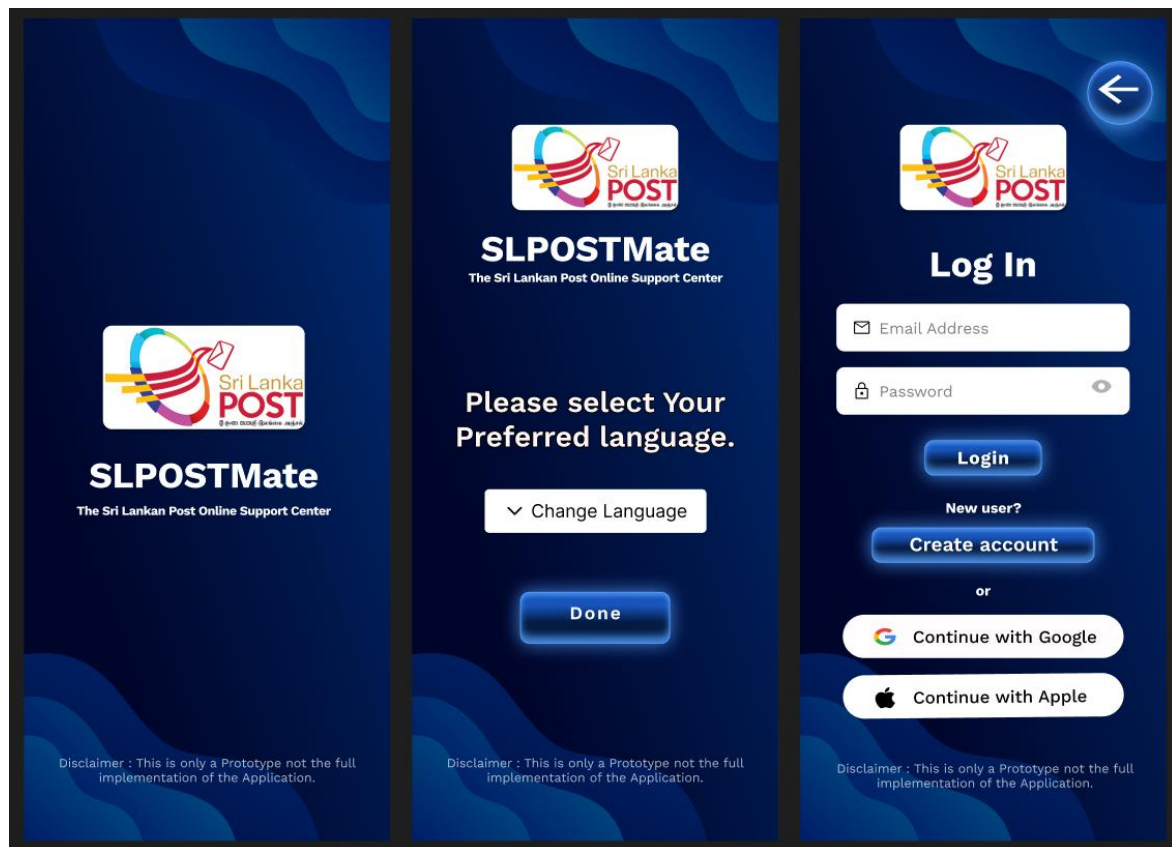


EEI4361 – User Experience Engineering

Mini Project

**Redesigning the Department of Post Sri Lanka Android Application with
Mindful UX Principles**



Group Number : 26

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Due Date : 27/11/2025

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Report Contents

1. Problem Identification
 - 1.1 Visual Audit of the Current Application
 - 1.2 Personas
2. User and task analysis
 - 2.1 User Analysis
 - 2.2 Task Analysis
3. Identified scenario
4. Prototype
5. Heuristic Evaluation
6. Thinking Aloud
7. Results (Of Heuristic Evaluation and Thinking Aloud)
8. Conclusion

01. Problem Identification

The Department of Post Sri Lanka Android application is designed to provide users with essential postal services, including **parcel tracking (local and global), postage calculation (local, international and Cash on delivery) and online help/support(Ask question)**.

Although the app provides essential services such as parcel tracking, postage calculation, and online support, its current design creates significant **usability and psychological barriers** for users. Instead of functioning as a helpful, user-friendly tool, the application resembles a raw database interface that lacks warmth, clarity, and guidance. This leads to **cognitive overload and delivery anxiety**, where users experience **stress and uncertainty** due to **unclear information flow and poor system feedback**.

The app particularly disadvantages non-technical users, including rural communities and the elderly, who rely heavily on **intuitive navigation and clear visual communication**. As a result, the existing SLPOSTMate interface **reduces efficiency, disrupts user trust**, and fails to deliver the **reliable, accessible** digital service experience expected from a national postal authority.

1.1 Visual Audit of the Current Application

A rigorous heuristic analysis of the live "SLPOSTMate" application (Current Version) reveals severe usability flaws that necessitate a complete redesign.

1. Lack of Onboarding & Identity Management (The "Stranger" Effect)

- **Issue:** The application has **no splash screen or introductory branding sequence**. It launches immediately into a cluttered dashboard, jarring the user.
- **Authentication Failure:** There are **no Sign-In or Sign-Up options**. The app treats every user as a stranger every time they open it. This prevents personalized features like "Saved Addresses" or "Order History," forcing users to re-enter data repeatedly. This repetitive manual entry is a major source of user frustration and error.

2. The "Identical Icon" Cognitive Trap

- **Issue:** The dashboard presents **six circular buttons** that utilize the **identical graphic** (the SL Post logo).
- **UX Violation:** This violates the **"Recognition rather than Recall"** heuristic. Users cannot rely on visual cues to distinguish between "Local Postage," "Global Tracking," or "COD." They are forced to read and decode the dense text labels every single time they use the app. This increases the "time to task" and cognitive load significantly.

3. Broken User Flows (The "Redirect" Problem)

- **Issue:** The application fails to keep the user within the app ecosystem.
 - Clicking "**COD Track**" redirects the user to an external mobile browser.
 - Clicking "**Global Track**" redirects the user to a separate website.
 - Clicking "**COD Ask**" also dumps the user onto an external webpage.
- **Impact:** This fragmentation breaks the user's mental model of an "App." It essentially functions as a bookmark folder rather than a software application. This erratic behavior destroys trust; users feel the app is "broken" or "lazy."

4. Visibility and Accessibility Failures

- **High Glare UI:** The interface is predominantly **stark white**. For delivery riders (like our persona Bandara) using the app outdoors in bright sunlight, this causes significant glare and eye strain.
- **Input Visibility:** The input fields lack distinct borders or "active states," making it difficult to see where to type.
- **Invisible Outputs:** The results of calculations (e.g., postage costs) are displayed in the same white space with poor typographic hierarchy. Users frequently miss the result because it blends into the background clutter.
- **Small Touch Targets:** The buttons are too small for the average thumb, violating Fitts's Law and making the app inaccessible for elderly users with reduced motor control.

Google forum Survey Comments - Original app

What do you think about this application, Please answer briefly.

5 responses

The interface is a stressful, unclear wall of white text that looks like a raw database, not a modern app

Not user friendly look very bad

The app is not very user-friendly. The interface feels confusing and hard to navigate. Please improve the design, make options easier to find, and simplify the overall user experience.

It's not user friendly

1. The interface is a stressful, unclear wall of white text that looks like a raw database, not a modern app.

2. I cannot know about the status of my parcels.

3. The app looks way more classic and ugly.
Too much white spaces.

4. Zero visibility

1.2 User Personas

To make sure our redesign truly understands real people, we created five personas that represent different types of Sri Lankan users and their everyday needs when using postal services.

Persona 1: Entrepreneur

- **Background:** Middle age small business owner
- **Problem:** Finds the SLPOSTMate app confusing because all functions use the same-looking icon. This makes it hard to identify and use features quickly.
- **Mindful Goal:** Wants distinct, clearly designed icons so that each function is easy to recognize and use efficiently.

Persona 2: Mis Mallika (Rural area women)

- **Background:** 54-year-old women
- **Problem:** Sending parcels abroad is stressful because tracking requires visiting separate websites and repeatedly entering information. The SLPOSTMate app is confusing and hard to use.
- **Mindful Goal:** Wants a simple, intuitive app that shows all tracking information in one place, with easy navigation and minimal repeated data entry.

Persona 3: Nuwanthi (The Digital Native)

- **Background:** 27-year-old online worker.
- **Problem:** Accustomed to Uber and PickMe. She finds the SL Post app's lack of login and ugly interface "embarrassing." She abandons the app because it redirects her to the browser.
- **Mindful Goal:** Wants a fast, modern experience with dark mode, smooth gestures, and an app that keeps everything inside without interruptions.

Persona 4: Mr. Sooriyawela (The Pensioner)

- **Background:** 70-year-old retired person
- **Problem:** He cannot read the small text on the white background. The lack of graphical icons means He constantly clicks the wrong button.
- **Mindful Goal:** Accessibility. he needs non-high-contrast visuals, large text, and language options

Persona 5: Lasith (The Rider)

- **Background:** 25-year-old delivery partner.
- **Problem:** Uses the app while on a motorbike. The glare from the white screen is blinding specially at night. The small buttons are impossible to hit with gloves on.
- **Mindful Goal:** Safety. He needs a "Non-High Contrast Mode" and Bigger Buttons.

02. User and Task Analysis

2.1 User Analysis

The SLPOSTMate app is used by a wide range of people across Sri Lanka, with different levels of digital literacy, geographic locations, and postal service needs. By understanding these users, we can design a system that is intuitive, efficient, and addresses the challenges of various user groups.

Upon opening the app, users encounter a simple UI with six main buttons:

SLP Local Postage Calculator

SLP Foreign Postage Calculator

SLP COD Calculator

SLP COD Tracking

Global Tracking

SLP COD Ask

Official SLPOSTMate android application interfaces:

<https://drive.google.com/drive/folders/1o8UrVgHBSYgAFec6YpwruArw19VbJHzZ?usp=sharing>

The app **does not require login or sign-up**, which simplifies access but also prevents personalization and secure record-keeping. The interface is **basic**, with white backgrounds, minimal visual hierarchy, and no visual cues to indicate the steps or feedback for user actions. Since postal services are used by a very wide population, our app targets users across different age groups, digital skill levels, and geographic

General Citizens (Young, Middle-Aged, and Elderly)

- **Needs:** Simple navigation to access postage calculators, tracking, and customer support. A clear interface with readable text and minimal step.
- **Challenges:** No guidance, unclear buttons, and lack of visual hierarchy, Difficult for elderly users to understand where to go next.
- **How redesigned app helps:** Guided screens, larger icons, language selection, help options, and clear call-to-action buttons.

Small Business Owners & Online Sellers

- **Needs:** Quick cost calculation, COD support, customer care, and faster issue resolution. Ability to upload photos (damaged parcels, wrong delivery, payment slips).
- **Challenges:** - No customer care system, Had to call post offices separately or visit physically.
- **How redesigned apps help:** In-app live chat, photo attachments, hotline call button, and instant responses.

Youth and Tech-Savvy Users

- **Needs:** A visually appealing, modern UI with login, personalization, notifications, and fast access.
- **Challenges in old app:** No login or account system, no personalization, no message center.
- **How a redesigned app helps:** clean dashboard, user profile, saved history, and modern UI patterns.

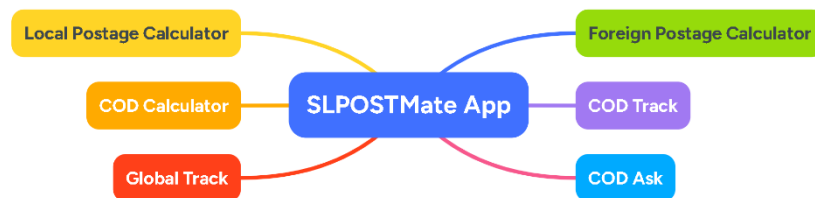
Postal Staff (Indirect User Group)

- **Needs:** Customers who contact them through a structured system
- **Challenges:** Clear information when users report issues.
- **How a redesigned app helps:** Messages come with photos and structured details, making problem-handling easier.

2.2 Task Analysis

Objective: Enable users to calculate the cost of sending a local parcel efficiently.

Current Workflow (End-to-End)



Step 1

- User Action - Open SLPOSTMate App
- App Response - Main screen with six buttons displayed
- Issues - Plain UI, no login or guidance

Step 2

- User Action - Tap SLP Local Postage Calculator
- App Response - Opens white screen with input fields
- Issues - No instructions or visual cues; users may be confused

Step 3

- User Action - Enter parcel details (weight, Select category)
- App Response - App calculates the postage
- Issues - Repetitive entry required for each parcel

Step 4

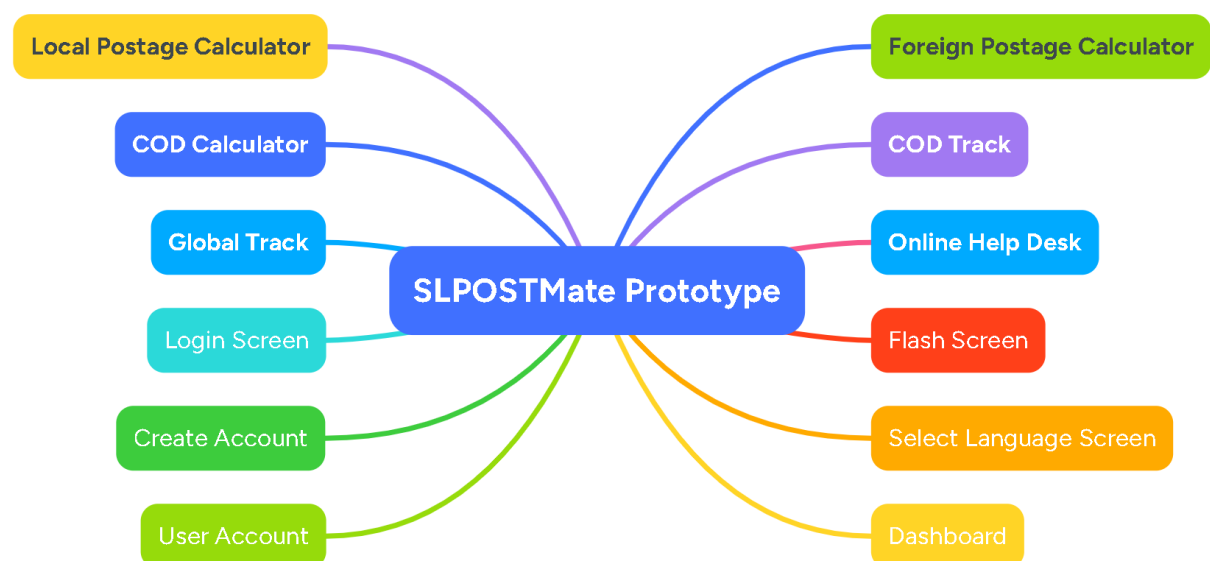
- User Action - Submit
- App Response - Display cost
- Issues -No feedback, no history, no way to save information

Step 5

- User Action - Calculate another parcel
- App Response -User repeats step 3
- Issues - Time-consuming and inefficient

Ideal Workflow (Proposed / End-to-End)

Step	User action	App Respond
1	Open app	Welcome screen and Login(New user create account)
2	Enter Login Details	Preview Dashboard
3	Select Postage Calculator	Preview Ui in local and foreign calculators. Select local postage calculator
4	Enter parcel details and delivery type	Real-time validation
5	Submit	Cost Display
6	Back	Preview main dashboard



03. Identified Scenario

Scenario Overview:

The redesigned SL Postal Mobile Application introduces several new and improved features aimed at solving the major limitations of the previous version of the app. One of the most important additions is the **Customer Care module**, which includes in-app live chat, message support, photo attachments, and a direct hotline call feature. This scenario presents a realistic situation of how a Sri Lankan citizen uses the improved system to solve a postal-related issue efficiently.

The chosen user for this scenario is **Lakshmi**, a 45-year-old teacher from Galle, who often sends parcels and documents to her daughter studying in Colombo. Lakshmi has basic smartphone knowledge but struggles with complex or unclear apps. Previously, she had to rely on calling local post offices or physically visiting them whenever issues occurred. With the new redesigned mobile app, she experiences a guided, supportive, and user-friendly system that reduces effort and confusion.

Starting the Interaction:

Lakshmi opens the new SL Postal app. The splash screen leads to a Language Selection, and she chooses Sinhala. The Login/Sign-Up screen appears; she logs in with her mobile number and password. The app then welcomes her with a clean Dashboard featuring large, clear icons.

- Postage Calculator
- Parcel Tracking
- COD Services
- Customer Care
- Notifications
- Profile Settings
- Help & Guides

The new dashboard layout and modern UI make Lakshmi feel confident rather than overwhelmed.

Identifying the Problem:

Lakshmi recently sent a parcel containing essential documents to her daughter in Colombo. The usual delivery time is two days, but it has already been four days with no update. She tried calling the local post office, but the line was continuously busy, and she could not get through. Previously, she would have had to either:

- physically go to the post office again,
- search online for a hotline number, or
- try multiple calls with no guarantee of help.

With the new app, she decides to use the **Customer Care** feature.

Accessing Customer Care:

From the dashboard, Lakshmi taps on the **Customer Care** icon.

The Customer Care screen gives her two clear options:

1. **Live Chat Support**
2. **Call Hotline**

The interface also displays a short description informing her that chat support can assist with parcel queries, postage information, complaints, and document verification.

Lakshmi chooses **Live Chat Support** because she wants to share the photo of her parcel slip for faster assistance.

Using the Live Chat Feature

Once the live chat window opens, Lakshmi is greeted by an automated welcome message:

“Welcome to SL Post Customer Care. Please tell us how we can help you today.”

Lakshmi types her issue in Sinhala, explaining that her parcel has not arrived, and she wants to know its current status.

The chat also includes an **Attach Photo** button, allowing users to send relevant images for verification.

Lakshmi taps the attachment button → selects the camera → takes a photo of the parcel slip → sends it.

The redesigned system shows a small preview of the image, giving Lakshmi confidence that the correct document was uploaded. Within a few seconds, a customer care agent responds:

“Thank you, madam. We are checking the parcel status. Please give us a moment.”

The agent accesses the internal tracking system and verifies the parcel’s route. After a short while, the agent replies with the latest update and confirms that the parcel is currently at the Colombo Sorting Center and will be delivered the next day.

Lakshmi feels relieved. With the old app, she would never have received this level of support.

Hotline Call Option (Optional Step)

Lakshmi notices that her issue is now resolved, so she does not need to call. However, the **Call Hotline** button is included on the same screen for urgent matters like:

- parcel damage
- lost parcel
- COD payment issues
- incorrect delivery address

This gives users a sense of reliability and faster access during emergencies.

Returning to the Dashboard

Once the conversation ends, Lakshmi taps the **Back** button.

She is taken back to the dashboard, where she sees a new notification alert under “Notifications.” The app automatically saves her chat history so she can return to it later for reference. Lakshmi appreciates that everything feels organized, modern, and easy to use.

Outcome and User Benefit

The new Customer Care feature helped Lakshmi:

- get real-time assistance
- avoid multiple calls
- avoid traveling to the post office
- send pictures for verification
- receive clear guidance and parcel updates
- feel confident using the app

The redesigned application successfully addresses the major weaknesses of the old SL Post App by offering:

- improved user experience
- guided workflow
- immediate support
- better issue resolution
- accessibility for all ages

Through this scenario, the significance and real-life usefulness of the new **Customer Care** module are clearly demonstrated. The feature enhances transparency, reduces customer frustration, and supports the overall goal of creating a user-friendly, modern national postal service app.

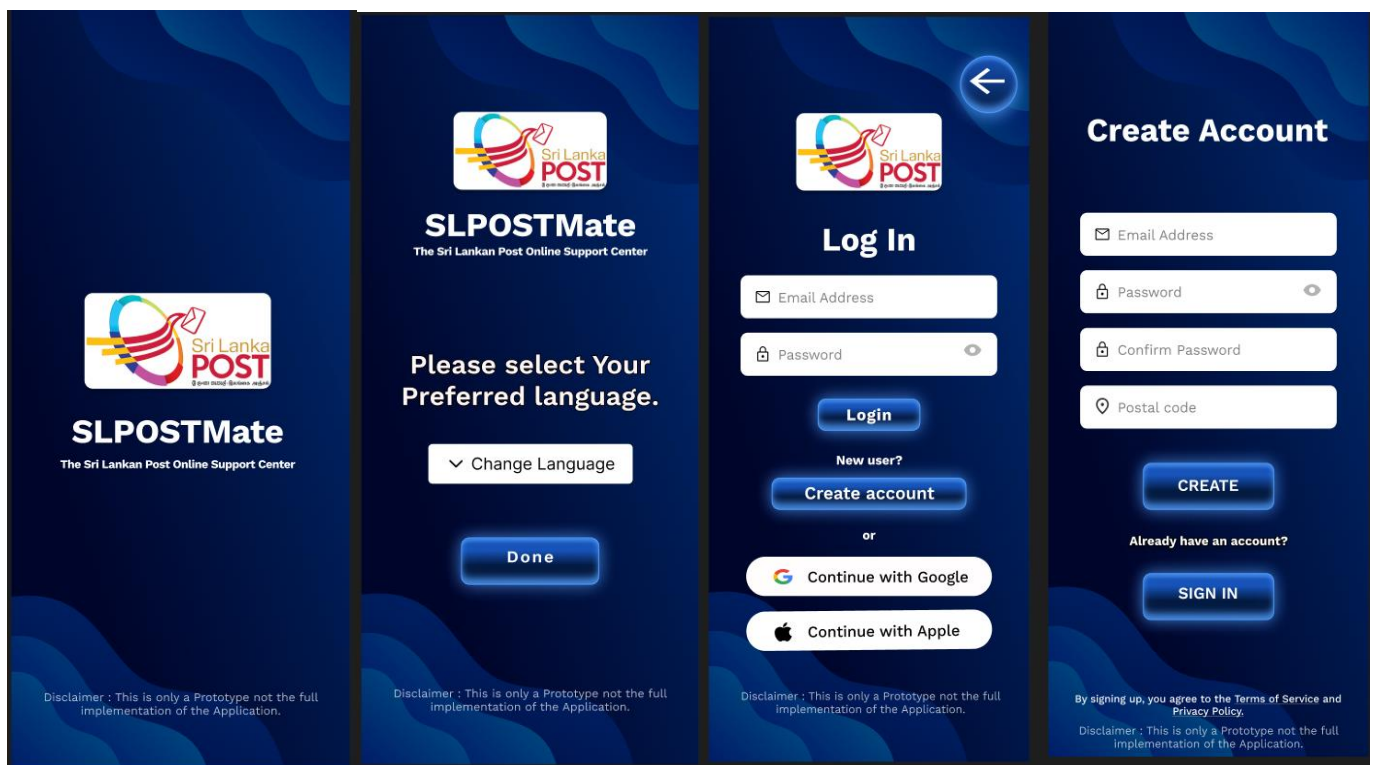
04. Prototype

The **SL Postal app prototype** provides a clear visual and functional overview of the redesigned platform. It helps stakeholders, designers, and developers understand the app flow, evaluate usability, and gather feedback from potential users before full development.

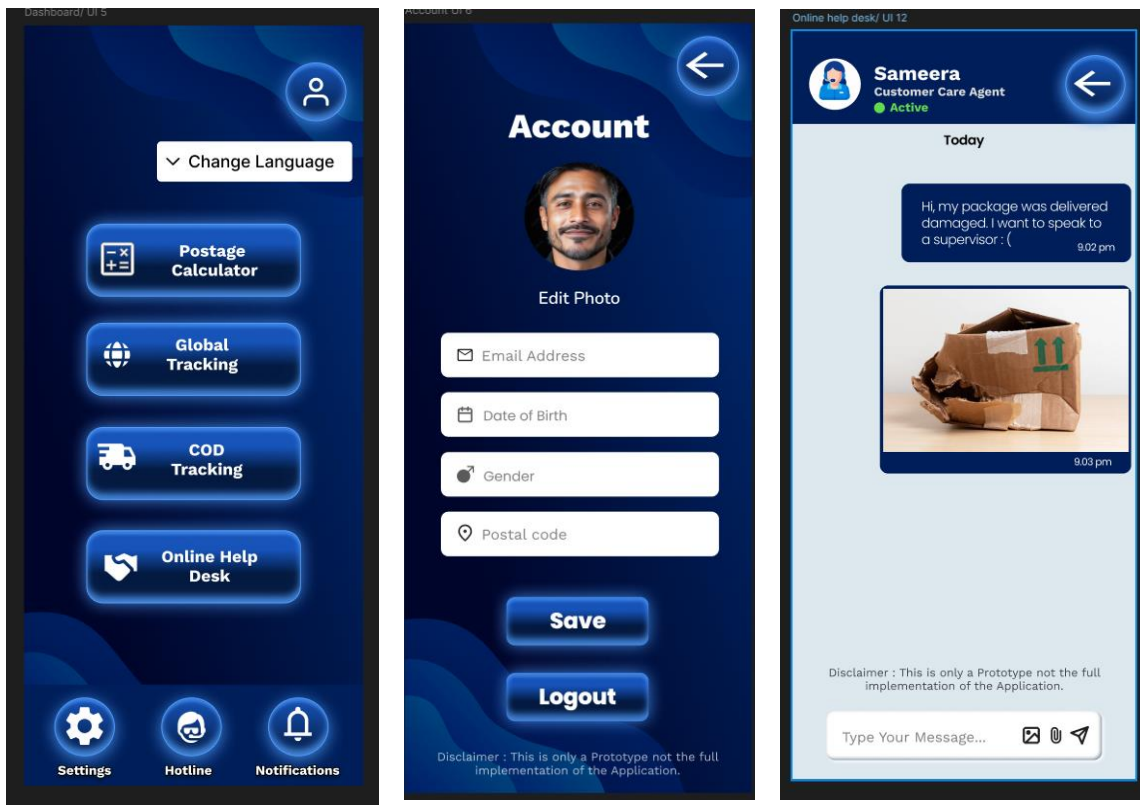
Wireframe : <https://drive.google.com/drive/folders/1CXYir2q1f5eIOcZ9gK5hPd3vaxZ3Togt>

Prototype: : <https://www.figma.com/design/Ae08fcP2yQ3qmMBAnJDE4R/SLPOSTMate-Prototype?node-id=0-1&t=qaFaijy2s2xknzV7-1>

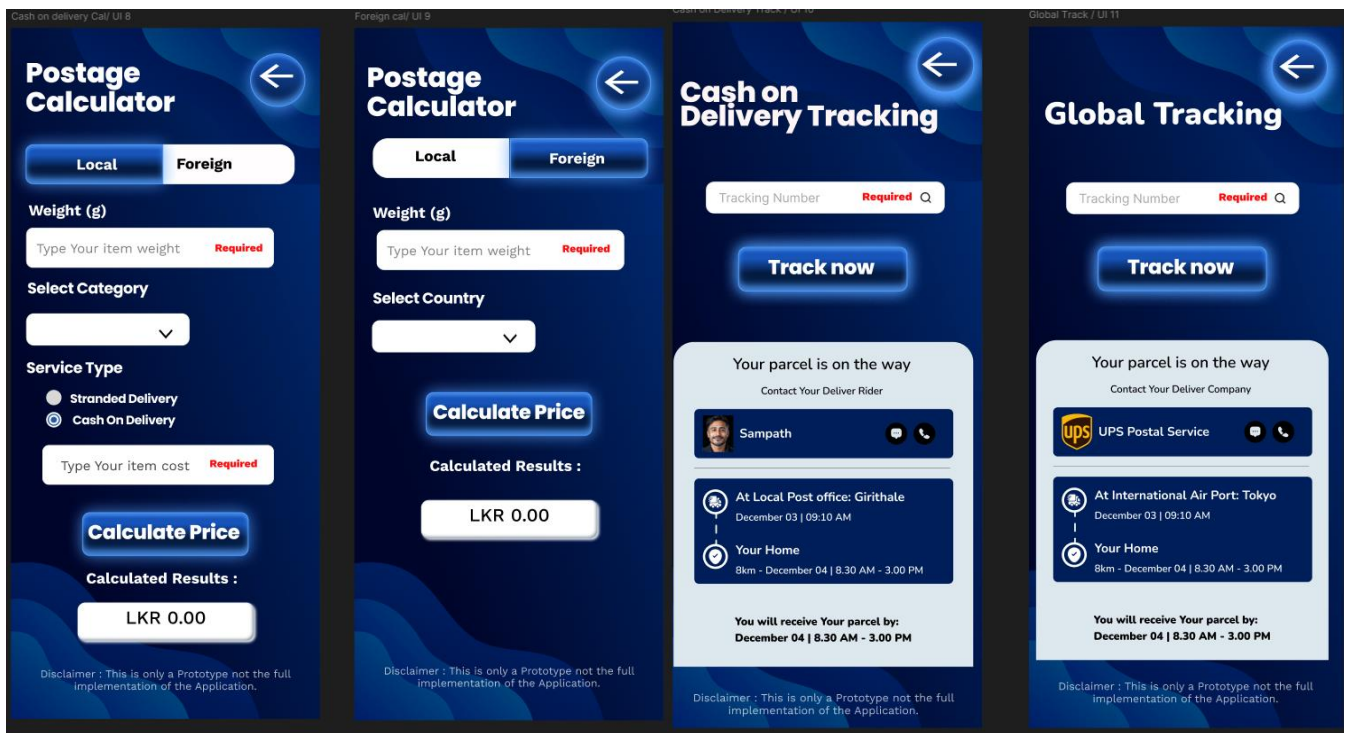
Welcome Screen , Language select , Login & Create account



Dashboard, Account And online help desk



Postage Calculators AND Tracking



05. Heuristic Evaluation

We conducted a Heuristic Evaluation of the **new prototype** with 5 evaluators (Software Engineering students).

Evaluator 01: Pradeep Niranga Undergraduate @OUSL 3rd Year -Software Engineering

I did a successful heuristic evaluation on the SLPOATMate design. Here is my experience. UI design looks modern and clean with good spacing between elements and readable text. All necessary details are clearly shown providing good accessibility. What needs to be improved is the inconsistent text alignment. For example, in the tracking screen, the white space of “Your parcel is on the way” is not centered or spaced correctly, making it not aligned with the screen. Also, some headings are left-aligned while others appear slightly shifted. Buttons could be a bit larger for better touch use, Back navigation arrow looks a little sketched. If this is going to be used as an official government service app, I suggest using the Sri Lanka Postal Service colors with light theme colors. Other than these, I recommend to add "Department of Post" logo to the Dashboard screen.

The UI looks good, clean and easy to understand, but aligning text properly and keeping consistency will improve the user experience.

Evaluator 02: Danuja Isuru Undergraduate @Esoft Metro Campus Final Year -SE

I did a successful heuristic evaluation for the SLPostMate Mobile app. When talking about the visibility of the app there have been no issues. Because within the first impression user can get an idea of what is about it. but I have small concern in colors used in buttons. Bright sunlight makes the buttons difficult to see when users are outdoors. Because some users are using this app in out. So users cannot see the screen properly with the effect of sunlight. Therefore, my recommendation is to use the clear visibility buttons. The minimalistic design gives a better user experience.

Evaluator 03: Selena Aria Senior UI/UX Designer Clearbridge Mobile — Toronto

The redesigned Sri Lanka Postal Service mobile app is a significant improvement over the original version. The new set of 12 interfaces—including splash screen, language selection, login, customer care, postage calculator, and live chat—creates a smooth, intuitive, and user-friendly journey that was missing in the previous app.

Overall Design Quality

The visual hierarchy is clear, spacing is consistent, and typography is readable. The updated color palette and button/icon styles enhance clarity and usability, giving the app a modern and cohesive look. First-time users can easily navigate and understand the interface.

Functionality and Usability Enhancements

The original app lacked key features such as login, user accounts, and direct customer support. The addition of the **Customer Care module with live chat, call, and image-sharing support** provides real operational value, making the app more interactive and responsive. Language selection improves accessibility for a broad user base.

Areas for Minor Improvement

- Standardize icon sizes and spacing across screens for consistency.
- Improve color contrast on buttons for outdoor visibility.
- Slightly enhance visual weight of key components in the dashboard and profile screens.

These refinements are minor and do not affect usability but will make the design feel more polished and professional.

Overall Impression

The redesigned SL Postal app is visually clean, functionally richer, and significantly more user-friendly than the original. The added features demonstrate a strong understanding of user needs. With minor refinements, this app can meet modern government service standards and provide an excellent user experience.

Evaluator 04: B.L.Attanayake Undergraduate @University of Colombo 3rd Year (BIT)

I evaluated the SLPOSTMATE app from the perspective of a regular user. The first impression is positive because the app uses familiar icons and simple terms. According to the heuristic Match between system and real world, the functions clearly reflect postal services such as “Local Postage”, “Tracking”, and “Help Desk”.

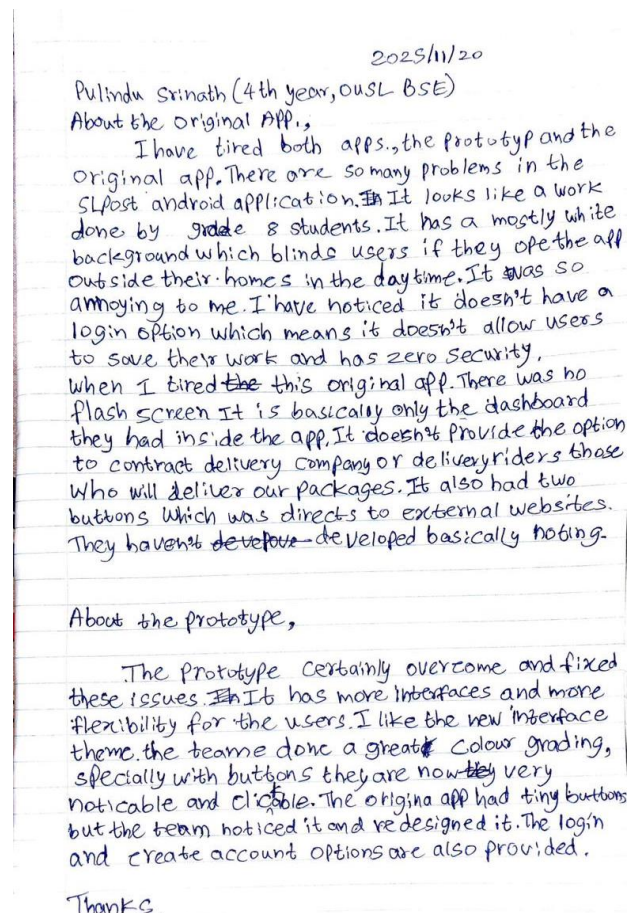
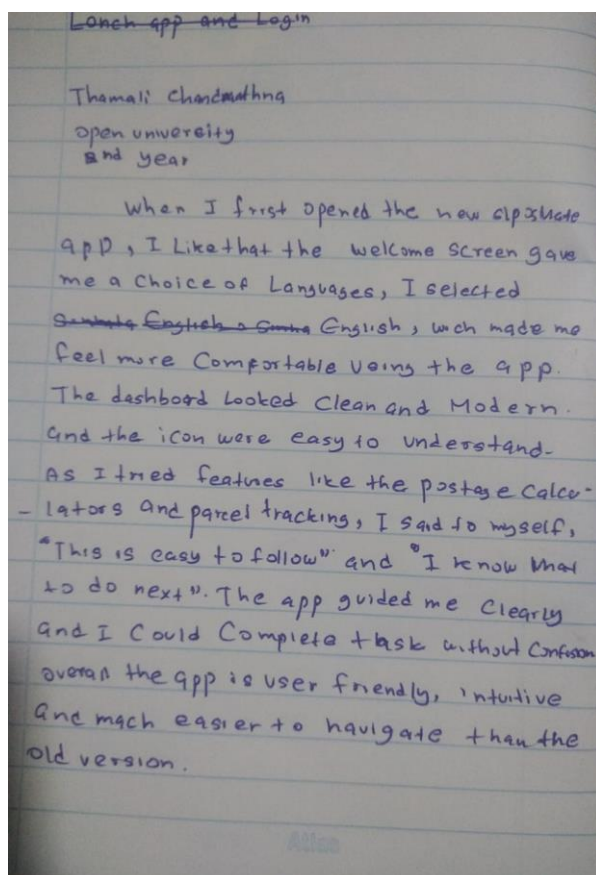
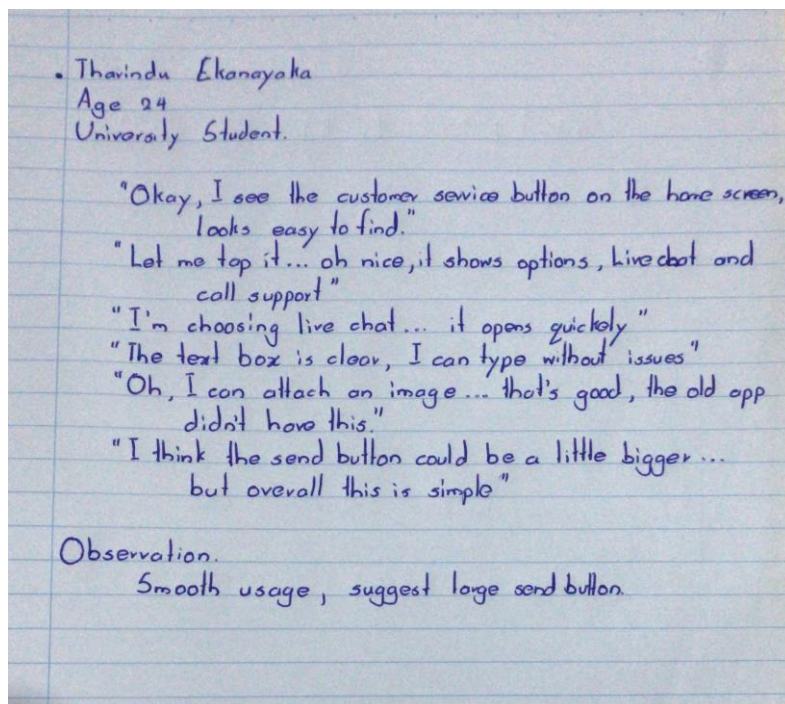
One concern is about consistency and standards. Some buttons use different sizes and alignment across pages. My recommendation is to standardize the button styles throughout the app. Apart from that, the application is straightforward and user-friendly.

Evaluator 05: Hansika Sewwandi Undergraduate @ Wayamba university 3rd Year –BSc in computer management & information system

I had a great experience reverting the SLPOSTMate app and tempest with its capacity and clarity .the abs language and icons are straight forward, making it for me to understand the different features and service offered .the color scheme seems consistent .but it would be great to see some more color variations to add visual interest.my recommendation is try ti keep all buttons, fonts and color consistent on every screen. Add real sample details and a few error or confirmation message to make feel more complete overall it's very user friendly and I think it will be a great app for users who need to access postal services.

06. Thinking Aloud Evaluation

Thinking Aloud Evaluation We have selected the five users outside the team and conducted the thinking aloud. Allowed them to experience the user interfaces.



No: _____ Date: ____/____/____

User persona

Name - Vidura Rajapaksha (Continuing his own slipper business through online platforms. Familiar with)

Age - 28 yrs old

Background - He is very familiar in using these kind of mobile applications. Not that much with these kind of prototypes but comfortable with mobile applications.

Task - Login to the system and calculate the price for 250g . Local Cash on Delivery parcel.

Observations :

- " Okay, Going in. We are getting the language selection part as the initial step. I like that actually."
- " Okay now I have to create a new account as a fresh user right? There is the create account button. It is clearly visible and that is a plus point."
- " Okay. Fill all the details and click "create". Oh. It's done. It is kind a simple actually. "
- " This postage calculator button will surely serve my purpose. Easy to understand and no confusions or hesitation."
- " okay. I entered the weight and select category. Click cash on delivery and enter package price, Click "calculate".
- " Okay As far as I can see, these ui's are very low in user confusions. I mean we do not have to think a lot and hesitate before making a move. That is a good thing. It would be great if it showcased standard COD prices, I mean within but overall this very easy to use and less in confusions."

Final Analysis:

Clear step by step flow
less in user confusions and hesitations.

Suggestions : Display standard COD prices.

B.L. Attanayake,
3rd Year - Bachelor of Information Technology (BIT)

" Okay, I see the Local Postage Calculator button on the dashboard, Looks easy to find. "

" Let me tap it. Oh it opens fast. "

" Now it asks Local or foreign. I choose Local. "

" Now it asks for ~~the~~ item weight. I will type it here "

" I select service type as standered delivery "

" I pressed Calculate and it showed the price "

" It would be nice if service type select button was larger and easier to tap. "

" overall, this page is simple "

Observation:

Smooth usage, Visible buttons.

Our Google Forum Survey

<https://drive.google.com/drive/folders/1mRoPfSegNYETaOPjUIqjFMS7w4OtEjra?usp=sharing>

07. Results

The combined findings from the **Heuristic Evaluation** and **Thinking Aloud Study** demonstrate that the redesigned SLPOSTMate application offers significant improvements in usability, user satisfaction, and overall interaction quality compared to the original app

Positive Effects

Among all evaluators, the following strengths of the redesigned prototype consistently emerged:

1. Modern and Intuitive Interface

Participants appreciated the clean layout, improved color palette, and well-organized structure. The redesigned screens presented:

- Clear visual hierarchy
- Consistent spacing
- Readable typography
- Large, identifiable icons for quicker identification

These changes reduced cognitive load and helped users complete tasks more easily.

2. Improved Navigation and Flow

Users noted that the introduction of:

- Onboarding: Splash + Language Selection
- Login & account creation
- Structured category dashboard

This has made the application far more comprehensible to those even without a technical background.

3. High-Value Functional Enhancements

The new Customer Care module, especially the introduction of live chat, photo attachment options, and hotline calls, was the most impactful. According to the testers, this is a direct solution to real-world problems in the user experience at the post offices, which greatly improves usability and trust.

Minor Issues Identified

Although overall feedback was positive, evaluators noted several minor usability refinements needed before final implementation:

1. Inconsistent Alignment

Some screens showed slight misalignment in:

- Text blocks
- Headings
- System messages
- This occasionally disrupted visual flow.

2. Button Visibility in Outdoor Conditions

Evaluators reported that several of the button colors were not easily visible in bright sunlight. This may be especially problematic for

- delivery riders
- elderly users
- Rural users using devices outdoors
- They recommended higher-contrast color combinations.

3. Standardization of Icons and Component Sizes

Several of the screens used icons or buttons that were not of the same proportion. Having them match would complete the professional feel.

Feedback From Thinking Aloud

Participants said during the Thinking Aloud sessions:

- They could complete tasks faster.
- They felt less confused than with the original app
- The interface “felt like a modern government service app”.
- The customer care feature gave a sense of reliability and security.

08. Conclusion

The new SLPOSTMate mobile application resolves the fundamental usability, accessibility, and functional issues present in the original system. This project illustrates how a digital service at the level of a nation can be transformed into a user-centered, intuitive, and emotionally supportive platform by following a comprehensive UX process, including problem identification, the development of personas, task analysis, the creation of scenarios, prototyping, heuristic evaluation, and thinking-aloud testing.

The new design solves major pain points such as a lack of onboarding, an absence of account management, identical icons, and broken flows that would previously redirect users to external webpages. By introducing structured screens, better visual hierarchy, legible iconography, and personalized dashboards, the cognitive load is drastically reduced; thus, the efficiency of navigation increases significantly for users across different age and digital literacy groups.

Changes include the impactful addition of a Customer Care module, including an integrated feature for live chat, direct hotline communication, and image sharing. Reviewers mentioned that this feature is a breakthrough addition to the existing system because it enhances real-world problem-solving, especially for users who would have otherwise needed to call or make physical visits to post offices. Workflows have been redesigned to also support accessibility through large touch targets, high-contrast options, multilingual interfaces, and enhanced visibility for outdoor usage.

Heuristic evaluators' and thinking-aloud participants' feedback exhibits very strong approval of the redesigned interface, pointing out its modern look and feel, improved spacing, and smooth user flows. The main design goals have been accomplished, but evaluators identified minor refinements that would further enhance professionalism and outdoor usability, such as consistent text alignment, greater button contrast, and icon sizing consistency.

In all, the project shows that applying mindful UX principles can dramatically improve user trust by reducing effort and offering a more responsive service experience. The redesigned SLPOSTMate prototype stands firm as a robust, user-centered solution that can meet the modern expectations of a national postal service application and contribute to making the digital ecosystem more efficient, accessible, and reliable for all Sri Lankan citizens.