

GROUP 4

Project Title:

University Transport System Automation

Members

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**Project Proposal: University
Transport System Automation**

Problem Statement:

The current transport system booking process at our campus is highly manual, time-consuming, and prone to errors. It involves multiple steps of communication between various departments, resulting in delays and inefficiencies. Key issues with the existing process include:

1. **Manual Communication:** The process relies heavily on physical letters and emails exchanged between departments, leading to delays and potential miscommunication.
2. **Resource Allocation:** The allocation of buses or minibuses for field trips is done manually based on the information provided by departments, which may not always be accurate or efficient.
3. **Funding Request:** Lecturers must apply for funds separately, adding an additional step to the process and increasing administrative overhead.
4. **Final Documentation:** The release of the final document containing field trips for the semester is a manual task prone to errors and delays.

Analysis:

Input:

- Letters from the Director Timetabling Department to Chairmen of Various Departments requesting field trip requests.
- Responses from Chairmen of Departments indicating academic field trips.
- Approval from the Deputy Vice Chancellor in charge of Academic Affairs for viable trips.
- Requests from the Director of Timetabling department to the transport manager for buses or minibuses.
- Funding requests from lecturers to the Deputy Vice Chancellor.
- Finalized field trip details from the Timetabling department.

Processing:

1. **Request Initiation:** The Director Timetabling Department initiates the process by requesting field trip requests from Chairmen of Various Departments who then respond.
2. **Trip Approval:** The Deputy Vice Chancellor in charge of Academic Affairs approves viable trips based on budget constraints.

3. Resource Allocation: The Director of Timetabling department advises the transport manager to allocate buses or minibuses for approved trips.
4. Funding Request: Lecturers apply for funds from the Deputy Vice Chancellor.
5. Final Documentation: The Timetabling department releases the final document containing field trips for the semester.

Output:

- Approved field trip requests.
- Allocated buses or minibuses for approved trips.
- Approved funding requests for lecturers.
- Final document containing field trips for the semester.

Proposed Solution:

To address the challenges and inefficiencies of the current manual process, we propose the implementation of an automated transport system booking system. The proposed solution includes the following components:

1. Online Portal: Develop a web-based portal where departments can submit field trip requests, and the Director Timetabling Department can review and approve them.
2. Approval Workflow: Implement an automated approval workflow where requests are routed to the Deputy Vice Chancellor for approval, streamlining the process and reducing delays.
3. Resource Allocation Module: Develop a module within the system that automatically allocates buses or minibuses for approved trips based on availability and capacity.
4. Integrated Funding Requests: Integrate funding requests into the system, allowing lecturers to apply for funds directly through the portal, with automated approval processes.
5. Real-time Updates: Provide real-time updates and notifications to stakeholders at each stage of the process, improving transparency and communication.
6. Centralized Documentation: Store all trip requests, approvals, allocations, and funding requests in a centralized database, allowing for easy access and retrieval of information.