

Final Project Report

Project Name: LastMinute

Course: CSE 308 – Mobile Programming

Team Members

Ali Fuat Akyemiş

Hüseyin Mert Afşarlı

1 Project Overview

LastMinute is a modern Android application built using Kotlin and Jetpack Compose that combines NFT marketplace functionality with social networking features. It enables users to trade NFTs and maintain connections through a built-in real-time chat system.

2 Technical Architecture

2.1 Technology Stack

- Language: Kotlin
- UI Framework: Jetpack Compose
- APIs: Firebase (Authentication, Firestore), Imgur, NewsAPI

2.2 Architecture Highlights

- Modern UI with Material Design 3
- Responsive layouts with dark/light theme
- Modular navigation with deep linking and modal drawers
- Asynchronous operations using Kotlin Coroutines
- Repository pattern and state hoisting

3 Core Features

3.1 Authentication System

- User registration (`SignUpScreen`)
- Login functionality (`LoginScreen`)
- Password recovery (`ForgotPasswordScreen`)
- Profile management (`EditProfileScreen`)

3.2 NFT Marketplace Features

- NFT browsing and exploration (MainScreen)
- Detailed NFT viewing (NFTDetailScreen)
- NFT upload capability (UploadNFT)
- NFT price statistics (NFTPriceStats)
- Inventory management (InventoryScreen)
- Purchase system (PurchaseScreen, PurchaseFinalScreen)

3.3 E-Commerce Features

- Shopping cart functionality (CartScreen, CartManager)
- Payment processing (PaymentMethodsScreen)
- Card management (AddCardScreen)
- Purchase history tracking

3.4 Social and Communication Features

- Live chat support (LiveSupportScreen)
- User-to-user messaging (ChatScreen)
- User profiles (UserProfileScreen)
- User selection for chat (UserSelectionScreen)

3.5 News and Information

- NFT news section (NFTNewsScreen)
- FAQ section (FAQScreen)
- About Us information (AboutUsScreen)

3.6 Application Settings

- Language preferences (LanguageScreen)
- App preferences management (AppPreferences)
- Theme customization
- Notification management (NotificationManager)

3.7 Technical Features

- Firebase integration for authentication and Firestore storage
- Real-time chat using Firestore
- Image uploading and caching by Imgur
- Navigation system with `NavGraph`
- Cart state management using `CartViewModel`

4 Significant Technical Components

- **Firestore Integration:** Authentication, Firestore, real-time data
- **Payment Processing:** Secure methods, card storage, purchase flow
- **Chat System:** Real-time messaging, message status, chatbot
- **NFT Management:** Metadata handling, price tracking, storage

5 User Experience Features

- Intuitive bottom and drawer navigation
- Tabbed screens and smooth transitions
- Customizable user profiles
- Loading/error UIs and modals

6 Security Features

- Secure authentication with Firebase Auth
- Protection of sensitive card/payment data
- User privacy in chats and profiles
- Session security

7 Future Enhancements

- Enhanced NFT analytics and visualization
- Advanced search and filtering
- Group chat functionality
- NFT auction system

- Improved chatbot support
- More payment gateways
- Social media integration

Conclusion

This application represents a comprehensive NFT marketplace platform with robust trading, payment, and social features. Built with modern Android development practices, it ensures scalability, maintainability, and a seamless user experience through clean architecture, reactive UI, and Firebase integration.