[1 pt] Project Description

Our project, LogistX, is a redesigned digital logistics platform aimed at transforming how delivery-based businesses manage their inventory and track deliveries. Traditional systems still rely heavily on manual methods, leading to delays, errors, and inefficiencies. LogistX addresses these challenges by offering a user-centered, mobile-optimized platform with features such as QR code-based inventory updates, delivery tracking, and automated report generation. It simplifies the management of goods, fleets, and schedules while supporting logistics managers, delivery staff, and warehouse operators through an intuitive interface.

[4 pts] Requirements Summary

LogistX is intended to run on Android phones for flexibility across logistics environments.

Table 1. System Requirements for LogistX (Android)

Category	**Minimum Requirements**	**Recommended Requirements**
OS	Android 6.0	Android 10.0
RAM	2 GB	4 GB
Processor	Dual-core	Quad-core
Screen Size	4.5” or higher	5.5” or higher
Connectivity	3G/Wi-Fi	4G LTE/ Wi-Fi
Permissions Required	Camera (QR), Location	Camera (QR), Location

The app is lightweight and optimized for real-time syncing on unstable connections. QR scanning and tracking can work even with low-end devices to accommodate varied users.

[75 pts] Prototype Description

Overview of the Prototype

The LogistX prototype was developed using Figma and simulates user flows from login to task completion. Key features include:

- Delivery tracking with status updates
- QR-code based inventory adjustment
- Report generation and dashboard summaries
- Profile access and role-based dashboards
- Centralized view of warehouse, products, drivers, and deliveries

Though backend systems such as real-time vehicle GPS are not yet active, all other features of the prototype work.

Description of Each Screen

Main Pages

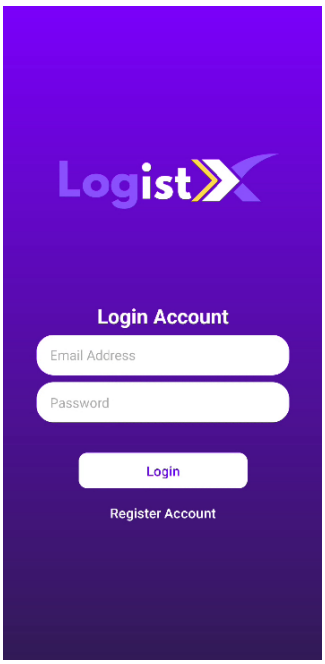

Figure 1.1. *Login Page*

Clean, simple layout prompting for login or sign-up. Uses a white and dark blue/purple palette to reflect professionalism and reliability. Input fields are icon-aided for clarity. Register account buttons support user control.

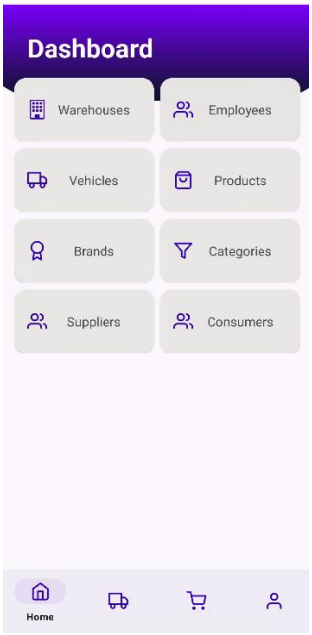

Figure 1.2. Dashboard

The Dashboard displays an overview of the business, showing owned warehouses, employees, vehicles, products, brands, categories, suppliers, and consumers.

Figure 1.3. Deliveries Page

Shows active, scheduled, and completed deliveries with color-coded progress indicators. Delivery vehicles can be assigned, edited, or tracked from here.

Figure 2.4. Orders Page

Users can scan customer transaction QR codes. Order data is auto-populated, and the system updates inventory accordingly.

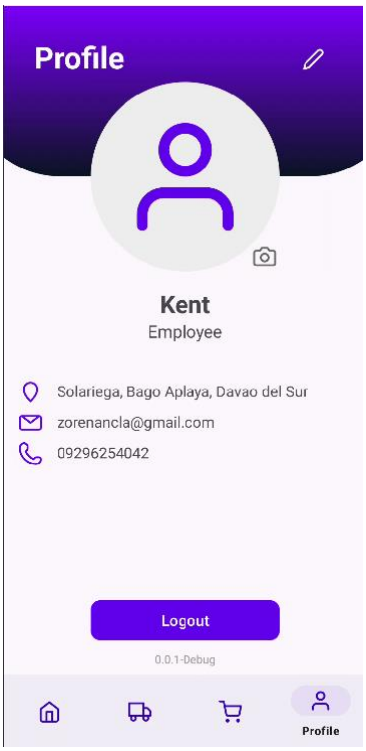

Figure 2.5. Profile Page

Shows personal and system access details. Users can modify roles, preferences, and logout securely.

Scenario from User's Perspective

It's 10:00 AM, and the warehouse receives 20 new boxes of stock. Using LogistX, the staff adds the stock in the warehouses tab, and the inventory updates automatically. A driver is assigned to deliver stock to a customer. The manager views this on the Deliveries page. Meanwhile, a report of completed deliveries is also displayed within the app. All operations are seamless, accurate, and centralized.

Rationale: Why This Prototype?

For the Concept:
LogistX addresses a major issue for delivery businesses: inefficient manual systems. By focusing on real-time status, reduced human error, and centralized management, it delivers tangible productivity gains.

For the Design:
The prototype is intuitive, minimal, and role based. It matches how users naturally think and work. Delivery staff need fast access to task flows, managers want real-time reports, and warehouse teams require instant inventory updating, all handled from one system.

Advantages:

- Centralized platform for all logistics operations
- Reduces manual entry, minimizing human error
- QR-based and tracking speeds up processing
- Clean and responsive UI for mobile users

Disadvantages:

- GPS tracking is dependent on internet and device capabilities
- First-time users may need onboarding for QR and delivery flow
- Report analytics require backend data integration for full functionality

Despite these limitations, this prototype is optimal for usability evaluation. It allows realistic task simulation and provides a strong foundation for iterative improvement.

Prototyping Tool:

We used Figma for prototyping. It enabled interactive flows and live feedback sessions. Collaboration was seamless for the whole team, and real-time previews allowed stakeholders to visualize user journeys clearly.

Changes to Requirements

During development, we initially planned LogistX to support offline usability, allowing users to manage deliveries and update inventory without internet access. However, we later realized this wasn't feasible due to the system's dependency on real-time inventory synchronization and QR-based tracking, which require an active online connection. As a result, we opted to prioritize stability and real-time accuracy over offline features, ensuring that inventory data remains consistent across all users and devices. Future updates may explore limited offline caching for reference purposes.

[20 pts] Initial Evaluation Plan

In this phase, our team aims to assess how effective, user-friendly, and intuitive the LogistX system prototype is for actual users. We plan to simulate realistic user interactions with the prototype using accessible modern platforms for both evaluators and participants. Our evaluation will

involve a combination of face-to-face sessions and remote usability testing through tools such as Figma prototypes, screen recordings (via platforms like Zoom or Google Meet), and digital forms (such as Google Forms or Microsoft Forms) to collect detailed feedback and insights.

Our evaluation will be divided into **three core parts**:

- **Usability Specifications**
- **Heuristic Evaluation**
- **Participant Survey and Feedback**

Usability Specifications

To evaluate LogistX in terms of its real-world use, we will focus on these five usability goals derived from HCI best practices:

Table 2. Usability Criteria and Evaluation Methods

Criteria	How We Will Evaluate It
Effectiveness	Users should be able to successfully complete key tasks such as checking bills, reporting issues, or navigating to the water interruption map without errors.
Efficiency	We will measure how quickly users complete tasks and how many steps are needed. Fewer steps and time mean a more efficient system.
Learnability	New users should be able to understand how to use the app with minimal guidance. We will check if they can complete tasks on their first attempt.
Memorability	After a short break, users should remember how to use core features without needing to relearn.
Satisfaction	Through survey results and observation, we'll determine if users enjoy using the interface and feel confident using it in the future.

Test Participants

10–15 participants:

- Warehouse staff
- Delivery drivers
- Operations managers
- Clerical staff with low tech literacy

Prototype Tasks (Benchmark Tasks)

Participants will be asked to complete the following tasks during the test session. Each task is designed to test specific parts of the interface and ensure real-life relevance.

Table 3. Benchmark Tasks and Corresponding Evaluation Goals

Task	Goal
1. Login and view dashboard	Test navigation ease and system overview
2. Scan a QR code to update inventory	Test use of interactive map
3. Assign a vehicle to a delivery	Test delivery management features
4. Update profile or logout	Test user control and access functions

Roles of Team Members

Table 4. Team Member Roles During Testing

Team Member	Role
Member A	Facilitator – guides participant, explains task
Member B	Notetaker – observes participant behavior, logs errors
Member C	Survey & Debrief – assists with feedback forms and final comments

Success Time Benchmarks (Time-Based Interpretation)

Table 5. Success Time Benchmarks (Task Time Thresholds)

Task Type	Target Time	Interpretation
Navigation Tasks (e.g., login)	≤ 30 seconds	Successful
Interactive Tasks (e.g., QR)	≤ 1 minute	Acceptable
Complex Tasks (e.g., reports)	≤ 2 minutes	Acceptable
If > target time or errors occur	—	Review for redesign

Heuristic Evaluation (Nielsen's 10 Principles)

Our team will also conduct an internal heuristic evaluation, using Nielsen's 10 Usability Heuristics. Here's how LogistX addresses them:

Heuristic	Application in LogistX
Visibility of system status	Real-time updates on deliveries and inventory
Match to real world	Uses common logistics terms (e.g., "Add Vehicle", "Scan Item")
User control and freedom	Cancel buttons and confirmation dialogs
Consistency and standards	Uniform colors, buttons, and layouts
Error prevention	QR validation, auto-filled data fields
Recognition, not recall	Icon-based navigation and visible menus

Flexibility and efficiency	Power-user shortcuts and dashboard cards
Aesthetic, minimalist design	Clean layout, role-based displays
Help users recover from errors	Error messages like “Invalid QR” with clear fix instructions
Help/documentation	FAQ panel and tooltips built in

Participant Survey and Feedback

After testing, participants will complete a brief **post-test survey** to gather both quantitative and qualitative feedback. This will help us understand their overall impression of the app.

Table 6. Participant Survey Methods

Method	Description
Likert Scale Survey	Measures satisfaction, clarity, ease of use (1–5 scale)
Open Feedback	Asks what users liked, disliked, or suggest to improve

Sample Survey Questions:

- How easy was it to find the delivery vehicle status?
- Did the QR scanner work as expected?
- Was the interface clear and understandable?
- What would you improve?

Evaluation Rubric (Success Thresholds)

Table 7. 5-Point Likert Scale Interpretation Guide

Scale	Interpretation
5	Highly Acceptable (Effortless experience)
4	Acceptable (Few minor issues)
3	Neutral (Some difficulties)
2	Needs Improvement
1	Not Acceptable (Confusing, error-prone)

Scores below 3.5 will be reviewed and improved in the next iteration.