

GROUP 20

**INTERNET PROGRAMMING AND MOBILE
PROGRAMMING
CEF440**



NETPULSE
ONE APP, ALL THE NETWORK GIST

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TASK 5:

UI DESIGN AND IMPLEMENTATION

INTRODUCTION:

This task focuses on the design and implementation of the user interface for the **NetPulse** mobile app. Building on system models developed in Task 4, this task brings the app to life through visual design and front-end development. It covers the creation of the app's identity, layout of key screens, and implementation of interactive components to ensure a smooth and user-friendly experience for collecting network feedback.

1. App identity:

The identity of **NetPulse** app is design to reflect its core function- giving users a voice in their mobile network experience. It combines visual simplicity with clear usability.

App name: **NETPULSE**

Logo: A letter N designed with a circuit-line pattern to represent technology, connectivity and networks.

Colour palette:

- ✓ Primary colour **light cyan blue**(#33CCFF) which gives cool, trustworthy and digital-feel.
- ✓ Background colour **white** for readability.

Typography:

- ✓ Logo font: Orbitron
- ✓ Tone & Style: Clean, modern, and mobile-optimized, with a friendly and tech-savvy appearance.

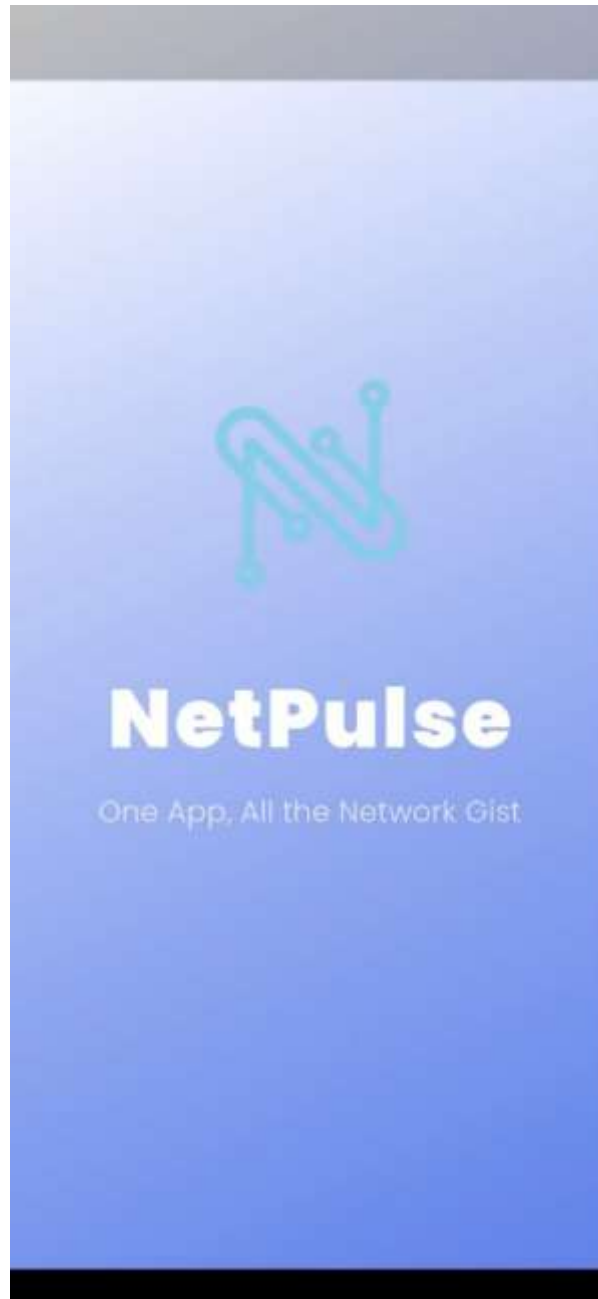
2. Visual Design:

The app's visual design was carefully planned to guide users through core functions like giving feedback and viewing network status. The layout was created in Figma before implementation.

Key Screens:

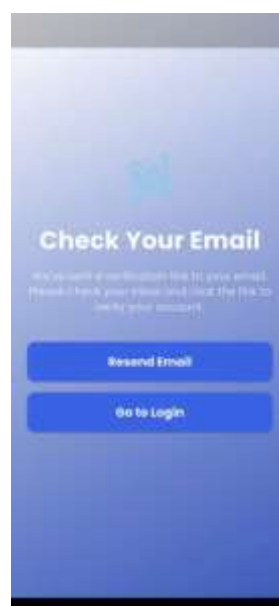
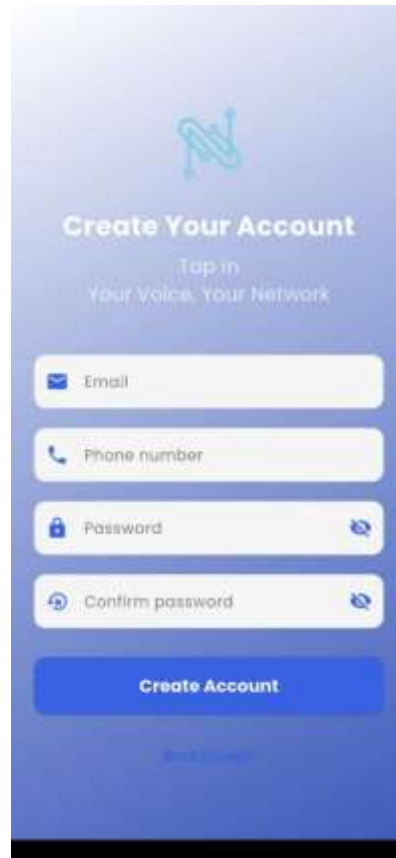
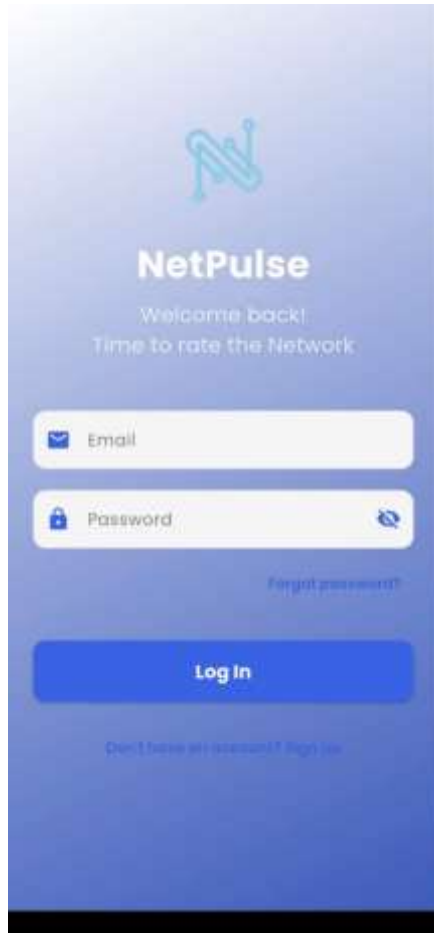
✓ **Splash screen:**

- Displays Logo and app's Slogan: "One App, all the network gist"
- Short loading animation



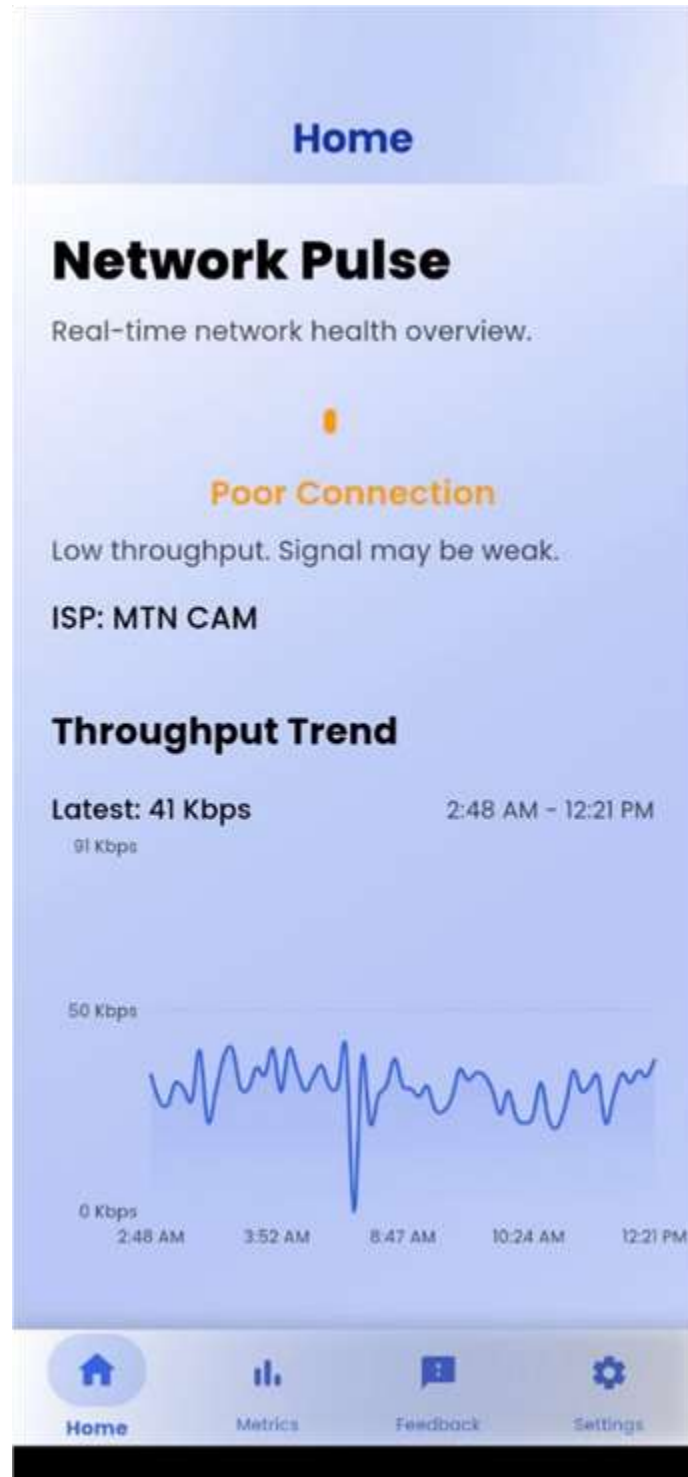
✓ **Sign-Up/Sign-In:**

- Minimal form: E-mail, phone number and password.
- Option to skip phone number.
- Verification link to E-mail



✓ **Home dashboard:**

- Network pulse: shows ISP, throughput trend with time.



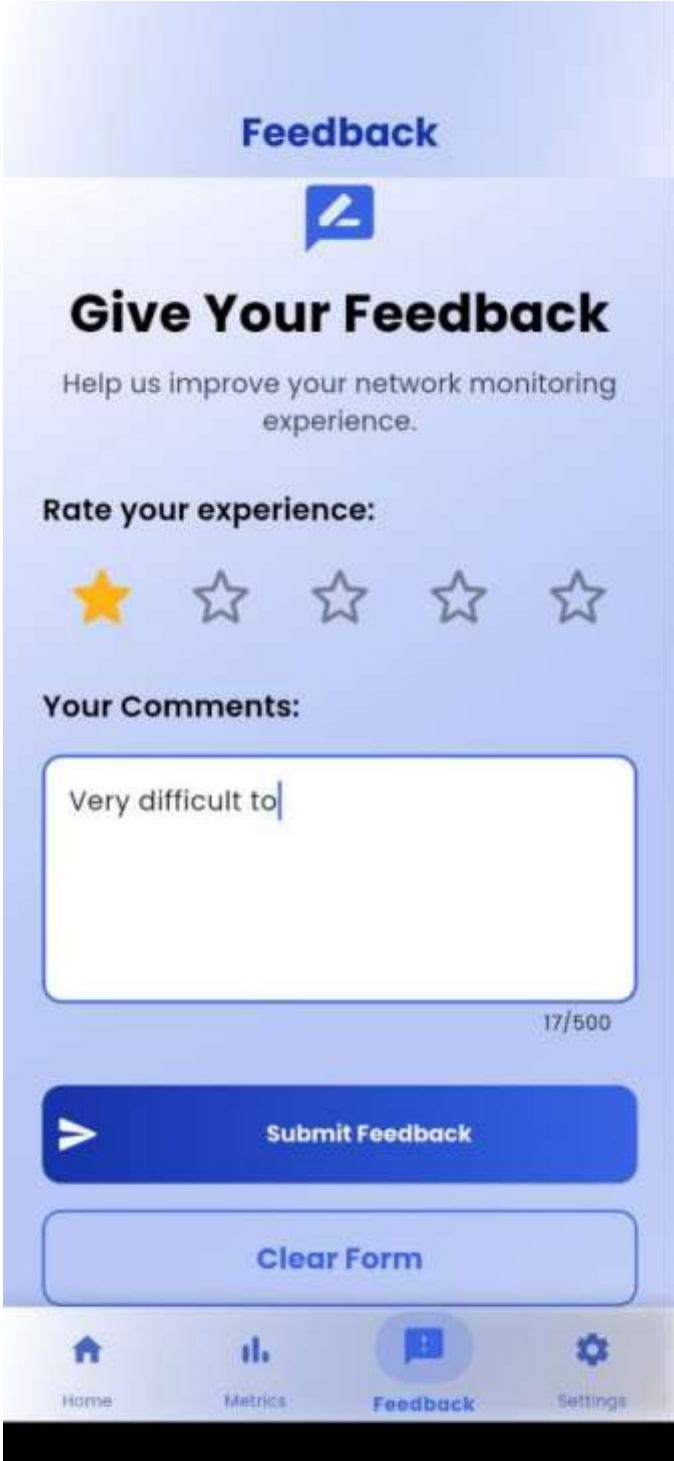
✓ **Network metrics screen:**

- Shows network status (network type, signal strength, throughput, latency and packet loss).
- Overall performance summary
- Submit button.



✓ **Feedback screen:**

- Star based ratings for overall network metrics satisfaction.
- Text box for comment.
- Submit button.



The image shows a mobile app interface for a feedback screen. At the top, there is a blue header with the word "Feedback" in white. Below the header is a blue icon of a speech bubble with a white pencil. The main title "Give Your Feedback" is in bold black text, followed by the subtitle "Help us improve your network monitoring experience." in a smaller font. Below this is a section titled "Rate your experience:" with five star icons; the first star is filled yellow, and the others are outlined. Underneath is a text input field with the placeholder text "Very difficult to" and a character count "17/500" at the bottom right. Below the input field are two buttons: a blue "Submit Feedback" button with a white right-pointing arrow icon, and a light blue "Clear Form" button. At the bottom is a navigation bar with four icons: a house for "Home", a bar chart for "Metrics", a speech bubble for "Feedback" (which is highlighted with a blue circle), and a gear for "Settings".

✓ **Setting screen:**

- Notification configurations
- Data usage
- Privacy: Users have the right to enable location tracking and phone access
- Language and theme setting
- Log Out option



- ✓ To add: **History screen:**
 - List of past feedback.
 - Includes timestamps and network info.
- 3. **Front-End Implementation:**
 - ✓ **Tools and technologies:**
 - **Frame work:** Flutter
 - **Language used:** Dart
 - **Design:** Figma
 - ✓ **Implementation steps:**
 - Created reusable components for buttons, input fields, and cards
 - Applied consistent theming using a global style sheet
 - Used responsive layout features to support various screen sizes
 - Built navigation logic for switching between screens
 - Integrated input validation for feedback form
 - ✓ **Challenges faced:**
 - Network challenges for getting packages
 - Packages mismatched with flutter version
 - Packages such as *sim_card_plus* which are no longer maintained and supported
 - Other packages such as *sim_card_info* for sim detection.

CONCLUSION:

The UI design and implementation of the **Net Pulse** app provides users with a clear, intuitive, and engaging platform to share their network experience. The user interface closely follows the system design from Task 4 and effectively delivers the core features in a user-friendly way. This task represents a major step toward the full realization of the app's functionality and impact.

Appendix:

github.com/kurocifer/Netpulse for code snippets

[NETPULSE – Figma](#) for Figma design and prototype

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