



Smart Room Allocation System for Schools

A real-time, centralized system to streamline room usage across campuses.

By Group 2

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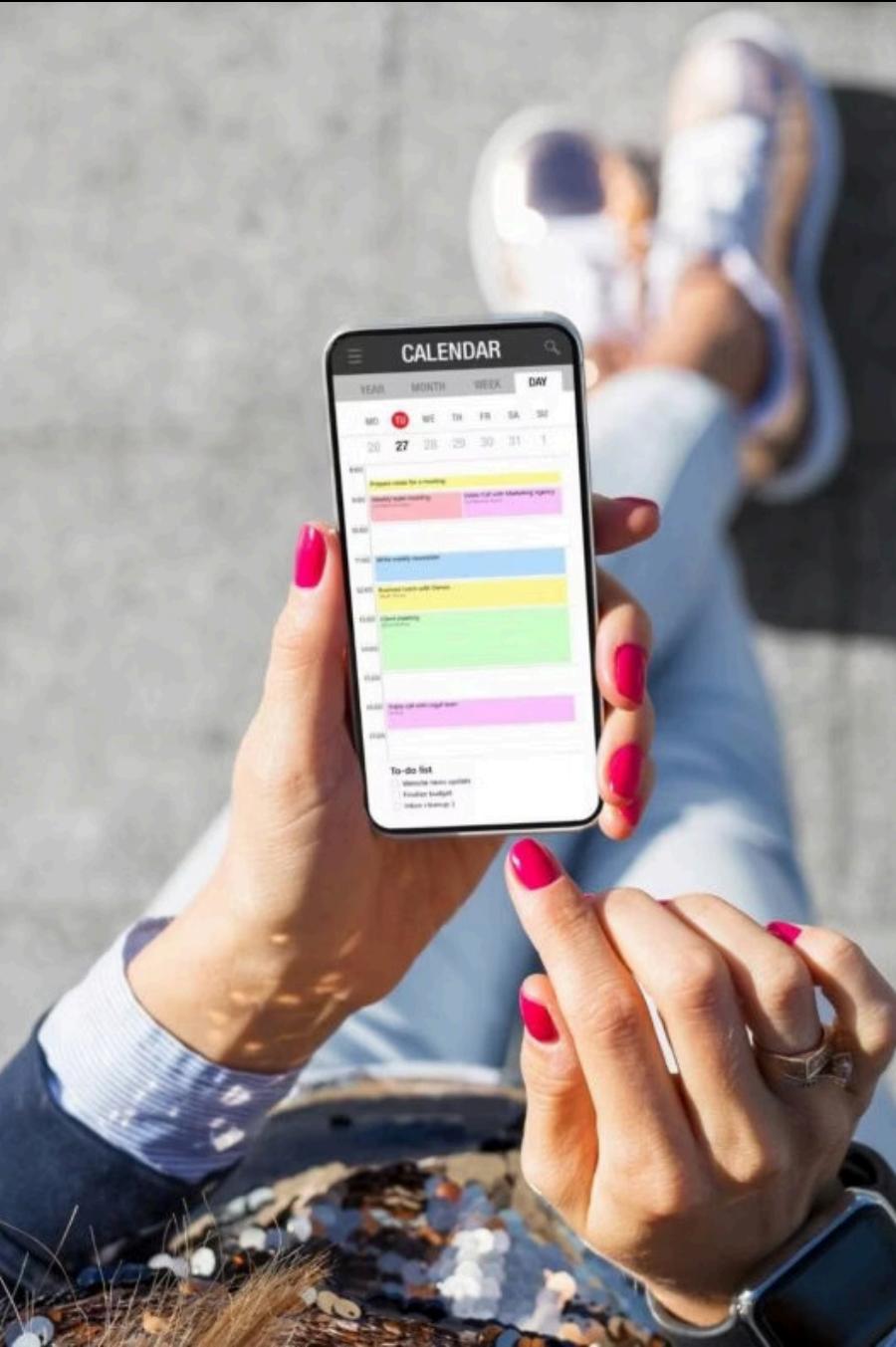


Problem: Inefficient Room Management

Institutions lack real-time visibility of classroom availability.

Class cancellations and schedule changes often go untracked.

Manual coordination causes underutilized or double-booked spaces.



Solution: A Smart Centralized Platform



Central platform for live room availability updates.



Smart filtering by room capacity and resources, to suit user demands.



Auto-updates reflecting cancellations or changes.



Accessible via web and mobile for staff and lecturers.

The screenshot shows a room booking system interface. At the top, there's a navigation bar with icons for help, shopping cart (containing 1 item), and user profile (BA). Below the navigation is a date header "ber 2023". The main area is a calendar grid from 16:00 to 20:00. Bookings include:

- 16:00 - 17:30 Beavers Group (pink)
- 18:00 - 19:30 Geo guest lecture (blue)
- * 17:00 - 19:00 Dance group 1 (green)
- 19:00 - 20:30 Hall maintenance (grey)
- Alex Foster (blue striped)
- 16:00 - 17:30 Jnr Yoga (purple)
- 18:00 - 19:30 Pilates class 2 (orange)

On the right, a sidebar lists events: S, C, L, C, S, C, P, G, F. At the bottom, there are three checked checkboxes:

- Send booking confirmation email
- Require approval on bookings
- Instant block bookings

How It Works: Seamless Booking Experience

Define Rooms

Admins input capacity and resources in the portal.

View and Book

Lecturers book are assigned rooms using mobile or web portal.

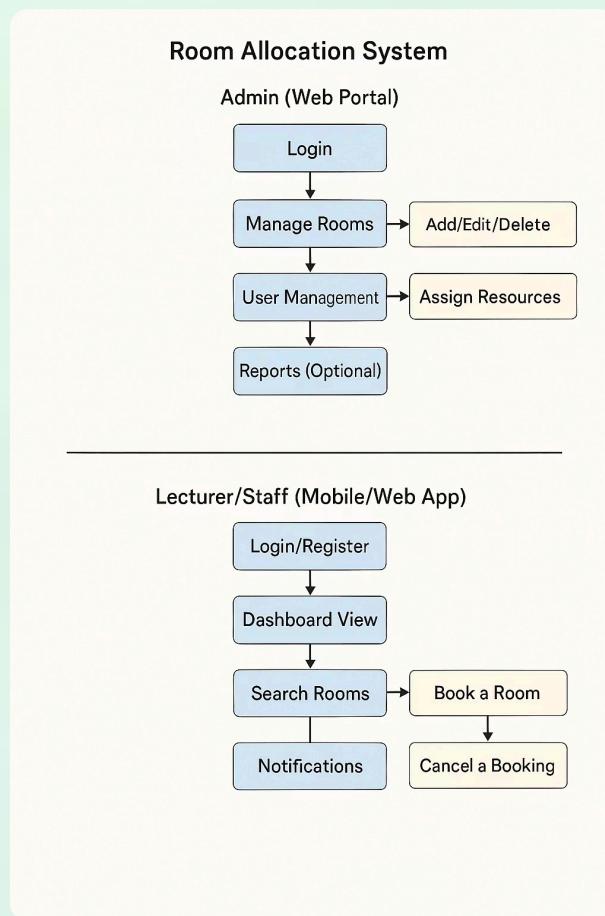
Real-Time Updates

System instantly refreshes room availability and conditions.

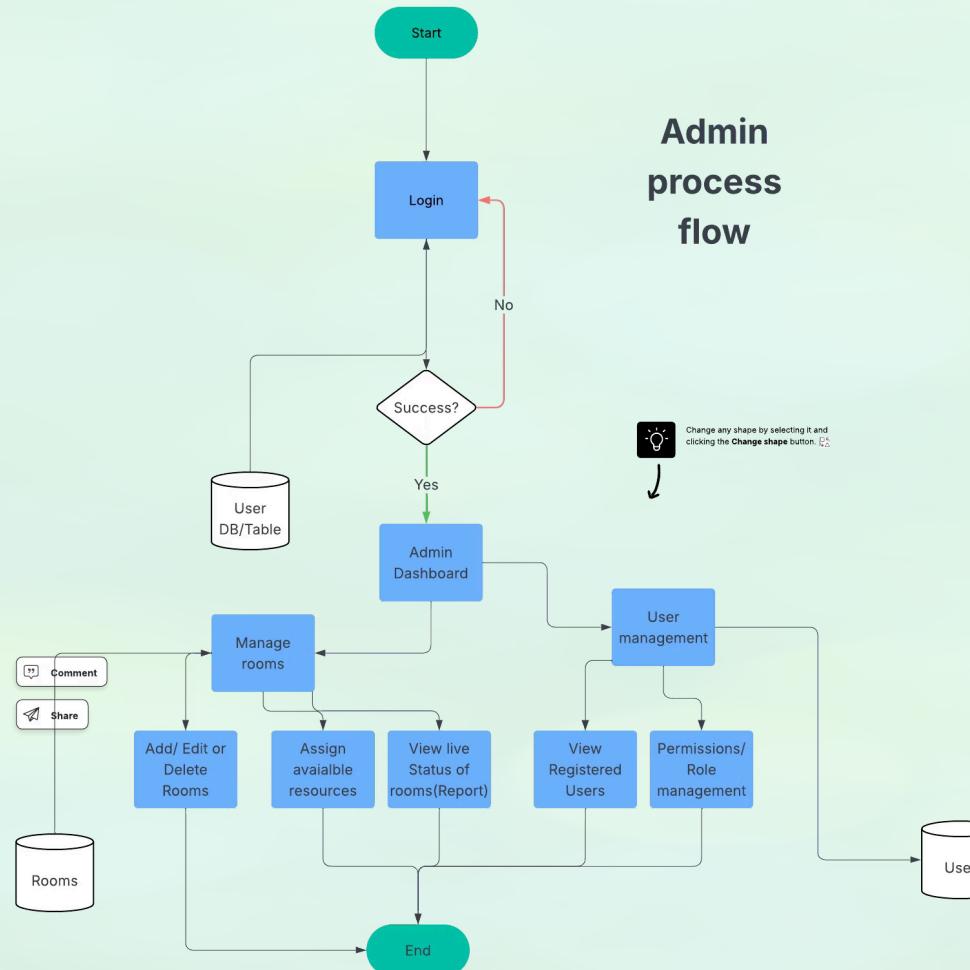
Notifications

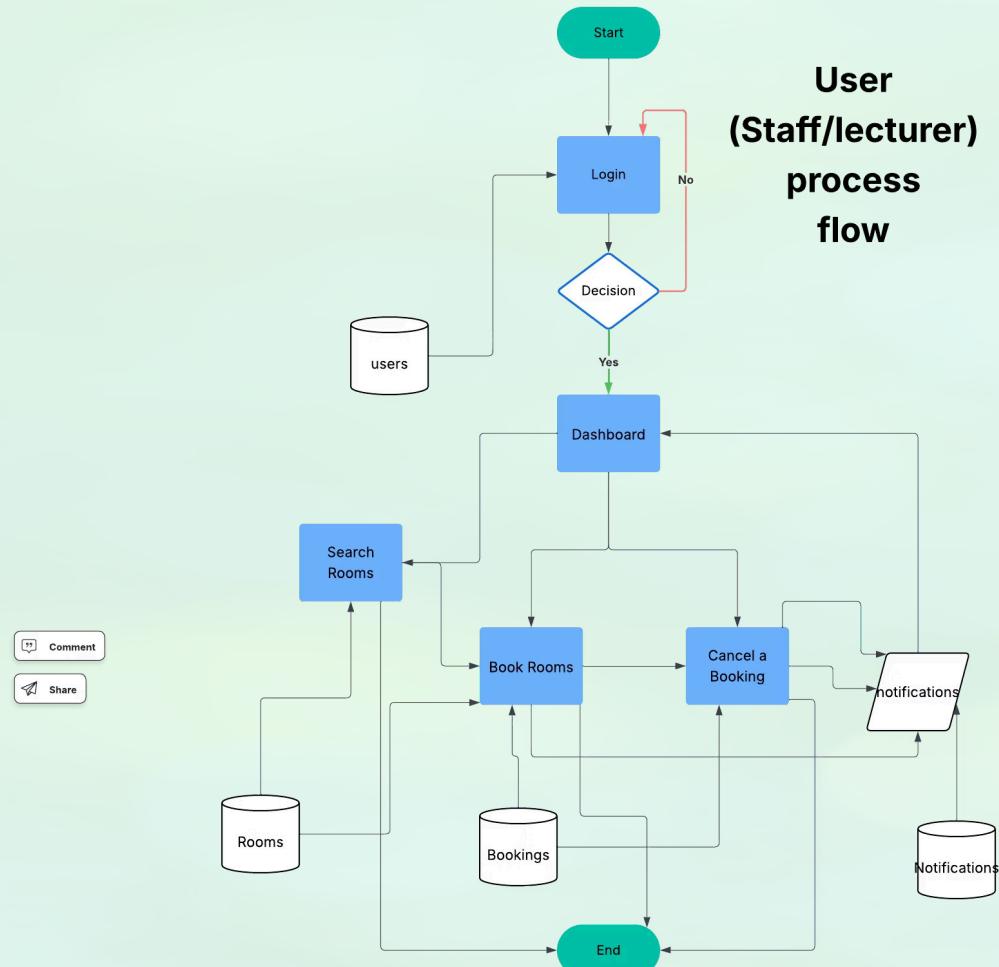
Relevant users receive immediate alerts.

General overview



Admin process Flow





User process Flow

Market Opportunity

Industrial Overview: Kenya's Ed-Tech sector is growing, supported by government digital initiatives and a general move towards technology integration in education. While digital literacy still needs improvement, there's a strong regional trend of e-learning growth.

Target Market: The primary target market includes Kenyan universities, colleges, large secondary schools, and TVET institutions. These institutions face significant challenges with inefficient manual room allocation, leading to underutilized spaces, scheduling conflicts, and a lack of data for strategic planning.

Competitive Analysis: The market for specialized smart room allocation systems in Kenyan education is largely underserved. Current "competitors" are mostly inefficient manual processes (Excel, paper-based) or generic scheduling tools. A dedicated smart system offers significant advantages in efficiency, space optimization, and data-driven decision-making, differentiating itself from existing basic alternatives and non-academic-focused hospitality software.

Market Opportunity: The opportunity is substantial due to increasing student enrollment, diverse academic programs, the rise of blended learning, and government digitalization efforts. Successful entry will require clear ROI articulation, flexible pricing, strong support, integration with existing systems, and a focus on localized solutions.

Team Workload and Technology Roles

Backend Developer(Jesse)

Handles API, database, scheduling logic. Using Java Spring boot and PostgreSQL as the database.

Web Portal Developer(Hellen)

Builds an admin and staff portal. Using React Native

Mobile Developer(Martin)

Creates a Mobile app. Using react native/Kotlin with administrative features and notifications

Business Analyst/Scrum Master(Naomi)

Requirements Gathering and elicitation, Coordination of sprints



Call to Action



Join us in redefining how institutions manage their learning spaces.



Business Model



Free Version

Self-hosted for small institutions.



Paid Version

Hosted with support and analytics features.



Licensing

Institutional plans for multi-campus rollouts.

SWOT ANALYSIS

<u>STRENGTHS</u>	<u>WEAKNESSES</u>	<u>OPPORTUNITIES</u>	<u>THREATS</u>
Space optimization	Change resistance	Demand for efficiency	Competition
Time management	Cost of implementation	Digitization	Economic instability
Accuracy and accessibility	Internet dependency and data costs and mitigation	Promoting growth in the education sector	Cybersecurity risks and threats



Roadmap: Milestones for Success

- 1** — Weeks 1-2
Gathering requirements, UI/UX design.
- 2** — Weeks 3-4
Backend and database development.
- 3** — Weeks 5-6
Portal and mobile app MVP release.
- 4** — Week 7
Testing, optimization, and launch.

CLOSING STATEMENT



In conclusion ,this system aims at offering **Kenyan educational institutions** a crucial opportunity to transcend outdated manual methods, driving **efficiency, optimizing space, and enhancing the overall learning environment**. By embracing this technology, institutions can unlock significant operational savings, reduce scheduling conflicts, and gain valuable insights for strategic growth in the digital age