

CryptoWallet – FINAL REPORT

AUTHOR: PHUOC KHANG BUI – 배복강 (2021117446)

Department of Computer Science and Engineering, Kyungpook National University

https://www.youtube.com/watch?v=koU1j5fnCtg&ab_channel=Kangggchan%EA%B0%95%EC%9E%94

I. MARKET OVERVIEW:

The cryptocurrency wallet market has seen significant growth in recent years, driven by the increasing adoption of cryptocurrencies for investment, trading, and transactions. The global crypto wallet market was valued at around \$250 million in 2020 and is expected to grow at a compound annual growth rate (CAGR) of over 24% from 2021 to 2028. Factors contributing to this growth include the rising number of crypto users, increased investment in blockchain technology, and the need for secure and user-friendly solutions for managing digital assets.

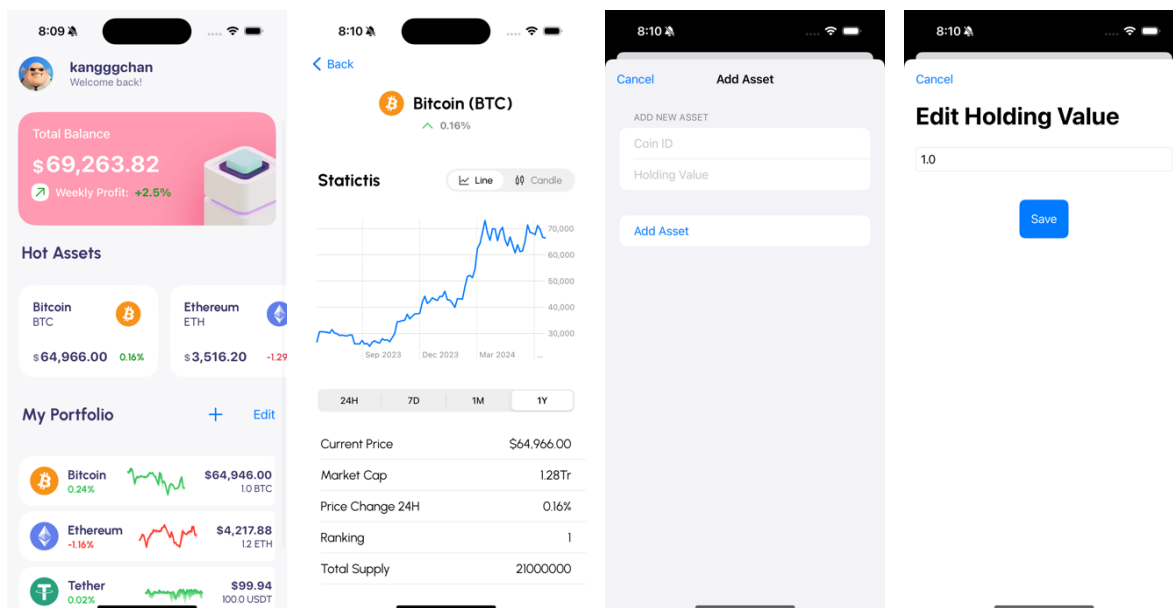
Why a Crypto Wallet App is Needed?

- **Growing Adoption of Cryptocurrencies:** With more individuals and institutions investing in cryptocurrencies, there is a growing need for secure and efficient ways to store and manage these digital assets.
- **Security Concerns:** Crypto wallets provide a secure way to store private keys and manage digital assets, reducing the risk of theft and hacking compared to keeping assets on exchanges.
- **Convenience and Accessibility:** Mobile crypto wallets offer the convenience of accessing and managing cryptocurrencies on the go, making it easier for users to engage with their assets anytime and anywhere.
- **Integration with Other Services:** Modern crypto wallets integrate with various financial services, decentralized applications (dApps), and exchanges, providing a comprehensive ecosystem for users.

II. SOURCE STRUCTURE:



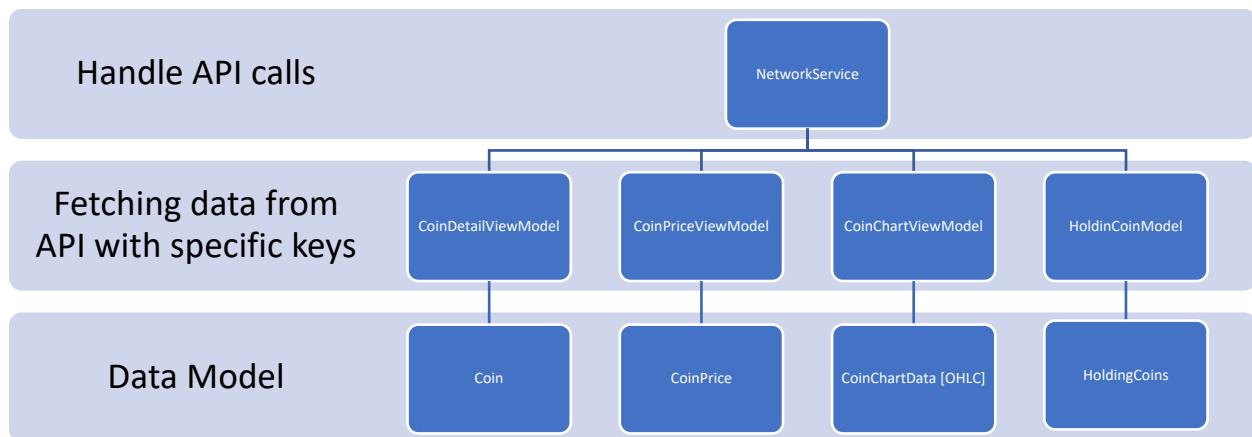
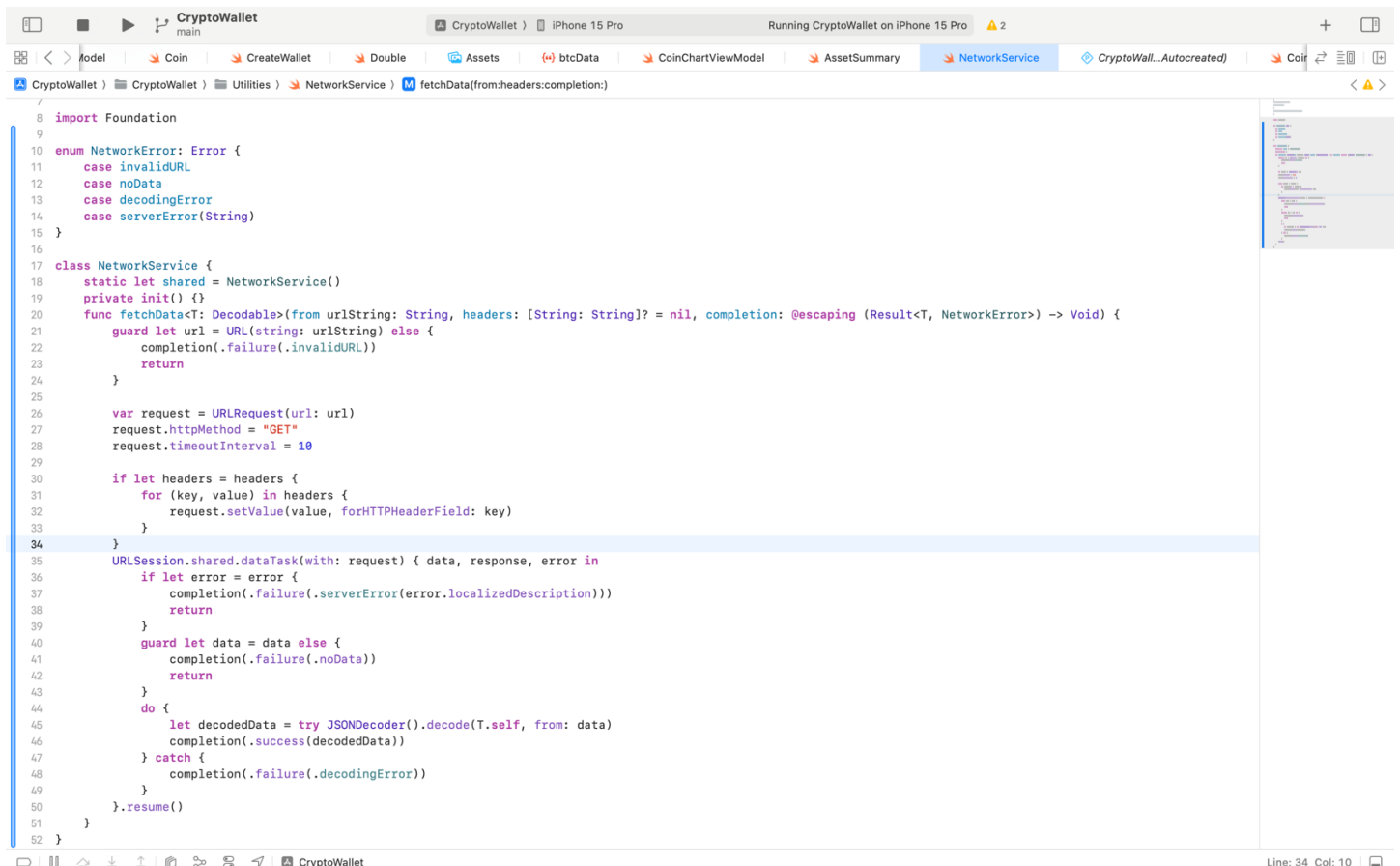
III. UI/UX:



Source:

1. [https://www.figma.com/design/Valgav4T0qCkL2obVZvzlz/Cryptocurrency-App-\(2019\)-\(Community\)?node-id=1-3](https://www.figma.com/design/Valgav4T0qCkL2obVZvzlz/Cryptocurrency-App-(2019)-(Community)?node-id=1-3)
2. [https://www.figma.com/design/pJ8G95wAjhpFiheRBSbtw5/Cryptocurrency-App-\(Community\)?node-id=2-1488](https://www.figma.com/design/pJ8G95wAjhpFiheRBSbtw5/Cryptocurrency-App-(Community)?node-id=2-1488)

IV. NETWORK SERVICES

```

1  import Foundation
2
3  enum NetworkError: Error {
4      case invalidURL
5      case noData
6      case decodingError
7      case serverError(String)
8  }
9
10 class NetworkService {
11     static let shared = NetworkService()
12     private init() {}
13     func fetchData<T: Decodable>(from urlString: String, headers: [String: String]? = nil, completion: @escaping (Result<T, NetworkError>) -> Void) {
14         guard let url = URL(string: urlString) else {
15             completion(.failure(.invalidURL))
16             return
17         }
18
19         var request = URLRequest(url: url)
20         request.httpMethod = "GET"
21         request.timeoutInterval = 10
22
23         if let headers = headers {
24             for (key, value) in headers {
25                 request.setValue(value, forHTTPHeaderField: key)
26             }
27         }
28
29         URLSession.shared.dataTask(with: request) { data, response, error in
30             if let error = error {
31                 completion(.failure(.serverError(error.localizedDescription)))
32                 return
33             }
34             guard let data = data else {
35                 completion(.failure(.noData))
36                 return
37             }
38             do {
39                 let decodedData = try JSONDecoder().decode(T.self, from: data)
40                 completion(.success(decodedData))
41             } catch {
42                 completion(.failure(.decodingError))
43             }
44         }.resume()
45     }
46 }
  
```

CUSTOMIZED SEGMENTED PICKER

```

37 struct CustomSegmentedControl: View {
38   @Binding var preselectedIndex: Int
39   var options: [String]
40   var images: [String: Image]
41   let color = Color.blue
42
43   var body: some View {
44     HStack(spacing: 0) {
45       ForEach(options.indices, id: \.self) { index in
46         HStack {
47           images[options[index]]?
48             .resizable()
49             .frame(width: 15, height: 15)
50             .aspectRatio(contentMode: .fit)
51             .foregroundColor(preselectedIndex == index ? .black : .gray)
52           Text(options[index])
53             .font(.custom("Urbanist-Medium", size: 14))
54             .foregroundColor(preselectedIndex == index ? .black : .gray)
55         }
56         .padding(.vertical, 5)
57         .padding(.horizontal, 15)
58         .background((Color.white).opacity(preselectedIndex == index ? 1 : 0))
59         .clipShape(Capsule())
60         .onTapGesture {
61           withAnimation(.interactiveSpring()) {
62             preselectedIndex = index
63           }
64         }
65       }
66     }
67     .padding(3)
68     .background(Color.black.opacity(0.06))
69     .clipShape(Capsule())
70   }
71 }

```



Line Candle

V. FUTURE DEVELOPMENT:

Add a Login System

- **Feature:** Implement a secure login system to protect user data and provide personalized experiences.
- **Implementation:** Develop a backend with a database to manage user accounts, authentication, and authorization.
- **Security:** Employ industry-standard encryption methods and multi-factor authentication for enhanced security.

Deploy the App

Testing: Conduct thorough testing, including unit tests, integration tests, and user acceptance testing.

Beta Release: Launch a beta version to gather user feedback and make necessary improvements.

App Store Submission: Prepare the app for submission by adhering to Apple's guidelines, including necessary documentation and assets.

Post-Launch Support: Monitor app performance, address user feedback, and release updates to enhance functionality and security.