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DOST-STII
Department of Science and Technology
SCIENCE AND TECHNOLOGY INFORMATION INSTITUTE

MNTSDEV Project Presentation

LitPath AI: Smart Pathfinder for Theses and Dissertations

HecTech
Cempron, Charijoy
Concepcion, Marielle Kloie
Dulay, Jenine Elaine
Tracie Tomon

Project Adviser:
Ms. Roselle Wednesday L. Gardon

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Introduction

The DOST-STII Library is an important asset for academic and professional research in the Philippines, serving as the primary information arm of the Department of Science and Technology (DOST). Through the DOST Union Catalog, a component of the Science and Technology Information Network of the Philippines (ScINET-PHIL), the library aims to provide a centralized platform for efficient access to these resources across 21 DOST libraries and 15 regional offices, facilitating research and saving users significant time.

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DOST-STII LIBRARY

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Statement of the Problem

Accessing theses and dissertations through the DOST-STII Library's current system is hindered by 4 fundamental problems:

Limited Search Mechanism

Poor Relevance and Efficiency

Lengthy Searching Performance

Lack of Essential Research Support Features

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Teaser

Struggling to find the right thesis or dissertation for yo

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Project Description

LitPath AI is an ***intelligent recommendation system*** for DOST-STII Library's theses and dissertations collection. It will provide enhanced search capabilities, intelligent recommendations, multiple citation formats, and seamless OPAC integration to improve material discovery and reduce search time for students, researchers, and other professionals.

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Project Objectives

1

To make searching *faster and more precise*, the system will be equipped with advanced filters allowing users to narrow down results

2

To help users *discover more relevant studies*, the system will provide subject-based recommendations

3

To create a *better and faster user experience*, the interface will be redesigned to be more intuitive and responsive

4

To *make citing sources easier* for researchers, a built-in automated citation generator will be integrated

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Objectives/Solutions

Needs/Problems	Objectives/Solutions
1. Limited Search Mechanism	1. To make searching ***faster and more precise***, the system will be equipped with advanced filters allowing users to narrow down results
2. Poor Relevance and Efficiency	2. To help users ***discover more relevant studies***, the system will provide subject-based recommendations
3. Lengthy Searching Performance:	3. To create a ***better and faster user experience***, the interface will be redesigned to be more intuitive and responsive
4. Lack of Essential Research Support Features	4. To ***make citing sources easier*** for researchers, a built-in automated citation generator will be integrated

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Project Vision

For library users who need to find related theses and dissertations within the DOST-STII Library, the LitPath AI is a ***recommendation system that quickly suggests related research based on the user's interest***. Unlike other academic search engines, it provides subject-based recommendations and offers features like citation generation and filtering designed to the library's needs.

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Project Scope

In Scope

1. Use of DOST-STII Library's collection/database
2. The system will be integrated with the OPAC
3. Recommendation engine that ranks and suggests relevant literature
4. User-friendly interface for easy navigation in searching academic works
5. Generated citations in multiple formats
6. Comments and feedback

Out of Scope

1. Use or include literature outside the collection of DOST-STII Library
2. Recreating or redesigning the OPAC.
3. Creating a new library system.
4. Full-text access or scanning of physical theses and dissertations
5. Adding or managing materials.

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Project Scope

Key Stakeholders

Institutional partner

Department of Science and Technology
SCIENCE AND TECHNOLOGY INFORMATION INSTITUTE (DOST-STII)

Department

Information Resources and Analysis Division (IRAD) - Information Services Section: Digital Information and Processing Delivery

Point of Contact

Ms. Khasian Eunice Romulo
(Science Research Specialist II)

Primary Users

- Students and Academic Researchers
- Educators and Librarians
- DOST Researchers and Employees

Secondary Users

- Other Professionals and Academes

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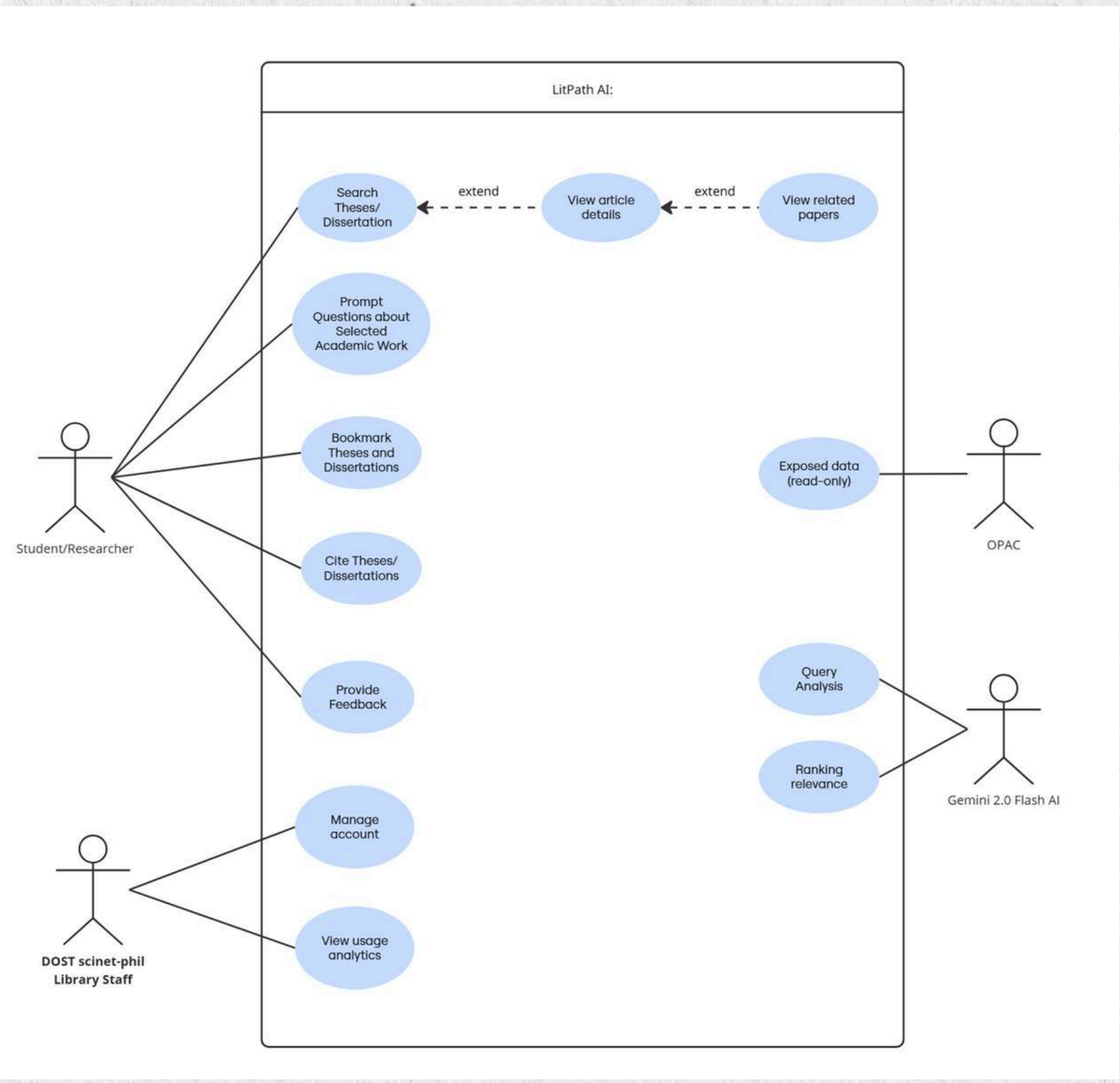
Use Case Diagram



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Fully Dressed Use Case

Link to Fully Dressed Use Case

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Technical Background

HARDWARE

Development Team:

Intel i5 or AMD Ryzen 3+

8GB or more

256GB +

End-User Accessibility

- No special hardware needed
- Accessible on any desktop, laptop, tablet, or smartphone with a modern browser

SOFTWARE

Vue.js

Apache

Figma

Laravel

Github

MySQL

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Technical Background

PEOPLEWARE

Development Team:

Backend & Frontend Developers

UI/UX Designers

QA Testers

End-Users:

Students & Researchers

DOST-STII Librarians

NETWORK

Requires a stable internet connection for all users

Security: Communication is secured with HTTPS/SSL

Infrastructure: On-premise deployment on the client's server

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Technical Feasibility

- All necessary tools available
- Long-term scalability
- Team’s capability
- Minimal operational cost

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Operational Feasibility

- Strong Support & Clear Need
- Enhances Staff Productivity
- Seamless Integration & IT Collaboration

- User-Focused Adoption Strategy
- Directly Aligns with Mission
- Full Legal & Ethical Compliance

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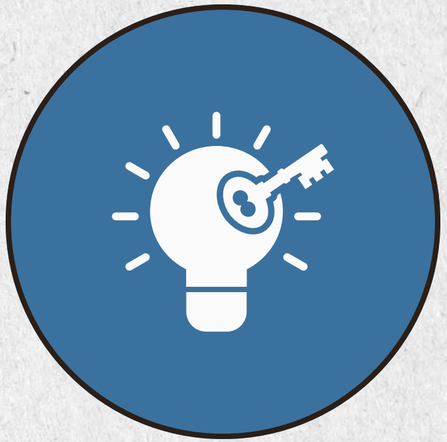
Economic Feasibility

No Recurring Costs



Delivers Significant Operational Benefits

Strategic Return on Investment

Wireframe

Link to figma

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Product Roadmap

T1 FINALS

- Citation generator
- Bookmarking (email)

T2 MIDTERM

- Search engine
- Advanced filters
- Integration to OPAC

T2 FINALS

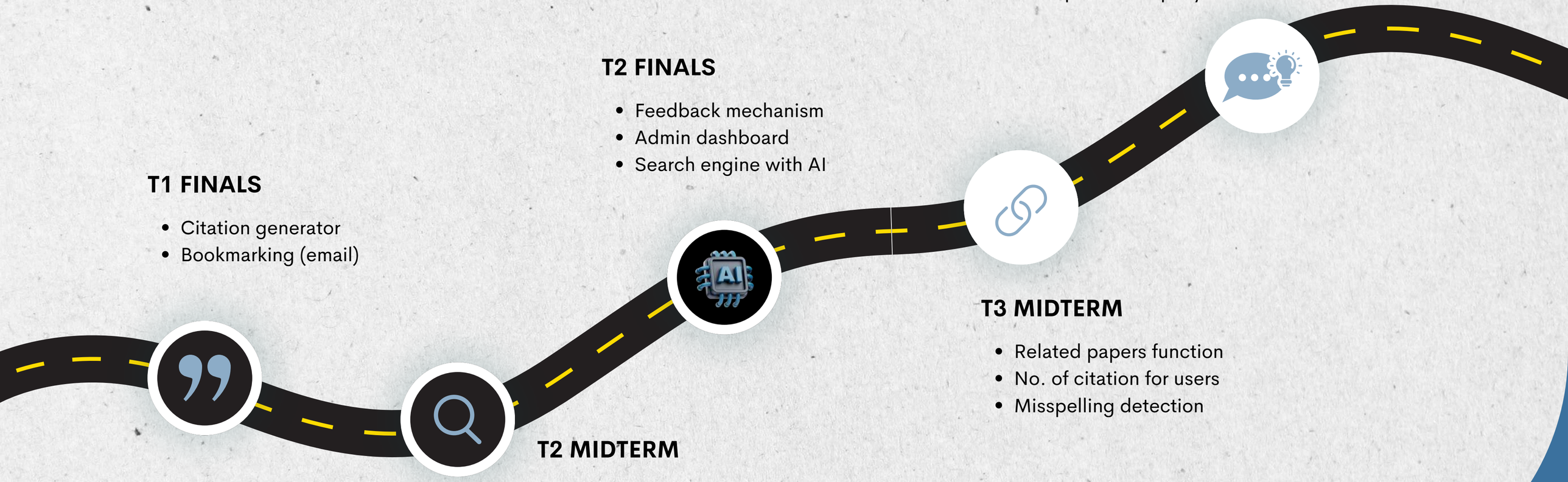
- Feedback mechanism
- Admin dashboard
- Search engine with AI

T3 MIDTERM

- Related papers function
- No. of citation for users
- Misspelling detection

T3 FINALS

- Suggested queries
- Autocomplete text query



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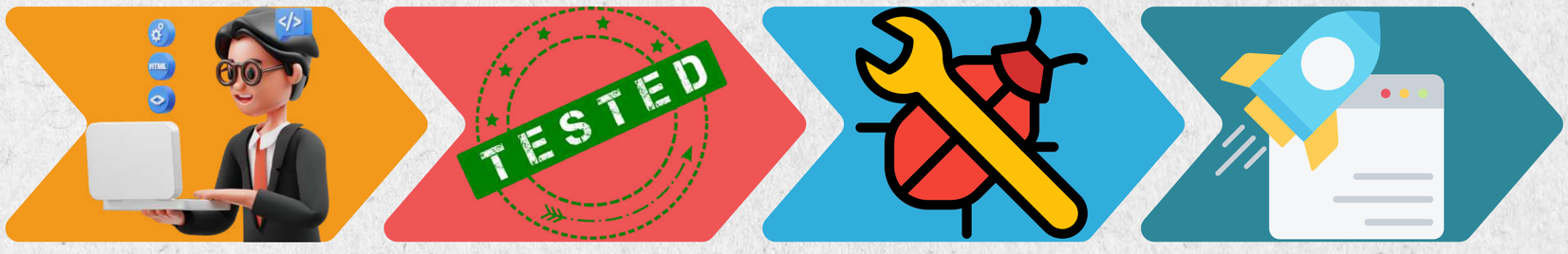
Release Plan

LitPath AI v1.0
September 1, 2025
Initial Release

Aug 1 | Aug 18 | Aug 22 | Aug 29



Comments Matrix

Panelist	Comment	Team Update
Sir Manuel Sanchez	• If a research paper is authored by someone from an institution other than STII (e.g., APC), would that information be allowed to be shown in the system, considering data privacy? • Add information about the use of database of OPAC in the document.	• The inclusion of information from external institutions like APC is a policy decision that rests entirely with the client, DOST-STII. • The project's scope has been updated to include the use of database of OPAC and exclude adding or managing materials.
Sir Gonzalo Gumogda	Coordinate with the client about the current process of OPAC.	The group has already coordinated and discussed with the client their current process and workflow of the system.
Sir Bary Reyes	Discuss with the adviser the tech stack that will be used in the project.	The group has established a repository and the technology stack that will be used for the project.

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