**Functional Requirements of CryptPay mobile app**

1. Users shall be able to sign up account or log in to the ‘CryptPay’ mobile application.
   1. Users must sign up account in ‘Sign up’ page and this page shall be a landing page.
      1. Sign up page shall have 4 input fields to accept information from users, a ‘Sign up’ button and a ‘Log in’ button.
      2. The first input field must be a drop-down menu to select the country of residence.
      3. The second input field must be a textbox that accepts a name from user.
         1. This textbox must accept only the string characters.
         2. The length of the string including the space must not exceed 512 characters.
      4. The third input field must be a textbox that accepts email address from user.
         1. This textbox must accept only the email address.
      5. The fourth input field must be a textbox that accepts password from user.
         1. When a password is entered, it must be displayed as asterisks (\*) to mask it.
      6. A ‘Sign up’ button must be placed below the fourth input field.
         1. When this button is clicked, information from all 4 input fields must be transferred be transferred to a database.
            1. The database must check if email used in ‘Sign up’ form already exists in the database.

If email already exists, database shall not allow user to sign up and respond back to ‘CryptPay’ app.

If email does not exist, database must allow user to sign up and respond back to ‘Cryptpay’ app.

* + - 1. The returned data from the database must be shown to user in string format.
    1. A ‘Log in’ button must be placed below the ‘Sign up’ button.
       1. When this button is clicked, a ‘Log in’ page must be shown.
  1. Users must log in to ‘CryptPay’ mobile application from this page.
     1. Log in page shall have 2 input fields to accept information from users, a ‘Log in’ button and a ‘Forgot password?’ button.
     2. The first input field must be a textbox that accepts an email address from user.
     3. The second input field must be a textbox that accepts password from user.
        1. When a password is entered, it must be displayed as asterisks (\*) to mask it.
     4. A ‘Log in’ button must be placed below the second input field.
        1. When this button is clicked, information from all 2 input fields must be transferred be transferred to a database for authentication.
     5. A ‘Forgot password’ button must be placed below the ‘Log in’ button.
        1. When this button is clicked, a ‘Forgot password’ page must be shown.

1. After a successful login, a ‘Home’ page shall be displayed.
   1. This page must show wallet balance of a user and equivalent amount of that in crypto currency such as NTUCoin, Bitcoin and Ethereum
   2. Home page must have navigation bar at the bottom of the screen.
      1. The navigation bar must provide a navigation between 4 pages such as ‘Home’, ‘Transfer/Receive’, ‘Transaction History’ and ‘Setting’.
2. When ‘Transfer/Receive’ on navigation bar is clicked, ‘Transfer/Receive’ page must be displayed.
   1. This page must first show a pop-up asking users to select between two different options: ‘I am a receiver’ or ‘I am a sender’.
      1. If ‘I am a receiver’ is selected, a wallet address of a current user must be encoded to a QR code.
         1. The generated QR code shall be shown on the current screen
      2. If ‘I am a sender’ is selected, the app must open a camera module to scan QR code of a receiver.
         1. After a successful QR scan, the app shall ask user to key in the transfer amount.
         2. After a successful transfer, the details of transfer must be displayed.
            1. The details of transfer must include transaction number, sender ID and transaction date.
3. When ‘Transaction History’ on navigation bar is clicked, ‘Transaction History’ page must be displayed.
   1. This page must show all the transfer that a user made.
   2. This page must show all the receive that a user received.
4. When ‘Setting’ on navigation bar is clicked, ‘Setting’ page must be displayed.
   1. This page must show user information such as name, email address, preferred display currency, country of residence and current version of the app.
      1. This page must allow user to edit the name and email address
         1. After user edit the name and the email address, the application must send the new name and email address to the database.
      2. This page must allow user to change the preferred display currency
         1. After user change the preferred display currency, the application must change the currency of wallet balance in “Home” page to selected preferred display currency.
      3. This page must allow user to change the country of residence
         1. After user change the country of residence, the application must send the new country of residence to the database.

**Nonfunctional requirements of CryptPay mobile app**

1. The app must allow users to log in Or Sign up anytime of the day and any day of the week.
2. The users must be able to launch the app within 3 minutes after a successful installation
3. The app must be compatible with iOS version 15 and above

**Data dictionary**

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| Term | Definition |
| CryptPay | A payment mobile application that users can install on iOS devices. |
| Country of residence | A country that a user is currently residing in |
| Crypto currency | a digital currency in which transactions are verified and records maintained by a decentralized system using cryptography, rather than by a centralized authority. |
| User, Current user | An individual who is currently logged in and interacting with the application |
| Sign up | The process of creating a new user account on a CryptPay mobile app |
| Log in | The process of accessing an existing account on a CryptPay mobile app |