MID-TERM ASSIGNMENT REPORT

CBMD4103

MOBILE DESIGN

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HUTECH

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1. Introduction

Nowadays, we are very dependent on mobile phones. Almost every one of us must have at least one mobile phone. Gradually, we are forming a habit of always having a phone by our side, inseparable. Even high school students. Understanding that mentality, we want to develop an e-book system where you can both study and entertain by reading books right on the application system.

2. Design Rationale

2.1 Real Needs

In developing the library management system, we recognized the limitations of traditional library management methods. Secondary school students often face challenges such as long wait times for borrowing and returning books, difficulties in locating materials, and a lack of real-time information about the status of borrowed items. By addressing these issues, we aim to create a more efficient and user-friendly experience tailored specifically for this demographic.

2.2 Design Goals

The design of the system is centered around the following goals:

User -Centric Approach: We have prioritized user experience by thoroughly understanding the needs and preferences of secondary school students.

Intuitive Navigation: The app is designed to facilitate easy navigation, allowing students to find what they need without confusion or frustration.

Seamless Flow: The overall flow of the application is crafted to be smooth and uninterrupted, ensuring that users can transition between different sections effortlessly.

Enhanced Engagement: By creating an engaging interface, we aim to encourage secondary school students to explore the library's resources more fully, enhancing their overall experience.

Through these design principles, we strive to provide a library management system that not only meets the needs of secondary school students but also fosters a positive and enjoyable interaction with the library's resources.

3. User Analysis

3.1 Target Users

The library management system is specifically designed for three primary user groups:

Secondary School Students: These users require easy access to study materials and recreational reading.

Teachers: Educators who need quick access to reference materials for their lessons.

Librarians: Individuals responsible for managing library resources and tracking user interactions.

3.2 User Needs

Identified problems are clearly addressed with innovative and effective design solutions tailored to each user group:

Secondary School Students

Quick and Easy Searches: The app provides a streamlined search function, allowing students to find books and materials effortlessly.

Clear Availability Information: Users can easily see whether a book is available or currently checked out, reducing frustration.

Timely Notifications: The system sends reminders about return deadlines and upcoming library events, helping students stay organized.

Teachers

Rapid Access to Resources: The design includes features that allow teachers to quickly locate and compile necessary reference materials for their classes.

Customizable Reading Lists: Educators can create and manage lists of recommended books, enhancing their teaching resources.

Librarians

Efficient Management Tools: The app offers robust tools for librarians to track user activity and manage book inventories effectively.

Comprehensive Reporting: Librarians can generate statistical reports on borrowing patterns, helping them make informed decisions about library resources.

The app design anticipates and resolves potential user issues comprehensively, ensuring that each user group can navigate the system with ease and confidence. By addressing these needs through thoughtful design, we aim to enhance the overall user experience and satisfaction.

4. How the Design Meets User Needs

4.1 User Experience Consideration

The e-book library app is designed to be intuitive, convenient, and accessible, specifically catering to high school students' learning needs. The interface is structured for **seamless navigation**, allowing users to **quickly locate and access e-books**.

One of the key features is **offline reading mode**, ensuring that students can continue their studies even in areas with limited or no internet connectivity. Additionally, the **bookmarking and note-taking functionalities** allow users to save and highlight important content, enhancing their learning experience.

Since students are already familiar with technology, the app prioritizes a **visually appealing yet simple** design. Users can **customize fonts and background colors** to suit their reading preferences, ensuring comfort during long study sessions. The app maintains a **clean, distraction-free layout** that maximizes usability and efficiency, making it an essential educational tool for students in Vietnam.

4.2 Problem Solving in Design

4.2.1. User Interface:

Figure 1. Interface of the application

Source: https://www.figma.com/proto/cPboa21y7Xgbcmwe0h5gIe/Assignment?node-id=34-1422&p=f&t=s7PUmQ5daOvwLlv7-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=5%3A1013

- A **clean and modern UI** designed for young learners.
- **Clearly labeled navigation buttons** for easy access.
- **Adaptive design** for different screen sizes and orientations.

4.2.2. Addressing User Challenges Through Design:

Accessibility for Visually Impaired Users

A challenge in designing this app was ensuring usability for students with **visual impairments**. While **text resizing** and **dark mode** have been implemented to reduce eye strain, more advanced accessibility features such as **text-to-speech integration** remain a future enhancement.

Simplified Navigation & Book Search

Many students struggle with **finding the right materials quickly**. To solve this, the app uses **intuitive icons and a structured layout**, ensuring a **smooth browsing experience**. A **search bar with filters** allows users to locate books effortlessly.

Figure 2: Search UI

Source:https://www.figma.com/proto/cPboa21y7Xgbcmwe0h5gIe/Assignment?node-id=34-1422&p=f&t=s7PUmQ5daOvwLlv7-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=5%3A1013

4.2.3. Seamless Data Synchronization:

To **prevent data loss when switching devices**, the app features **a login-based sync system**. This ensures that bookmarks, notes, and reading progress are **saved and restored** across multiple devices.
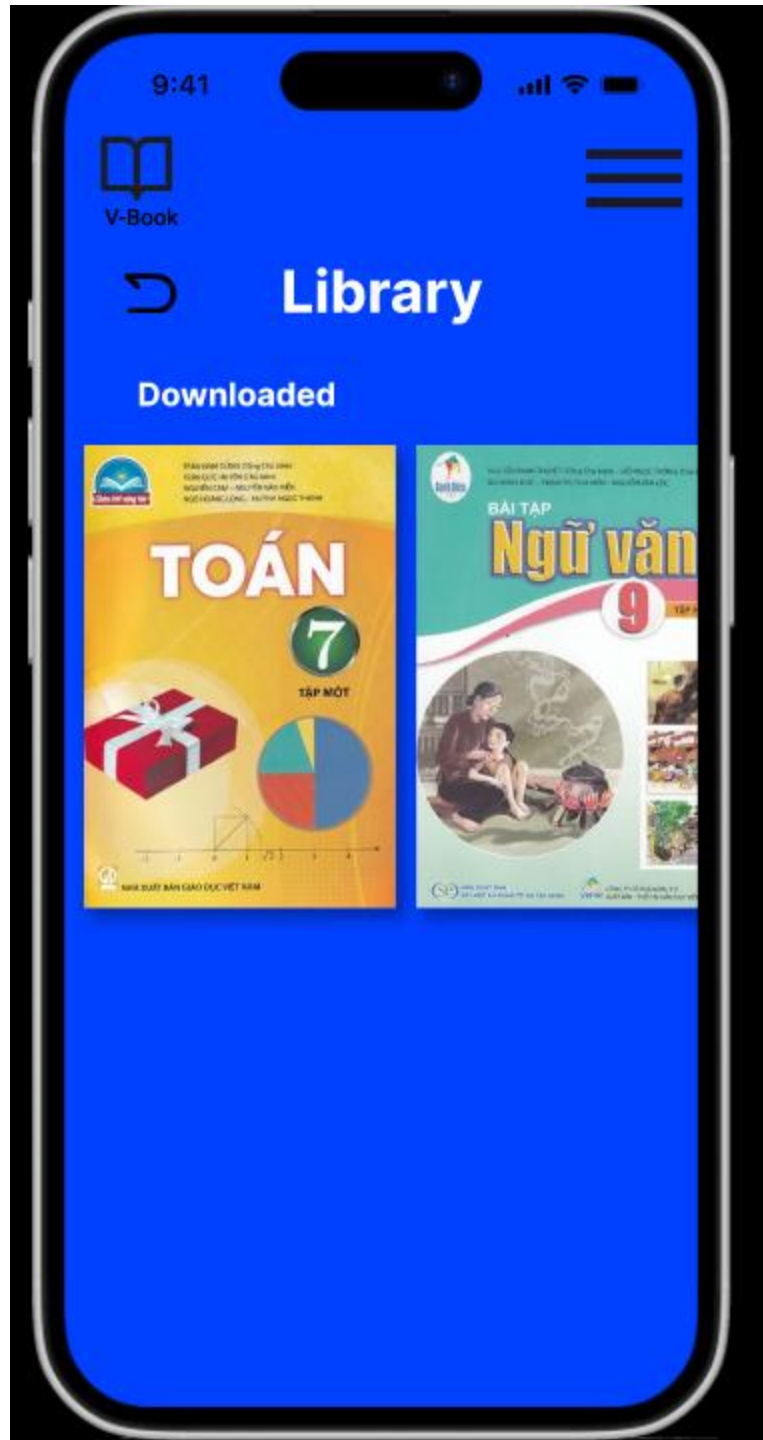
Figure 3: Login UI

4.2.4. Offline Access & Performance Optimization:

Given that many rural areas in Vietnam **lack stable internet access**, the app introduces an **offline e-book system** through a **book exchange card feature**. Students can **collect digital credits** by logging in daily, which can then be **redeemed for book downloads**.

Figure 4: Offline mode UI

The app is optimized to **minimize storage usage** while ensuring **smooth performance**, allowing students to **focus on learning without technical disruptions**.

4.2.5. Finding and Managing Books:

- o Implement a **personal library** where users can store their favorite books.
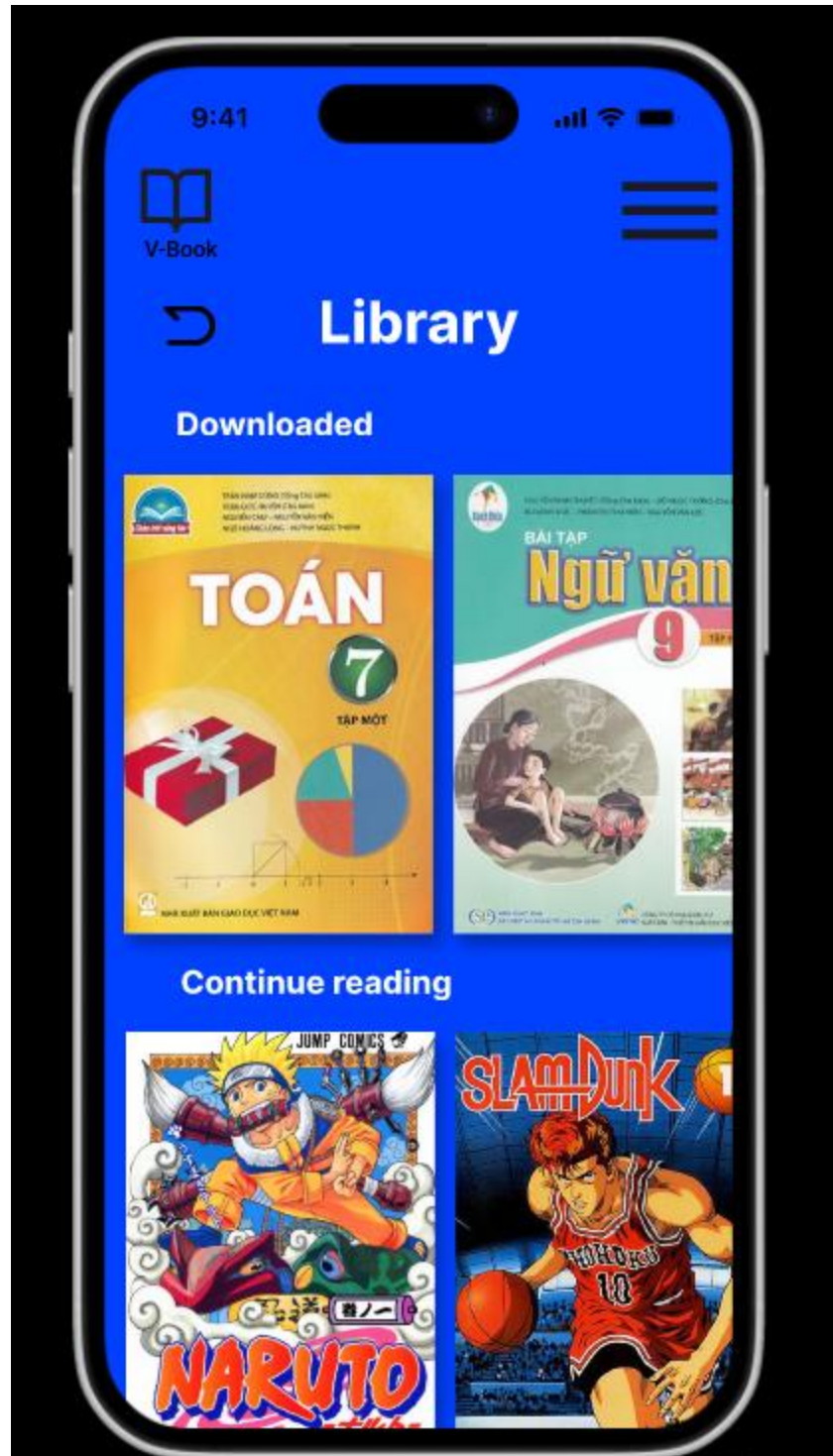- o Provide an **advanced search feature** with filters for **book title, author, and genre**.

Figure 5: Library UI

Source: https://www.figma.com/proto/cPboa21y7Xgbcmwe0h5gIe/Assignment?node-id=45-1755&p=f&t=s7PUmQ5daOvwLlv7-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=5%3A1013

4.2.6. Continue Reading:

- o A **"Continue Reading"** section on the home screen ensures users can instantly pick up where they left off.
- o The app **automatically saves reading progress**, even if users switch devices.

Figure 6:"Continue Reading" UI

Source: https://www.figma.com/proto/cPboa21y7Xgbcmwe0h5gIe/Assignment?node-id=45-1755&p=f&t=s7PUmQ5daOvwLlv7-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=5%3A1013

4.2.7. Information of Book:

- o The **Book Details** screen provides a **detailed description, ratings, and reviews** to help users decide.
- o A **table of contents preview** allows users to check the book structure before opening it.

Figure 7: Book's information UI

4.2.8. Final Note

This redesign prioritizes **ease of use, accessibility, and efficiency**, making e-books more **engaging and accessible** for students. By combining **intuitive UI/UX with performance-focused features**, the app aims to enhance the overall digital learning experience.
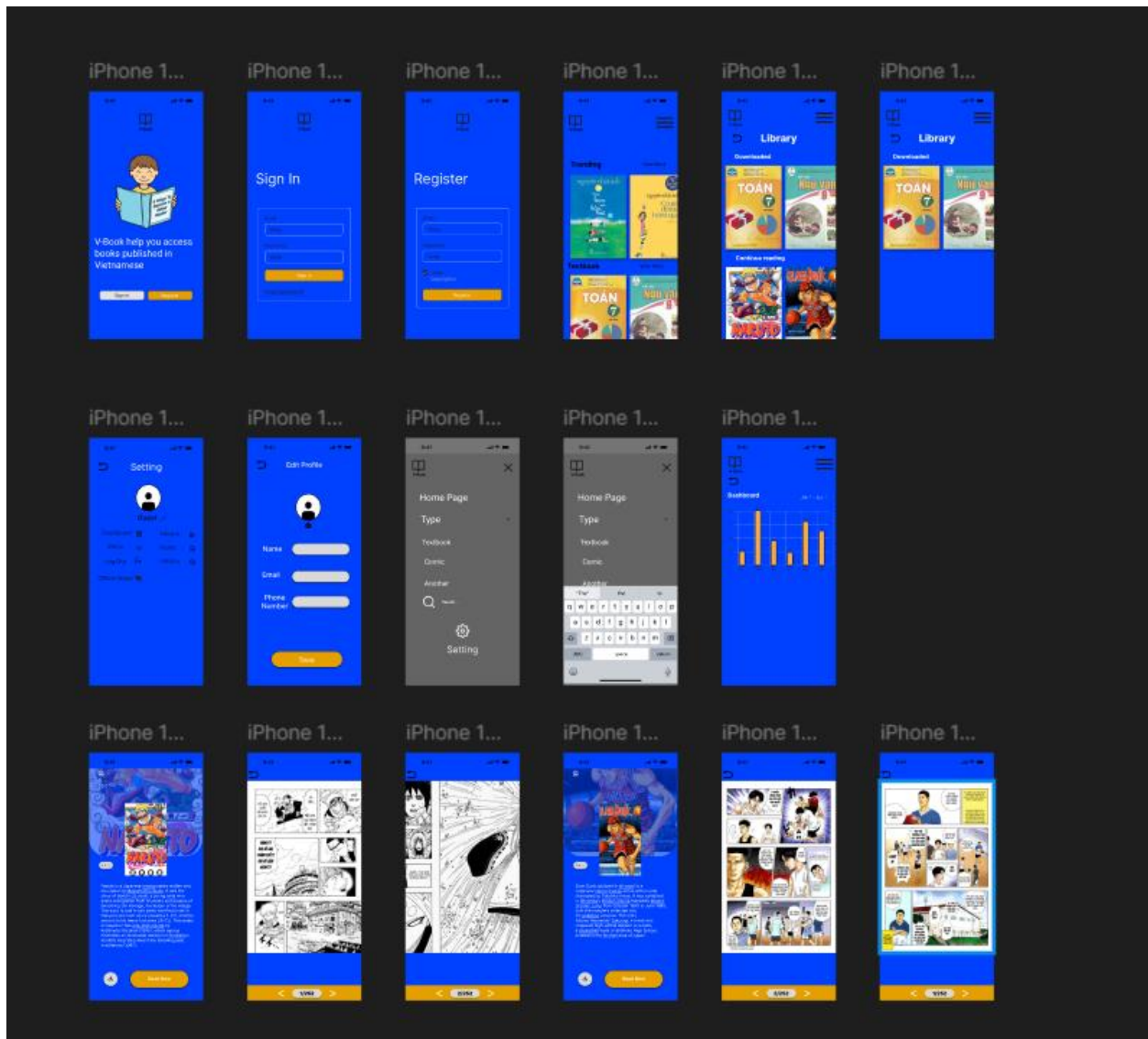

Figure 8: Full design

Source: https://www.figma.com/design/cPboa21y7Xgbcmwe0h5gIe/Assignment?node-id=0-1&p=f&t=s7PUmQ5daOvwLlv7-0

5. Link to Figma Prototype

Explore the full prototype here:
https://www.figma.com/proto/cPboa21y7Xgbcmwe0h5gIe/Assignment?node-id=5-1013&p=f&t=s7PUmQ5daOvwLlv7-0&scaling=scale-down&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=5%3A1013

6. Conclusion

Our mobile learning application is designed to provide secondary school students in Vietnam with an engaging and efficient digital learning experience. By incorporating an intuitive UI, seamless UX, and solutions to common learning challenges, the application enhances accessibility and academic performance. The inclusion of offline access and performance optimization ensures that students can rely on the app regardless of their technological limitations. This report demonstrates how our design effectively meets the needs of students, aligning with the educational goals and digital transformation trends in Vietnam.