

CAMPUS CHAOS: RETHINKING LAST-MILE DELIVERIES



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STUDENTS:

- INTERRUPTION TO CAMPUS LIFE
- SAFETY CONCERN INSIDE CAMPUS
- DELIVERY DELAYS DUE TO CONGESTION

SECURITY STAFF:

- UNAUTHORIZED ACCESS BY AGENTS
- MONITORING BURDEN
- SAFETY RISKS FROM RECKLESS AGENTS

KEY ISSUES

DELIVERY AGENTS:

- NAVIGATION CHALLENGES INSIDE CAMPUS
- TIME PRESSURE TO MEET DEADLINES
- MULTIPLE INEFFICIENT TRIPS

PLATFORMS:

- DELAYED DELIVERIES
- OPERATIONAL INEFFICIENCIES AS MULTIPLE AGENTS SERVE SAME AREA
- ACCOUNTABILITY ISSUES

SECURE ACCESS CONTROL

AUTHORIZE ONLY VERIFIED DELIVERY PERSONNEL AND ENSURE SAFE ENTRY ACROSS CAMPUS ZONES.

STREAMLINED OPERATIONS

STANDARDIZE AND DIGITIZE DELIVERY FLOW TO REDUCE GATE CONGESTION AND MINIMIZE DELAYS.

OBJECTIVES

ENVIRONMENTAL SUSTAINABILITY

ADOPT ELECTRIC VEHICLES, SHARED DROP-OFFS, AND GREEN LOGISTICS TO LOWER THE CARBON FOOTPRINT.

ENHANCED CAMPUS EXPERIENCE

DELIVER CONVENIENCE AND RELIABILITY FOR STUDENTS, STAFF, AND VENDORS THROUGH A SMOOTH PROCESS.

CAMPUS DELIVERY INSIGHTS

- PEAK HOURS: 12:00 PM-2:00 PM AND 7:00 PM-9:00 PM SEE THE HIGHEST DELIVERY TRAFFIC.
- VOLUME: APPROX. 400-600 DELIVERIES PER DAY FROM FOOD AND E-COMMERCE APPS COMBINED.
- ENTRY POINTS: 80% OF DELIVERIES CLUSTER AT MAIN GATE AND Y-POINT GATE.
- SECURITY CHECKPOINTS: ONLY 60% OF DELIVERIES ARE VERIFIED PROPERLY.
- PAIN SPOTS: DELAYS AT THE GATE AND POOR COORDINATION CAUSE FRUSTRATION FOR BOTH AGENTS AND STUDENTS.



PROPOSED SOLUTIONS

Campus Delivery App

A single app integrates all platforms (Zomato, Swiggy, Amazon) to manage authorization, live tracking, and pickup scheduling.

Security staff can monitor verified agents via the same portal.

Smart Lockers with QR/OTP Access

Students receive a notification when their parcel arrives and can pick it up anytime using QR or OTP authentication — eliminating the need for in-person delivery.

Collaborative Framework

Partner with delivery companies and campus administration to ensure pre-approved delivery slots and verified personnel access.



PROCESS FLOW

CAMPUS DELIVERY APP

- STUDENTS, SECURITY STAFF, AND DELIVERY AGENTS CONNECT VIA A SINGLE PLATFORM.
- STUDENTS SCHEDULE DELIVERY TIMES AND TRACK PACKAGES IN REAL-TIME.
- SECURITY VERIFIES AGENT ACCESS.

SMART LOCKERS WITH QR/OTP ACCESS

- AGENTS DROP PARCELS INTO SMART LOCKERS AT ZONAL PICKUP POINTS.
- STUDENTS GET QR/OTP NOTIFICATIONS TO COLLECT PARCELS ANYTIME.
- ELIMINATES CONGESTION AND ENSURES AUTHORIZED COLLECTION ONLY.

COLLABORATIVE FRAMEWORK

- COORDINATED WORKFLOW BETWEEN VENDORS, DELIVERY AGENTS, AND CAMPUS SECURITY.
- PRE-APPROVED AGENTS AND SCHEDULED DELIVERY SLOTS PREVENT CHAOS AT GATES.
- SECURITY STAFF CAN AUDIT AND ENSURE COMPLIANCE EASILY.

EXPECTED IMPACT

Improved Security

- ONLY AUTHORIZED AGENTS ENTER CAMPUS ZONES.
- QR/OTP VERIFICATION REDUCES UNAUTHORIZED ACCESS.
- SECURITY STAFF CAN MONITOR DELIVERIES DIGITALLY IN REAL-TIME.

Enhanced Student & Staff Experience

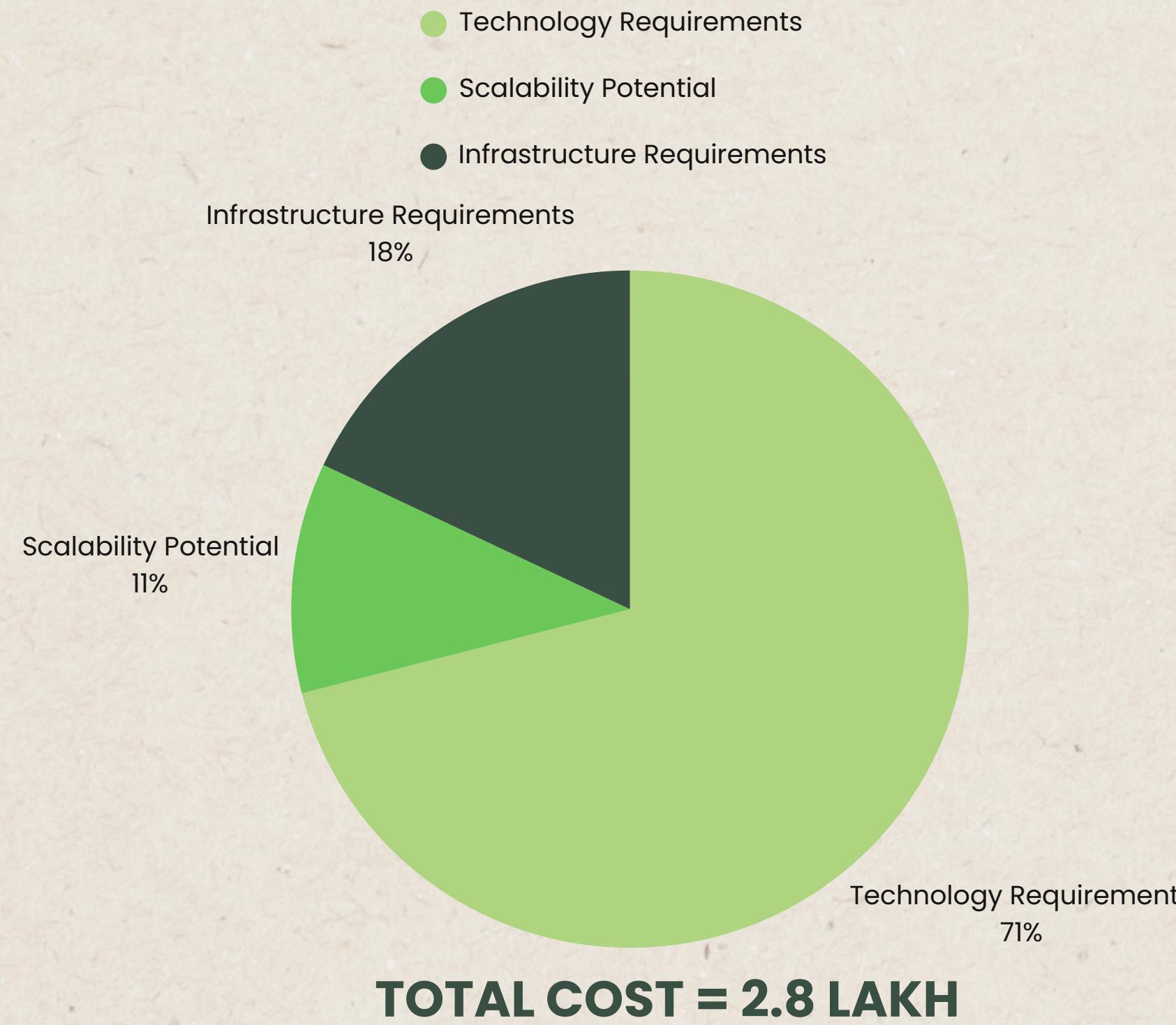
- FRICTION-FREE PROCESS: NO CHASING AGENTS OR STANDING IN QUEUES.
- FLEXIBLE PICKUP TIMES INCREASE CONVENIENCE.
- PEACE OF MIND KNOWING DELIVERIES ARE SECURE AND TRACKABLE.

Environmental Sustainability

- REDUCED CARBON FOOTPRINT VIA BATCH DELIVERIES AND E-CARTS.
- FEWER VEHICLES ENTERING THE CAMPUS, REDUCING NOISE AND TRAFFIC.
- SUPPORTS IIT BOMBAY'S SUSTAINABILITY INITIATIVES.

OUR SOLUTION MAKES CAMPUS DELIVERIES SECURE, FAST, CONVENIENT, AND ECO-FRIENDLY A WIN FOR EVERYONE.

IMPLEMENTATION



INFRASTRUCTURE REQUIREMENTS

SMART LOCKERS: INSTALLED AT KEY ZONES (HOSTELS, ACADEMIC AREAS, MAIN GATES).

MANPOWER REQUIREMENTS

- CAMPUS DELIVERY COORDINATOR (1-2 PERSONS): MANAGES APP DASHBOARD AND LOCKER MAINTENANCE.
- SECURITY INTEGRATION: EXISTING STAFF TRAINED FOR QR VERIFICATION AND APP ALERTS

TECHNOLOGY REQUIREMENTS

- CAMPUS DELIVERY APP:
 - FEATURES: STUDENT LOGIN, DELIVERY TRACKING, OTP COLLECTION, AGENT VERIFICATION.
- HARDWARE: SMART LOCKER MODULES WITH QR/OTP AND IOT CONNECTIVITY.

PARTNERSHIP STRATEGY

1) FOOD & E-COMMERCE PLATFORMS

- INTEGRATE CAMPUS DELIVERY OPTION WITHIN THEIR APPS.
- PROVIDE VERIFIED DELIVERY AGENTS WITH DIGITAL ACCESS PASSES.
- SHARE LIVE DELIVERY DATA FOR CAMPUS COORDINATION.

BENEFIT : STREAMLINED ENTRY, FEWER DELAYS, HIGHER EFFICIENCY.

2) CAMPUS SECURITY DEPARTMENT

- MANAGE QR/OTP ACCESS AT GATES AND MONITOR SMART LOCKERS.
- RECEIVE REAL-TIME DELIVERY LOGS VIA THE ADMIN DASHBOARD.
- TRAINING SESSIONS FOR GUARDS ON APP-BASED AUTHORIZATION.

BENEFIT : CONTROLLED AND TRACEABLE MOVEMENT.

3) CAMPUS ADMINISTRATION

- APPROVE DESIGNATED DELIVERY ZONES AND LOCKER PLACEMENTS.
- CREATE STANDARD OPERATING PROCEDURES (SOPs) FOR DELIVERIES.

BENEFIT : REDUCED CONGESTION, IMPROVED SUSTAINABILITY.



THANK YOU