PresentationViewController. This allows for ControlViewController to easily control the secondary PDFView in the presentation window without duplicating logic. When an action is called on the control view, it attempts to perform the same action on its delegate, doing nothing if it doesn't exist. The final component of the Controller layer is TimerViewController. This view controller takes care of displaying timer labels and buttons, and receiving button events, keeping the timer view controller logic separate from the timing logic.

MVC architecture was a good choice for this application, it provided separation of concerns and made it simple to add new features in the right place. It also made it easy to make changes to any of the layers without other layers requiring significant refactoring.

Features

- Loads a PDF or a folder of PDFs which the user can navigate through.
- Navigate to next page, previous page or specific page number.
- Zoom in, Zoom out and fit to page controls.
- Note recording for lectures as well as individual pages.
- Bookmark current page (bookmarks accessible in menu bar).
- Time of day as well as lecture timer which can be started, paused or reset.
- Automatic presentation mode, with controls for starting and pausing as well as different times per slide.
- Document searching (search again for next result).
- Persistent storage of notes, slide timings and bookmarks.The user does not need to perform any actions, they are saved automatically and loaded when a PDF file with saved data is opened again.
- Keyboard Shortcuts
    - “Left Arrow” - Previous slide
    - “Right Arrow” - Next slide
    - “Cmd + O” - Open new document
    - “Cmd + Right Arrow” - Next lecture
    - “Cmd + Left Arrow” - Previous lecture
    - “Cmd + =” - Zoom in
    - “Cmd + -” - Zoom out
    - “Cmd + Q” - Quit

Roles

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