Computer Sciences Major

Lecturer: Assoc. Prof. Dr. Manuel Clavel

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1. BOOK READER WEB APP

Computer Science Project

Team 2

Members:

Hoang Xuan Bac

To Tran Nhat Truong

Nguyen Thuan Phat

Ly Quoc Hao

Le Nguyen Phan Long

1. **Project Background**

* This project is conducted as a fulfillment for the course "Computer Science Project", which is instructed by Assoc. Prof. Dr. Manuel Clavel.
* The goal of this project is to develop a web application for creating, editing, and reading books.

1. **Schedule and Resource estimation**
2. Resources:

People:

* Hoang Xuan Bac: Leader + MERN stack developer + Documentation
* To Tran Nhat Truong: Architecture design + MERN stack developer
* Ly Quoc Hao: MERN stack developer + Documentation
* Le Nguyen Phan Long: MERN stack developer + Documentation
* Nguyen Thuan Phat: MERN stack developer + Documentation

Development environment & tools:

* Visual Studio Code: Source code editor, compiler, debugger
* MongoDB Community Edition: Database server management
* Chrome: Web browser, debugger
* Git & Github: Source code management, version control
* Postman: API Testing tool

Technologies:

* MERN Stack (React.js + Node.js + Express + MongoDB)
  + React.js: a client-side JavaScript framework
  + Node.js: a JavaScript web server
  + Express.js: Node.js web framework
  + MongoDB: document database
* HTML,CSS

1. Task scheduling:

* October 3rd:
  + Complete Planning Phase
  + Complete Researching for MERN and Javascript.
  + Complete setting up developing environment locally on each member's computer
  + Create sample API which can be called from Postman
* October 6th:
  + Complete basic interfaces
  + Complete server structure
  + Interact successfully between Client & Server
* October 10th:
  + Complete function: create and edit books (save book locally and online)
  + Complete function: user can select book to read (select locally and online)
* October 12th:
  + Complete function: user can change the font and size of text (locally)
  + Complete function: user can select and copy regions of the text
* October 14th:
  + Complete function: organize books in chapters
* October 17th:
  + Complete function: user can use the “table of contents” to jump to the beginning of each chapter
  + Complete function: user can set bookmarks in the text, and go back/jump to any bookmark (saved locally)
* October 22nd:
  + Complete 2 external function: To be decided

C.User Story/ Acceptance Test:

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| User Story 1:   * Authors can create and edit books, organized in chapters. |
| Acceptance Test:   * The web app must allow for books to be written and edited on. * The app must recognize the books chapters. |

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| User Story 2:   * Readers can select books to read. |
| Acceptance Test:   * Books must be displayed as available for reading once uploaded. * A reader must be able to see all uploaded books. * Once a user selects a book, its content must be displayed to them. |

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| User Story 3:   * Readers can change the font and size of the text. |
| Acceptance Test:   * The app must allow the reader to zoom in or out of a book. |

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| User Story 4:   * Readers can select and copy regions of the text. |
| Acceptance Test:   * The app must allow for the reader to use their mouse cursor to select a region of text and copy it. |

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| User Story 5:   * Readers can use the “table of contents” to jump to the beginning of each chapter. |
| Acceptance Test:   * The app must be able to generate a table of content base on a book’s chapters. * The app must display the starting page of a chapter of the book when the reader clicks on that chapter in the table of content. |

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| User Story 6:   * Readers can set bookmarks in the text, and go back/jump to any bookmark. |
| Acceptance Test:   * The app must allow the reader to bookmark a page of the book. * Bookmarks of a book must be displayed in a tab for the reader whenever they are reading the book. * The app must display the bookmarked page when the reader clicks on the corresponding bookmark. * The app must allow the reader to bookmark a page of the book. * Bookmarks of a book must be displayed in a tab for the reader whenever they are reading the book. * The app must display the bookmarked page when the reader clicks on the corresponding bookmark. |

1. **Quality Planning**
2. Quality of Design

* The Design of the Web App must satisfy all of the features that the users need including:
  + Author Interface:
    - Create Books, organizing books in chapters
    - Edit Books
  + User Interface:
    - Book selection
    - Font and size of text alteration
    - Copy texts function
    - Table of contents for the ease of book traversal
    - Bookmarks and bookmarks traversal

1. Quality of Conformance

* During the Project Construction phase, the design specifications must be followed including:
  + The technologies proposed during the Planning Phase
  + The aspects and functions proposed during the Planning Phase

C.Quality Control

* For controlling the quality of the project, reviews and tests are used throughout the Project Construction phase to check for flaws and inconsistency

1. **Risk Management**
2. Risk identification

Project Risks:

- Schedule Slippage: because there are limitation in time and knowledge about technology, team may delay the plan of the project.

- Poorly designed schedule: The team focus too much on optional features, and can not appropriately respond to the required ones.

Technical Risks:

- There may be bugs and errors in the program that the developers are not acknowledged (due to lack of sufficient knowledge)

- There are some optional features that developers want to add to the program, but it may require a lot of changes or to redesign the application

- There are unnecessary web browsers, fonts or devices to support

1. Risk control

Project Risks:

- Schedule Slippage: Spend the first week to learn all the technology that we will use in the program to reduce the slippage risk.

- Plan to complete all the standard features first, then add optional features if time is not a concern.

Technical Risks

- Devise a plan to test for hidden errors and bugs before rolling out the application

- Plan for all additional features, design the code to add more features easily

- Make the program supporting only for modern and common web browsers, fonts or devices