

E-ATM Android App

About the App

Developed using **Android Studio (Java)** and **Firebase**, this mobile banking solution enables users to perform essential ATM transactions remotely while ensuring top-notch security measures. With an intuitive interface and real-time data processing, the app transforms the way users interact with their bank accounts.

Key Features

- ✓ **Seamless Registration & Secure Login:** Users can create accounts with verified credentials, including email authentication and security questions.
- ✓ **Multi-layered Security:** PIN verification, OTP authentication, and security question validation ensure maximum account protection.
- ✓ **Comprehensive Banking Services:** Users can withdraw, deposit, transfer money, and check their balance securely.
- ✓ **PIN & Account Recovery:** Forgot your PIN? No worries! Reset it via OTP and by answering security questions.
- ✓ **Account Lock/Unlock:** Users can lock/unlock accounts instantly through OTP, PIN, or security questions, preventing unauthorized access.

Technologies Used

- **Android Studio:** IDE for app development using Java.
- **Firebase Authentication:** Secure login and registration.
- **Firebase Database:** Storing user and transaction data.

Why This App Stands Out

Unlike traditional ATMs, which require physical visits, this app provides **24/7 banking access** from any location. The integration of Firebase Realtime Database ensures instant transaction updates, while OTP-based security measures prevent unauthorized access, setting a new benchmark in digital banking. Also it enables user to lock their account if they find it useful for some circumstances through their OTP and answering security questions.

How It Benefits Users

- ◆ **Convenience:** No more standing in ATM queues—banking is now just a tap away!
- ◆ **Enhanced Security:** Eliminates risks of card theft, skimming, and unauthorized access.
- ◆ **Financial Inclusion:** Empowers users in remote areas where ATM access is limited.
- ◆ **Eco-Friendly:** Reduces dependency on paper-based receipts and statements.

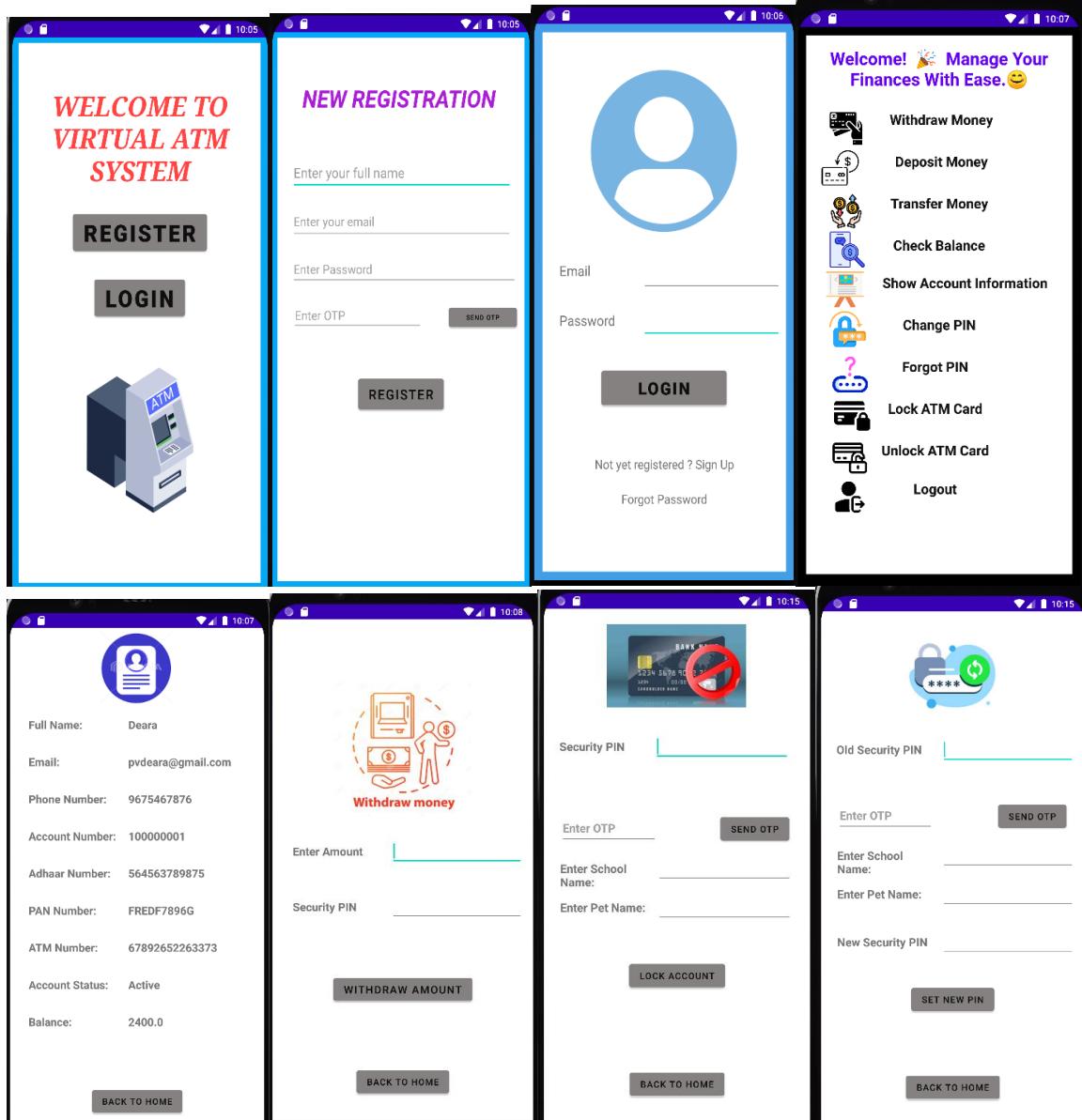
Future Enhancements

As part of our commitment to innovation, we plan to integrate **biometric authentication (fingerprint, facial recognition)**, AI-driven fraud detection, and multi-bank support, making the app even more robust and user-friendly.

Test Cases and Outcomes:

Test Scenario	Expected Output	Actual Output	Status
User Registration	Successful OTP verification and account creation	Account created and stored in Firebase	Pass
Login Authentication	Access granted upon correct credentials	Successful login	Pass
PIN Change	New PIN updated after OTP validation	PIN changed successfully	Pass
Transaction Processing	Withdraw/Deposit with sufficient balance	Transactions completed accurately	Pass
Security Features	Account locked/unlocked upon user request	Functionality executed correctly	Pass

App Screenshots.



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