Computer Science Department Internal Room Reservation System

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Abstract

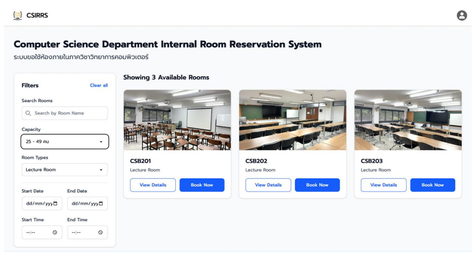
This project develops a web-based room reservation system for the Department of Computer Science to improve the efficiency and accuracy of classroom resource management. The system reduces paperwork, shortens processing time, and enables convenient tracking of booking information. It supports three user roles such as students, supervisors, and administrators with different access permissions. Users can search for available rooms, check schedules, and submit reservation requests. The system is built using Go (Golang) for the backend, React with TypeScript for the frontend, and PostgreSQL for database management. Testing results confirm that the system operates correctly and effectively enhances overall room management.

Introduction

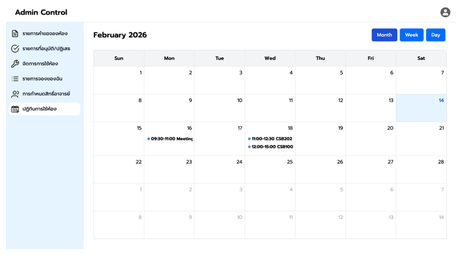
Manual room management often causes delays and coordination issues within the department. This project presents a centralized web-based reservation system that streamlines booking processes, provides real-time access, and improves operational efficiency and resource management in the Department of Computer Science.

Design

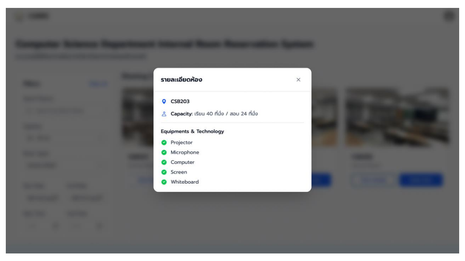
Rooms Search Page



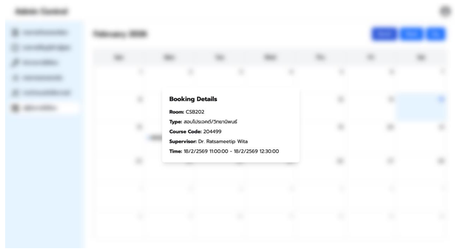
Admin Calendar



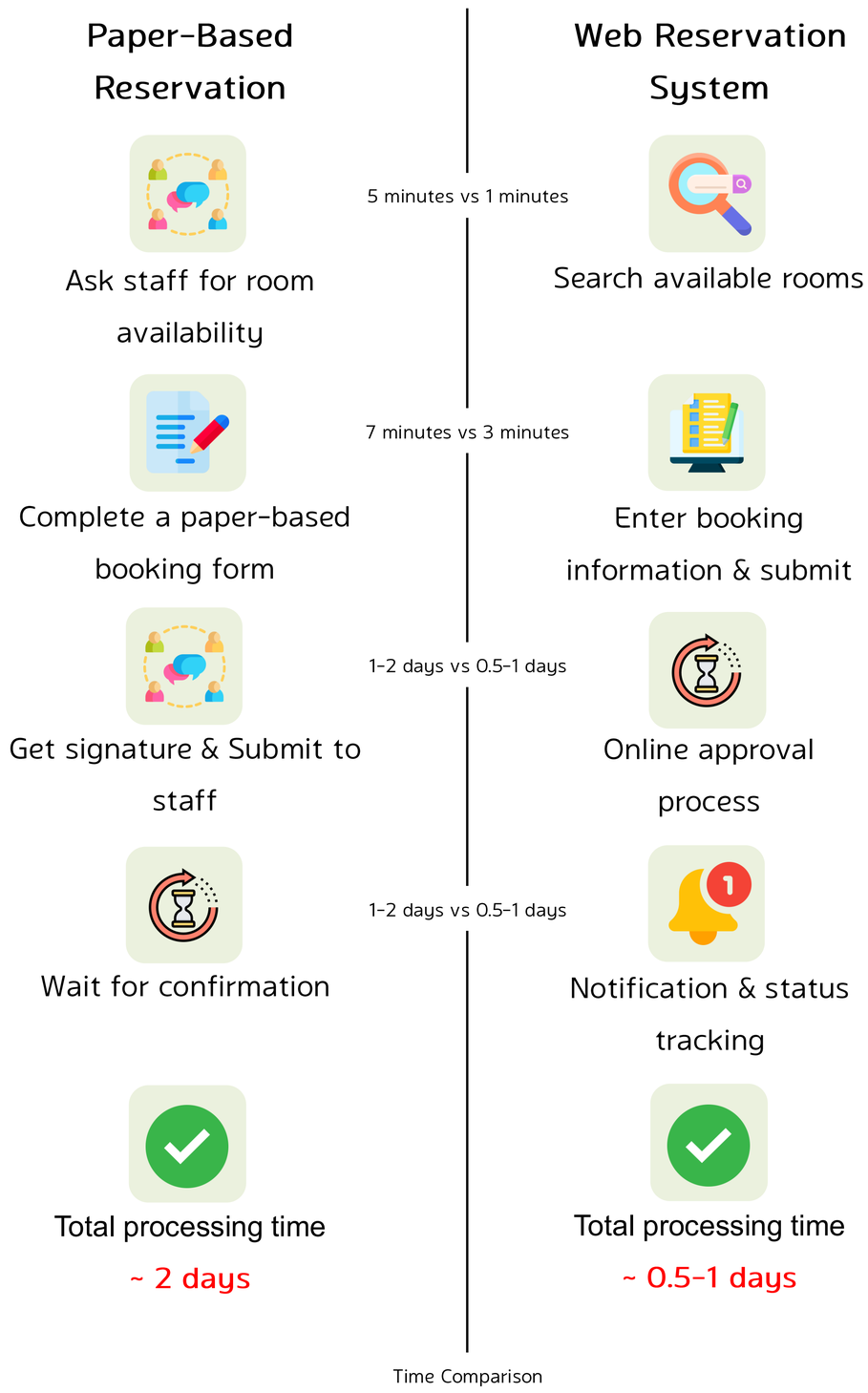
Room Details



Booking Details



Workflow



Technology

Backend & Database: Golang, PostgreSQL
Frontend Development: React, Typescript, TailwindCSS
Design & Build Tools: Figma, Vite

Conclusion

The system enables students, supervisors, and administrators to efficiently search, reserve, and manage rooms through a role-based platform, reducing manual work and booking conflicts while improving overall room management.

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