PAPER ROUTE

Android Application

Abstract

The "Paper Route" is a mobile application designed to transform the newspaper distribution process for newspaper distributors.

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1 Introduction

1.1 App overview

The "Paper Route" is a mobile application designed to transform the newspaper distribution process for newspaper distributors. This application offers a range of features aimed at simplifying trip management, optimizing delivery routes, and enhancing subscriber service. With its user-friendly interface and powerful functionality, the app aims to streamline operations and improve overall efficiency for newspaper distributors.

1.2 Target audience

The " Paper Route" app is specifically designed for newspaper distributors who cover a designated area for newspaper deliveries. It caters to both distributors handling daily newspaper subscriptions on weekdays and those managing once-a-week newspaper subscriptions. The app is suitable for distributors of varying technical expertise and is aimed at streamlining their operations and enhancing their productivity.

2 Technologies Used

2.1 Technologies

- Android version 8.1
- Java Language
- Json
- XML
- PHP
- SQL Lite Data Base
- Android Studio 2022

2.2 Hardware & Software Requirements

- Minimum Android version should be 8.1.
- Smart phone with Android operating system
- Minimum RAM 2GB

3 Key Features

3.1 Trip management

- The app allows distributors to easily plan and track their routes, ensuring that newspapers are delivered on time and to the correct locations.
- Distributors can download the delivery plan for each trip, which includes all the necessary details of the subscribers in a single XML/JSON file. This file contains information about drop-off points, paper types, subscription plans, and payment details.
- The app integrates with the Google Maps mapping service, to display the distributor's current location and the locations of designated drop-off points. This feature helps distributors navigate their routes efficiently.

3.2 Delivery optimization

- The app uses GPS and other data to help distributors optimize their delivery routes, saving time and fuel.

- Distributors can view detailed information about each drop-off point, including the type of paper(s) to be delivered, subscription details, and delivery history. This enables them to provide personalized service to each subscriber.
- Distributors can mark and update the delivery.

3.3 Subscriber service:

- If a subscriber's subscription is expiring within the next few weeks, the distributor can leave a renewal-reminder, ensuring subscribers have the opportunity to renew their subscriptions promptly.
- The app operates even without an internet connection, allowing distributors to work efficiently while on the go. Updates and delivery status changes are stored locally and synchronized with the server once an internet connection is available.

4 User Manual

4.1 Login & Access Control

1. **User's User Name** – User must enter the correct username.
2. **User's Password** – User must enter the correct username.
3. **Cardinality mismatch message** – Username, Password or both are wrong.

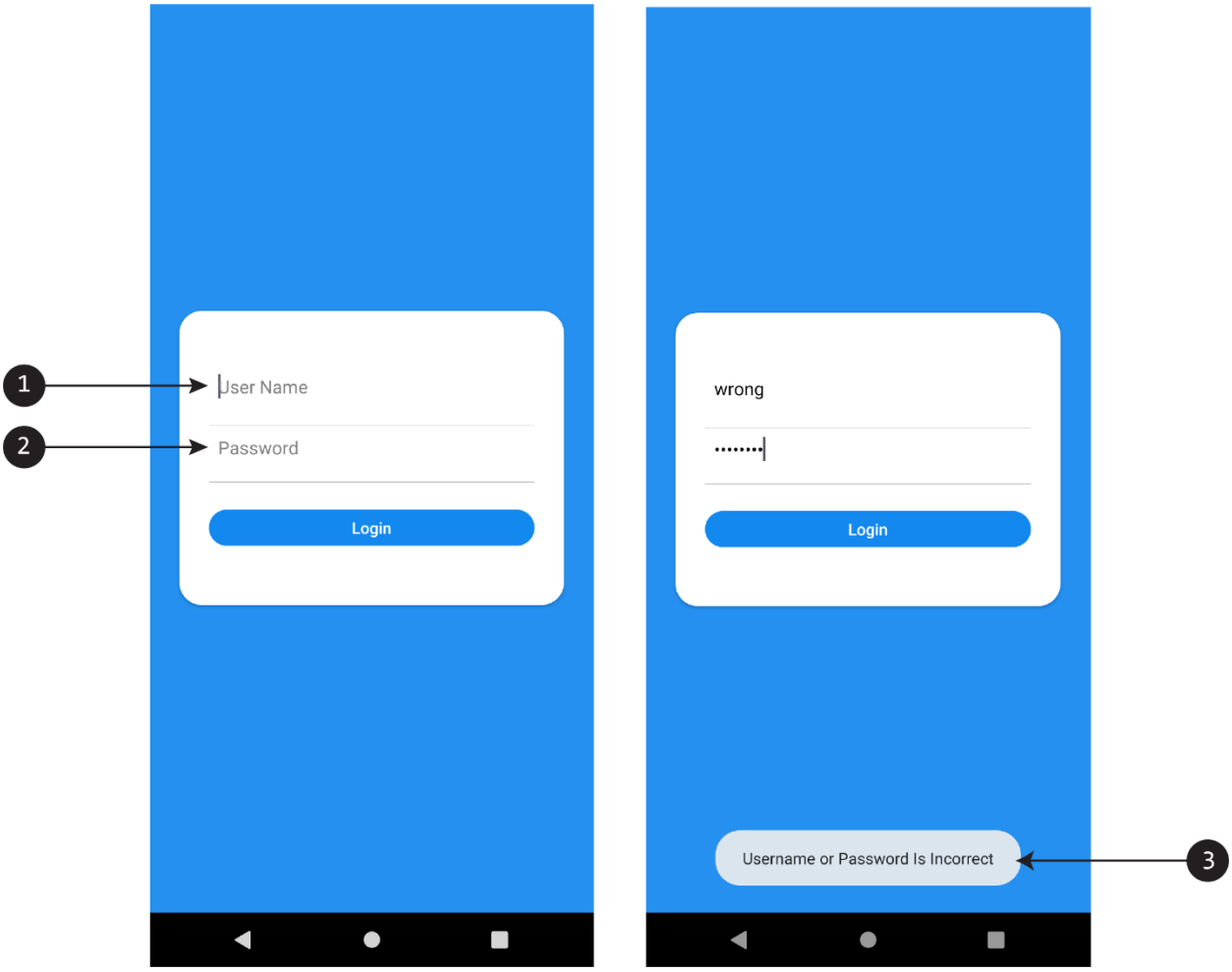

Figure 1 Login Screen

4.2 Dashboard

4. Greeting Message with logged user's name
5. Users count subscription about end.
6. Upcoming Delivery count and details – User may touch to see the subscriber's details.
7. Completed Delivery count and details – User may touch to see the more details.
8. Button Sync Now - Download and sync the details from the server to the device.
9. Navigation – Map with subscriber's location and data and user's current location.
10. Schedule – All the subscribers' data (Name, Address, Phone Number) with delivered marker.
11. Next Delivery - Directly provide the navigation for next delivery.
12. Next delivery Username and City with directions.
13. Update Again - Redownload and sync of data from the server to the user's device.
14. Last synchronized date from the server.

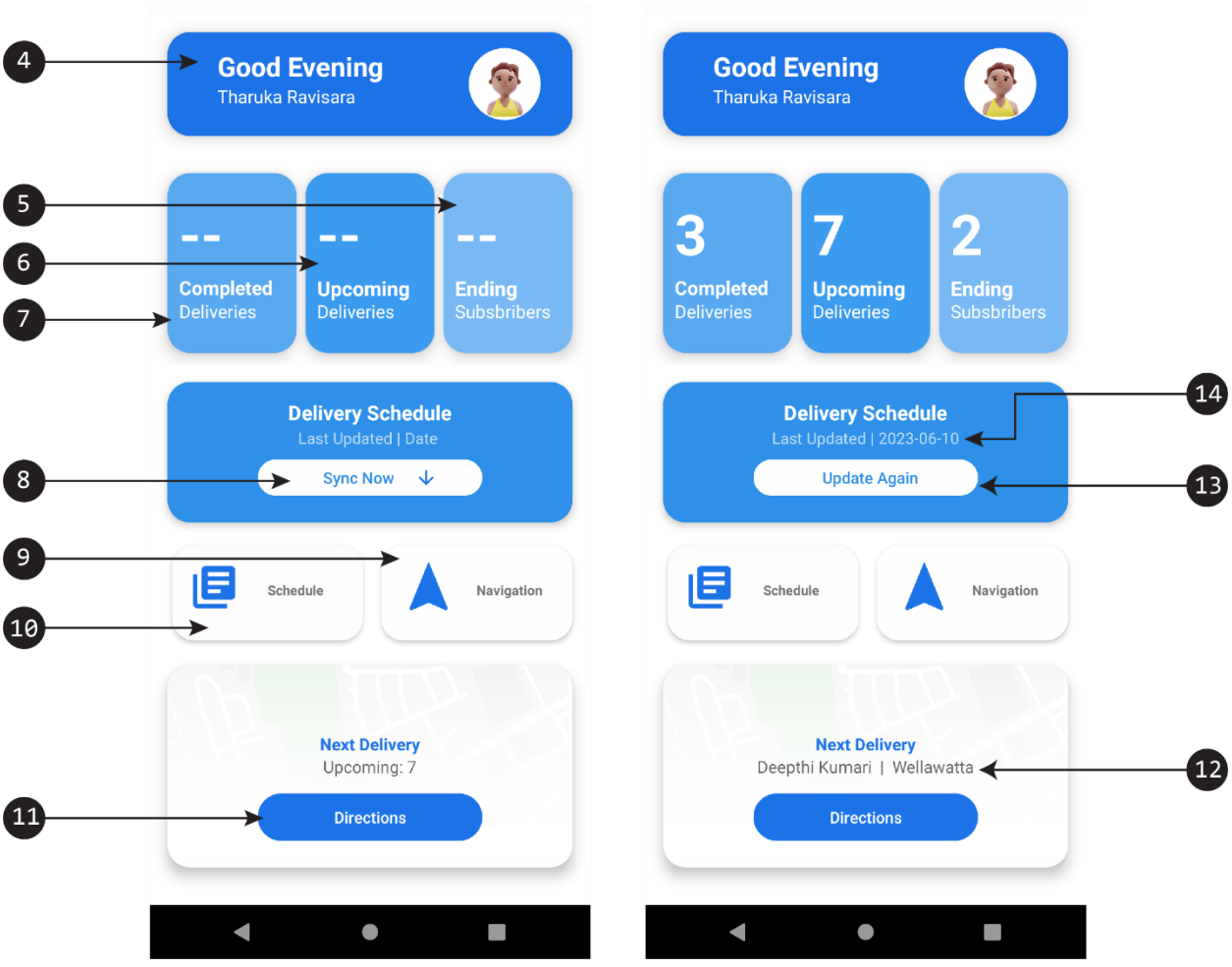

Figure 2 Dashboard

4.3 Navigation & Map

15. Button Offline – This will download the necessary area of your route to mobile device to access in offline.
16. Blue Marker - Subscriber's location/ Delivery drop off locations.
17. Green Marker – This will show the User's current location from GPS.
18. Blue line shows the most suitable route to the trip between blue markers.
19. Show Trip - This button should be clicked to show the route.
20. My Location – This may show the current location of the user from Green Marker.
21. Provide directions directly from Google Mapping service in Google Maps Application.
22. Make a call to relevant subscriber via device's call application.
23. Dialog Box - User should click the blue dot to see the dialog box, includes (Address, News Paper, Valid Till date).

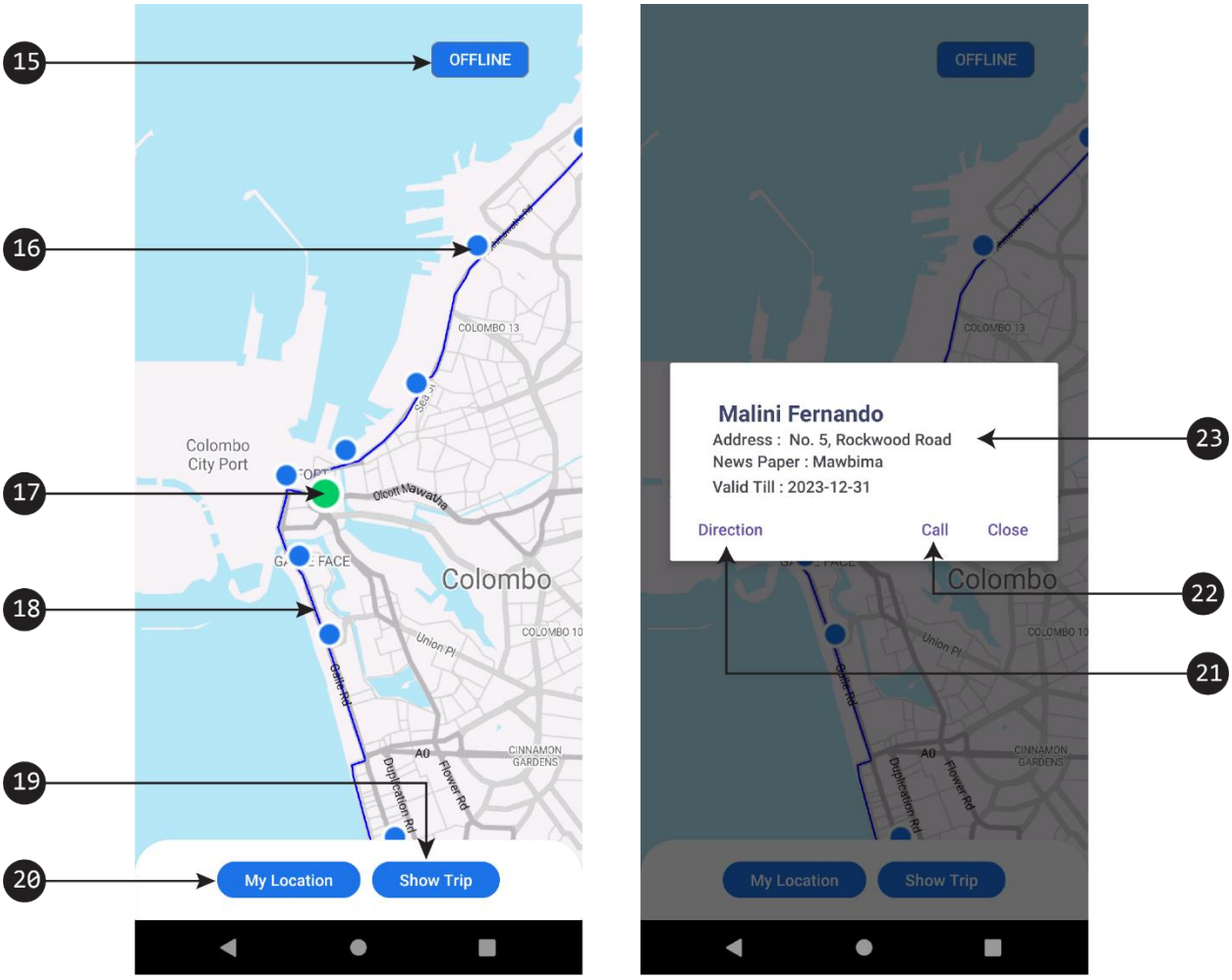

Figure 3 Navigation & Map

4.4 Data Handling

24. Direction - Directions to the subscriber through Google Mapping Service.
25. Delivered – Confirmation of the delivery, this will update the offline database.
26. Logout – Log out from the application, this will redirect the user to the login screen.
27. Upload To Server - Upload data to the server forcefully in addition to the automatic method.