

Eagle Wallet: Contactless Payment Application

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Abstract: The “Eagle Wallet” Android application utilizes Radio Frequency ID (RFID)/Near Field Communications (NFC) technology so Embry-Riddle students, faculty, and staff can use their smartphone to pay for meals, view meal account balances, and reload money for any of the applicable account types. The user’s login credentials are stored safely in a remote server, and bank information uses bank grade security.

Motivation:

- Covid-19 pandemic has created a need for more touchless technology
- Convenient way to load money to dining accounts
- Easily view meal plans and dining funds
- Increase efficiency of dining check out lines

Future Work:

- Interface with:
 - Vending machines
 - The bookstore
 - Building scanners
- Get adopted by the University

Features:

- Eagle Card emulator
 - Dining Dollars, Meal Plans, Eagle Dollars
- Monitor account balance
- View Hours of Operation
- NFC capability
- Secure login

Development Tools:

- PC Prox Plus Wave ID Scanner
- Android Studio
- Emulator: Pixel 3a API 30 x86

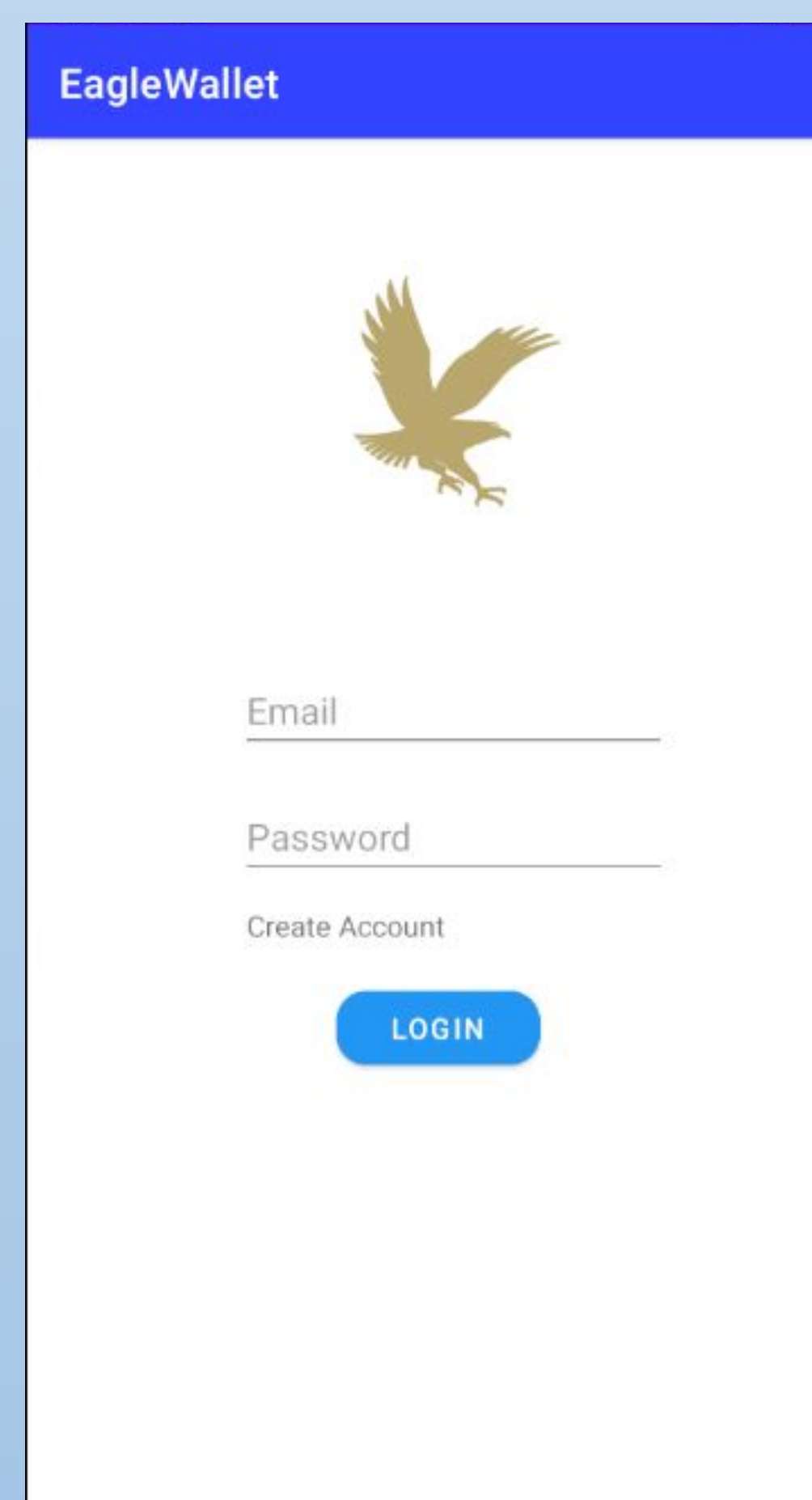


Figure 1: Login screen

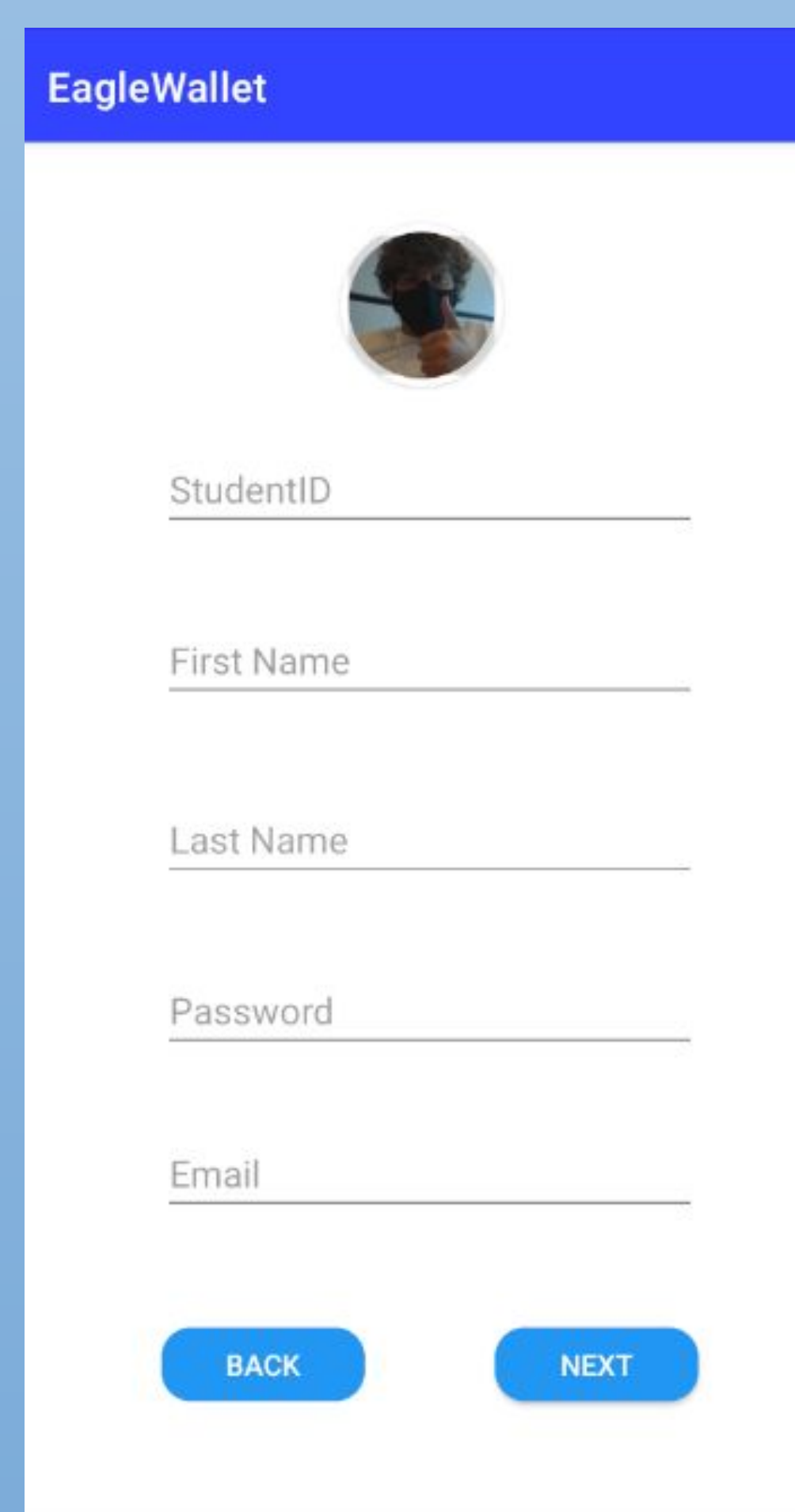


Figure 2: Create account screen

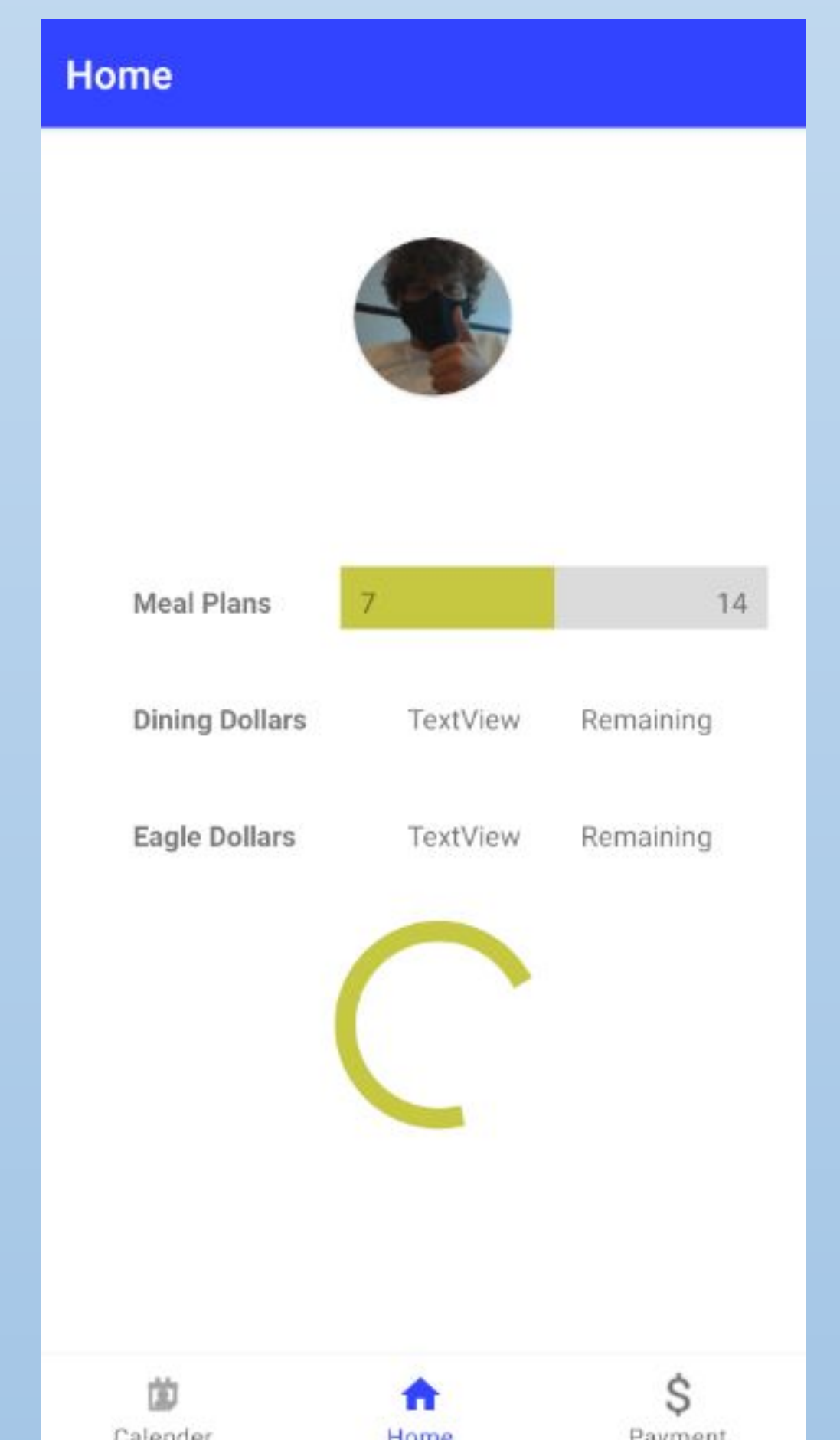


Figure 3: Homepage screen

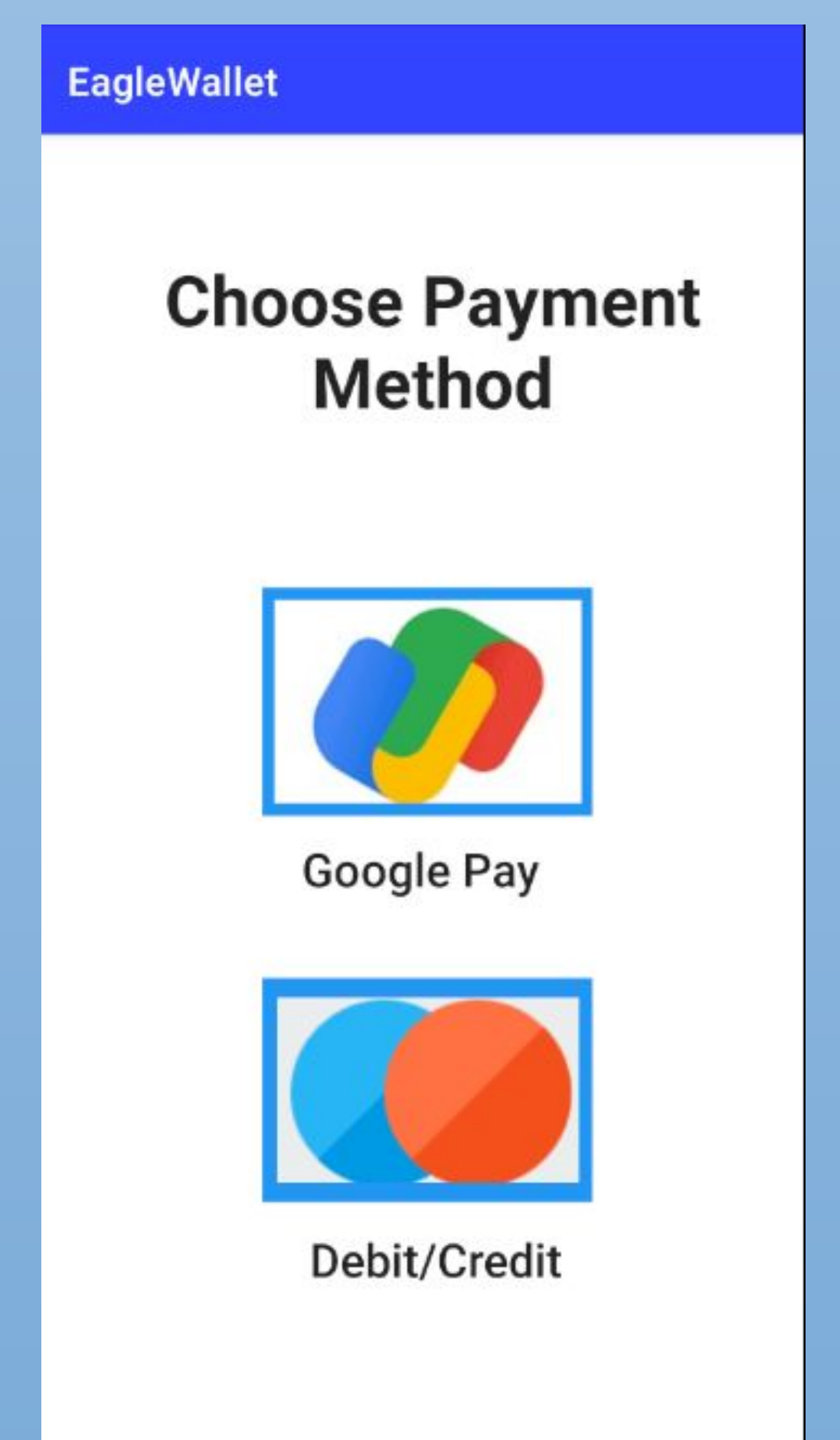


Figure 4: Choose Payment screen

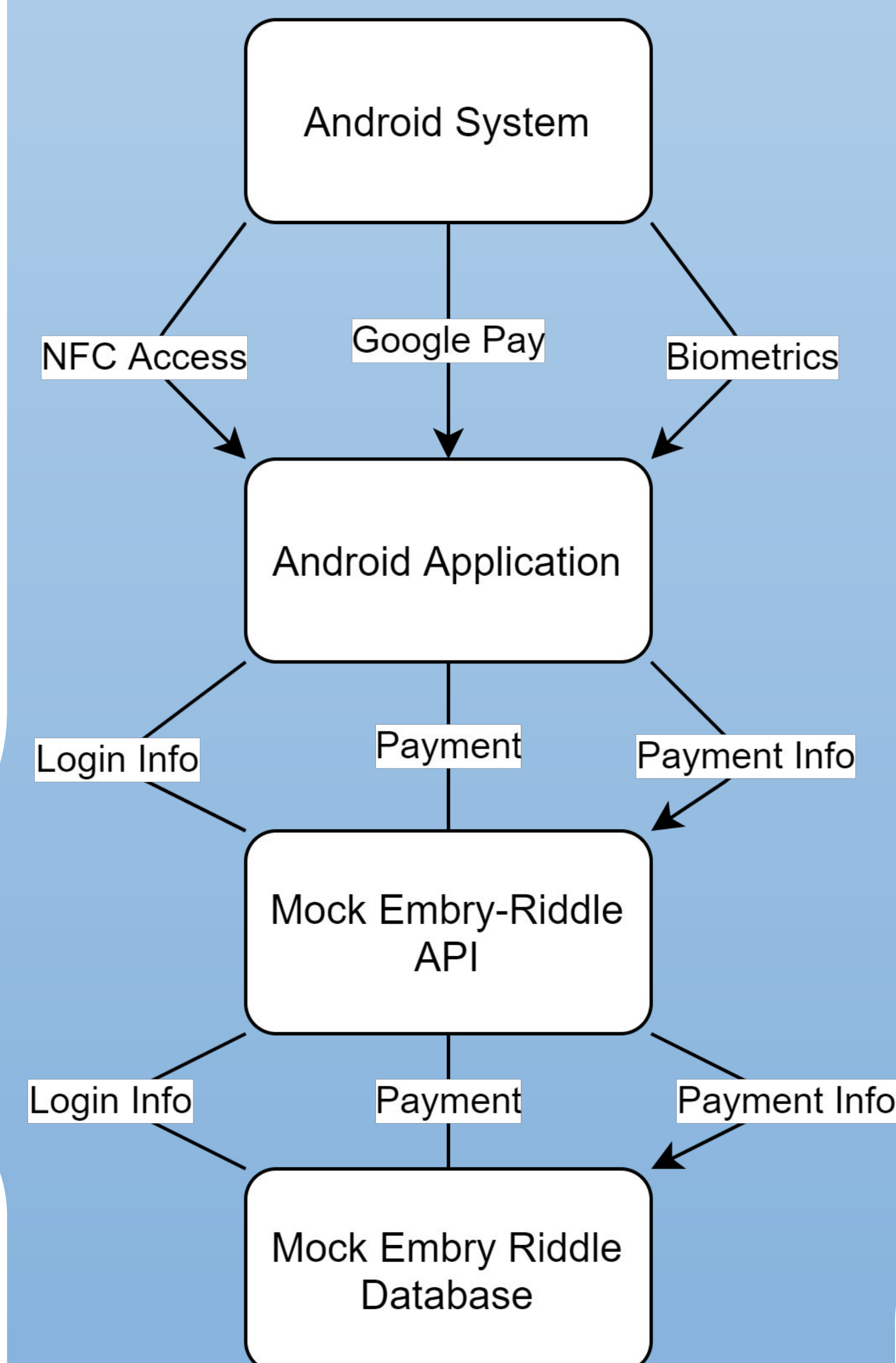


Figure 5: System flowchart