CODING & PROGRAMMING

FEYNMAN LIBRARY MANAGER

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CALIFORNIA
BAY SECTION
CUPERTINO HIGH SCHOOL

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INTRODUCTION

At Feynman High School, the librarian, Mr. Carter, always has a difficult time managing all of the books. As a librarian, Mr. Carter has a lot of tasks throughout the day. Not only does he need to check out books for students and teachers, he also needs to check them in, manage the current list of patrons, keep track of overdue books, and help students with finding what they need. Without a doubt, Mr. Carter is exhausted by the end of the day.

Current library management software options are either too expensive for the school to afford or too complicated for Mr. Carter to use effectively.

Enter Feynman Library Manager, the first simple yet robust library management tool for librarians around the world. Say goodbye to unnecessary expenses and technological difficulties.

On the business side of Feynman Library Manager, we plan to license the application to schools. The current version is specifically for Feynman High School. However, we can sell the source code of the app to other chapters and they can edit the components of it for their own purposes.

FEATURES

Minimum Features for FBLA Coding & Programming:

- Track student and teacher names with ability to enter/view/edit names
- Track the issuance of books for a student or teacher
- Manage different limits for the number of books that can be issued to a student or teacher
    - Teachers can hold up to 15 books for 42 days each
    - Students can hold up to 5 books for 21 days each
- Unique generated IDs for every book
- Track student and teacher names with ability to enter/view/edit names
- Generate/Print overdue reports for individual patrons
- Generate/Print weekly reports to show books issued to whom and number of days leading to the due date return

Custom Features:

- Simple and clean user interface with vibrant colors
- Support for both Windows and Mac operating systems
- Designed with the best user experience for a librarian in mind
- Secure local datastore with daily dynamic backups
- Load backups effortlessly from previous days
    - Test this out by adding new patrons and books and then revert to a previous database backup
- Filter books/patrons via the interactive search bar
- Add new patrons and books through a simple form interface
- Interactive Help Menu

Frequently Asked Questions (FAQ)

Q: How is data stored within the app?

A: Rather than serving data from a database in the cloud, we have developed a local datastore. All data never leaves the application. This ensures maximum security and speed within the application.

Furthermore, the app automatically creates a new backup every day it is opened. Old backups can be loaded within the "Database Management" tab within the program.

Q: How does the software plan to earn money?
A: We plan to license the application to schools and independent libraries. The current version is specifically for Feynman High School. However, we can sell the source code of the app to other chapters and they can edit the components of it for their own purposes.

Q: What was the hardest part of the application to implement?
A: Without a doubt, the hardest part was perfecting the user interface. As a software developer, I know it is important to not overwhelm the user with interface elements. Therefore, I made it my goal to keep the program visually simple while retaining
many useful features.

REQUIREMENTS

A Mac or Windows computer

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The following Node Package Manager (npm) modules and design frameworks were used in the application.
npm modules:

- Electron Web Development Framework (electronjs.org)
- jQuery (jquery.com)
- node-json-db (github.com/Belphemur/node-json-db)
- moment.js (momentjs.com)
- SweetAlert2 (sweetalert2.github.io)
- jsPDF and jsPDF-Autotable (github.com/MrRio/jsPDF, github.com/simonbengtsson/jsPDF-AutoTable)

Design Frameworks:

- Semantic UI (semantic-ui.com)

Icons were sourced from the Semantic UI library.

INSTRUCTIONS FOR RUNNING PROJECT

*Note: you may need to disable anti-virus/anti-malware software (i.e. Norton, McAfee) to run the application. Unfortunately, I don't have credentials (or resources) to sign the application.

Windows:

1. Navigate to the "Windows" folder in the "bin" folder
2. Extract files from the .zip file if needed.
2. Double-click the "Feynman Library Manager.exe" file to run the program

*Note: there are many files in this folder and they are necessary for the application to run. Do not remove the "Feynman Library Manager.exe" file or any other files from this folder.

Mac:

1. Navigate to the "Mac" folder in the "bin" folder
2. Double-click the "Feynman Library Manager" program to run it

Source Code:

All source code is in the "src" folder.
The main code lies in the 'window.js' file.
The user interface for the app is defined in the 'mainWindow.html' file.
All Javascript code that I wrote has been documented using comments within the file.

FILE STRUCTURE

- Bay_Cupertino
    - README.pdf
    - bin
    - DOCUMENTATION.pdf
        - The documentation file elaborates on this README file with more information.
    - src
        - This folder contains all source code files for the application, including binaries for npm frameworks and semantic UI.
        - The key file that I wrote code in is 'windows.js'. It has comments explaining the logic and structure behind the code.

        - 'mainWindow.html' is the HTML file that contains the user interface structure of the application.
    - screenshots
        - This folder has various screenshots/images from the application.

SOFTWARE AND FRAMEWORKS USED

The following tools were used during this project:

Atom Text Editor (atom.io)
Git & Github (github.com)
Languages:
    HTML
    CSS
    Javascript ES6
npm modules:
    Electron Web Development Framework (electronjs.org)
    jQuery (jquery.com)
    node-json-db (github.com/Belphemur/node-json-db)
    moment.js (momentjs.com)
    SweetAlert2 (sweetalert2.github.io)
    jsPDF and jsPDF-Autotable (github.com/MrRio/jsPDF, github.com/simonbengtsson/jsPDF-AutoTable)
Design Frameworks:
    Semantic UI (semantic-ui.com)
    Sketch (sketchapp.com)

MAINTAINERS

Varun Shenoy

SOURCES OF INFORMATION

* Stack Overflow (stackoverflow.com)
* Electron Documentation (electronjs.org/docs)
* Semantic UI Documentation (semantic-ui.com/introduction/getting-started.html)
* YouTube Workshops on Electron

Traversy Media:

https://www.youtube.com/watch?v=kN1Czs0m1SU

https://www.youtube.com/watch?v=mr9Mtm_TRpw

Github Universe Workshop:

https://www.youtube.com/watch?v=FNHBfN8c32U

TEMPLATES USED

No templates were used in building the Feynman Library Manager app, just open-source frameworks to create a immersive and intuitive user interface.