

Capstone Handover Report Phase-2

Project Title: *AI Thesis Title Generator*

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Course: Bachelor of Software Engineering

Project Overview

The **AI Thesis Title Generator** is a web-based tool built to assist students, researchers, and academic professionals in generating relevant and high-quality thesis or research project titles using AI-powered prompt engineering. The core objective was to reduce the creative burden of ideating project titles and to streamline the research initiation process using an intuitive, accessible frontend.

Use Case & Problem Statement

Primary Use Case: Enabling students to quickly generate AI-driven research titles by inputting subject-specific keywords.

Challenges Addressed:

- Creative block during topic ideation
- Time constraints in academia
- Need for variety in research titles across disciplines

Secondary Uses:

- Inspiration for capstone or honors projects
- Validation and refinement of existing title drafts

3. Solution Architecture

The project used a **frontend-focused, low-code development** model via Bolt.new. AI integration is achieved through **prompt engineering techniques** embedded in a TypeScript module (titlegenerator.ts) rather than through direct API calls (for security reasons).

Stack Used:

- React + TypeScript
- Tailwind CSS for styling
- Bolt.new for low-code design
- Supabase (explored for future backend)
- GitHub for version control
- Trello for sprint planning and issue tracking

4. Features Developed

- **Input field** for user-defined keywords or subject areas
- **Custom prompt logic** for AI-generated thesis titles
- **Regenerate Titles** option for diverse suggestions
- **Responsive UI** with clean typography and animations
- Support for interdisciplinary topics (e.g., AI + Healthcare)

5. My Contributions

- Ideation of the project scope and value proposition
- Prompt design and tuning logic in titlegenerator.ts
- UI design and component-based architecture in React
- Testing and iteration based on peer/mentor feedback
- Project documentation and GitHub repository management
- Coordination with future backend planning (Supabase)

6. Key Achievements

- Delivered a fully functional frontend prototype
- Achieved meaningful AI title generation using keyword mapping

- Received positive feedback for design, usability, and innovation
- Set foundation for full-stack integration in the next phase
- Demonstrated professional-level code organization and style

7. Future Scope

Next trimester, the project aims to:

- Connect to a backend for storing user-generated data
- Implement login and authentication (Supabase Auth)
- Add user-specific title history and citation tracking
- Recommend related research papers and references

9. Project Management Summary

- Completed 3 sprints using a Jira board
- Tasks included: UI development, prompt refinement, testing
- Maintained task lists for 'To-Do', 'In Progress', and 'Done'
- Screenshots of working UI and commits are documented in GitHub

10. Video Presentation Link

<https://drive.google.com/drive/folders/1JicVPr1idty7TD4Nk5J4lm1MrbeeSOj1?usp=sharing>