Software Engineering Proposal

CPEnotebook

By

There’s nothing we can do.

Group member

ทัตพงศ์	เสริมสุข	640610636
ธีรภัทร	วงค์ษา	640610641
ภาณุวัฒน์	วงศ์วรกุลกิจ	640610660
ภูเบศร์	ชุมภูสืบ	640610662
สุรบดินทร์	เงาใส	640610673
ชาญณรงค์	ดวงสุภา	640612084
ศุภณัฐ	วังทิพย์	640612098

Website URL: https://cpenotebook.netlify.app/
Github URL:https://github.com/tahhh2234/CPEnotebook

Team profile

Member	Role
640610641	Project Manager, Backend developer
640610636	Web Developer, Backend developer
640610660	Frontend developer, Co-Web Developer
640610662	Frontend developer, Systems Analyst
640610673	Co-Frontend developer, Systems Analyst
640612084	Full-stack developer
640612098	Designer, Co-Web Developer

Project description

The website organizes educational sheets by subject and chapter, easily searchability. It emphasizes user interaction through comments and discussions, fostering a collaborative learning environment. This approach not only simplifies access to materials but also encourages engagement, enabling users to learn collectively and enhance their understanding through shared insights and discussions.

Problem statement

The problem of scattered storage for educational materials across different subjects creates inefficiencies in accessing, organizing, and maintaining resources. It leads to fragmented accessibility, making it challenging for students and educators to find and utilize materials efficiently. This scattered approach results in inconsistencies, difficulties in version control, collaboration barriers, and potential security risks due to varying platforms and storage methods.

A solution is needed to centralize and standardize storage, offering a unified platform for educational resources. This solution should prioritize streamlined access, robust search capabilities, standardized organization, version control, collaboration features, and stringent security measures. Addressing these challenges with an integrated platform, will streamline resource management and significantly enhance the learning experience for students and educators alike.

Solution

Propose Solution:

Implementing a website involves migrating all educational resources to store files used by instructors in the Computer Engineering department at Chiang Mai University. Access will be restricted to Computer Engineering students of Chiang Mai University exclusively. The website will feature an exchange platform for comments on various slide topics and an added functionality to search for slides by specific keywords.

How it Addresses the Problems:

- **Centralized Hub:** Consolidates all educational materials onto one website, simplifying access and management.
- **Collaborative Platform:** Facilitates interaction between professors and students, encouraging discussions and sharing of insights.
- **Search Functionality:** Enables quick access to specific materials through keyword-based search, saving time and effort.
- **Organized Structure:** Provides a well-structured environment with categorized slides for easy navigation.
- **Scalability:** Allows for future expansion and addition of new features to further enhance the learning experience.

Benefits:

- **Streamlined Access:** Centralized resource access for students, making studying more efficient.
- **Efficient Collaboration:** Encourages peer interaction and deeper understanding of topics.
- **Simplified Resource Management:** Professors save time organizing materials, focusing more on teaching.
- **Controlled Access:** Ensures confidentiality and restricts resource distribution to intended users.
- **Time-Saving Search:** Quick access to specific materials for both students and instructors.
- **Continuous Improvement:** Facilitates feedback loops, enhancing teaching methods and education quality.
- **Adaptable and Scalable:** Allows for future updates and expansion in line with technological advancements.
- **Educational Goal Alignment:** Supports university goals by enhancing learning, access, and collaboration in Computer Engineering.

Contribution

1. Centralized Organization:

Existing Systems: Most existing educational resource storage systems lack a cohesive, standardized approach to organizing materials. Sheets and resources are often scattered across various platforms or repositories without a uniform structure.

Proposed Solution: The website offers a centralized system specifically designed for educational resources, structured by subject and chapter. This systematic organization streamlines access and navigation, a feature lacking in many fragmented storage systems.

2. User Engagement and Collaboration:

Existing Systems: Traditional storage systems often focus on storage, lacking features that foster user engagement and collaboration. Interaction among users, discussions, and shared insights are typically absent.

Proposed Solution: The website places a strong emphasis on user interaction by incorporating comment sections, discussion forums, and collaborative features. This unique aspect encourages engagement and a sense of community among users, facilitating knowledge-sharing and collective learning experiences.

3. Simplified Accessibility and Searchability:

Existing Systems: Many existing systems struggle with providing efficient search functionalities and easy access to specific educational materials. Users often face challenges in locating relevant resources swiftly.

Proposed Solution: By organizing sheets by subject and chapter, the website enhances searchability and accessibility. Users can efficiently locate materials within specific subjects or chapters, significantly reducing the time spent searching for resources across disparate systems.

4. Facilitation of Collaborative Learning:

Existing Systems: Conventional platforms mainly serve as repositories without mechanisms to encourage collaborative learning or facilitate discussions among users.

Proposed Solution: The website's focus on user interaction and discussions fosters a collaborative learning environment. This unique feature enables users to share insights, seek clarification, and collectively enhance their understanding of educational materials.

Stakeholders

Users (End-Users):

- Teachers/Instructors: Teachers and tutors use CPE notebooks to upload and share teaching materials.
- Students/Learners: Students and learners use CPE notebooks to access files and teaching clips uploaded.

Administrators:

- System Administrators: System administrators responsible for maintaining and managing CPEnotebook.
- Content Moderators: Content moderators are responsible for reviewing and controlling the quality of uploaded slides.

Technology feasibility study

Frontend Technologies:

- HTML/CSS/JavaScript: Basic building blocks for web development.

Backend Technologies:

- Node.js/Ruby/Java: Backend programming languages.
- Express.js/Flask/Django/Rails/Spring: Frameworks or libraries for web server development.

Deployment and Hosting:

- AWS/Azure/Google Cloud: Cloud services for hosting.
- Docker/Kubernetes: Containerization and orchestration of services.
- Nginx/Apache: Web servers for deployment.

Other Tools and Libraries:

- Version Control: Git, SVN for code versioning.
- Package Managers: npm, Yarn.
- Testing Frameworks: Jest, Mocha, Jasmine for testing.

Software:

- IDEs/Editors: Visual Studio Code, Sublime Text, IntelliJ IDEA, etc., for coding.
- Project Management Tools: Jira, Trello, and Asana for project planning.
- Communication Tools: Discord, Microsoft Teams, and Zoom for team communication.
- Documentation: Confluence, Markdown, and Google Docs for project documentation.

Conclusion

From the problems mentioned above, it can be concluded that we will implement a website that collects sheets and past videos of subjects for Computer Engineering students to help solve the problem of a scattered, unified platform for educational resources by adding a function to search for subjects and content related to that subject and can also have a discussion with others on that subject. These will help students make studying more efficient and interact between students, encouraging discussions and sharing of insights.

Responsibilities

A1

Percentage of Contribution

Member	Code	Percentage of Contribution(Compare with all task)
ธีรภัทร	640610641	50 %
ทัตพงศ์	640610636	100 %
ภาณุวัฒน์	640610660	50 %
ภูเบศร์	640610662	50 %
สุรบดินทร์	640610673	50 %
ชาญณรงค์	640612084	45 %
ศุภณัฐ	640612098	50 %

Task-Doing

Member	Code	Task-Do
ธีรภัทร	640610641	Proposal Report 20%+ Group Meeting 10%+ Information Gathering 20%
ทัตพงศ์	640610636	Website 50% + Proposal Report 20%+ Group Meeting 10%+ Information Gathering 20%
ภาณุวัฒน์	640610660	Proposal Report 20%+ Group Meeting 10%+ Information Gathering 20%
ภูเบศร์	640610662	Proposal Report 20%+ Group Meeting 10%+ Information Gathering 20%
สุรบดินทร์	640610673	Proposal Report 20%+ Group Meeting 10%+ Information Gathering 20%
ชาญณรงค์	640612084	Proposal Report 20%+ Group Meeting 5%+ Information Gathering 20%
ศุภณัฐ	640612098	Proposal Report 20%+ Group Meeting 10%+ Information Gathering 20%

A2-Task

- Calculate by all works to do in this assignment
- 1. Website - 50%
- 2. Proposal Report - 20%
- 3. Group Meeting - 10%
- 4. Information Gathering - 20%