



Money transfers made simple

Project Documentation

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## Problem

- Limited access to services
  - Limited access to financial services and major retail stores in rural areas is the main problem.
- Travelling Long distances
  - If money is sent to an individual, they need to travel long distances to get physical cash from banks or retail stores and sometimes may not have the money to do so.
- Risk of carrying cash
  - The security risks of carrying cash after they collect it from banks or retail stores.

## Solution

- Direct sharing of Flash tokens amongst users and making purchases using those tokens.

## Product

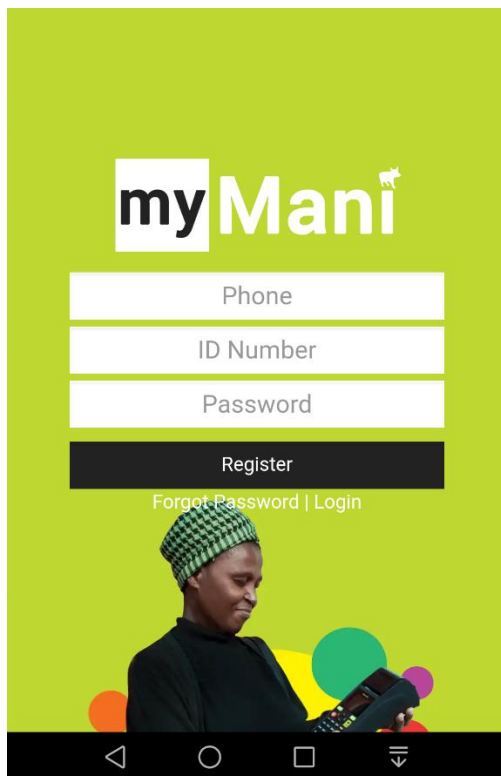
### My Mani

- Money transfer platform using USSD and a mobile App
- Main features include:
  - Peer to peer Flash token transfers
  - Direct purchases using Flash tokens at participating stores
  - Creation of conditional Flash token accounts
    - Senders can specify where the flash tokens can be spent.
    - Senders can set limits on the amount of tokens that can be spend on a desired time frame.
- Token senders will be charged R10 per transfer.

## Prototype

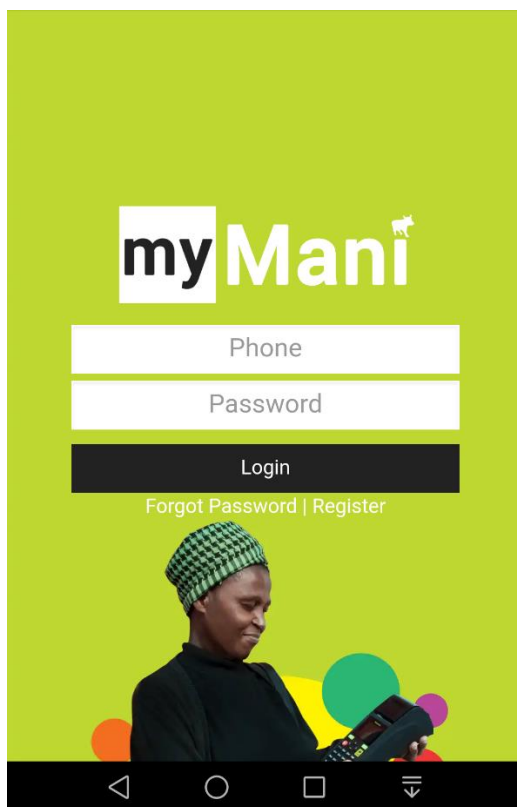
Voucher Purchase and send:

Step 1 – Register to create a My Mani account:



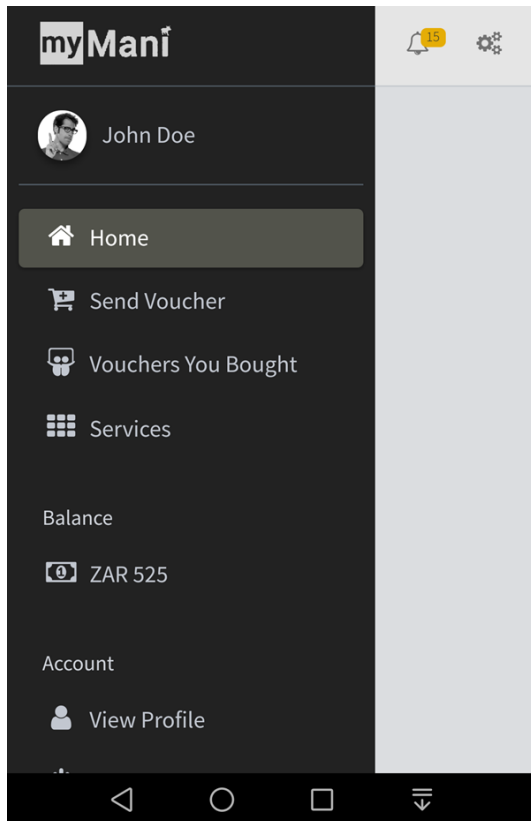
The registration screen for the My Mani app features a bright green background. At the top, the 'myMani' logo is displayed, with 'my' in a white box and 'Mani' in white text, accompanied by a small white cat icon. Below the logo are three white input fields stacked vertically, labeled 'Phone', 'ID Number', and 'Password'. A black 'Register' button is positioned below these fields. Underneath the button, the text 'Forgot Password | Login' is visible in a smaller font. The bottom half of the screen shows a woman wearing a green patterned headwrap and a black top, looking down at a smartphone. The entire screen is framed by a black Android navigation bar at the bottom.

Step 2 – Login to My Mani:

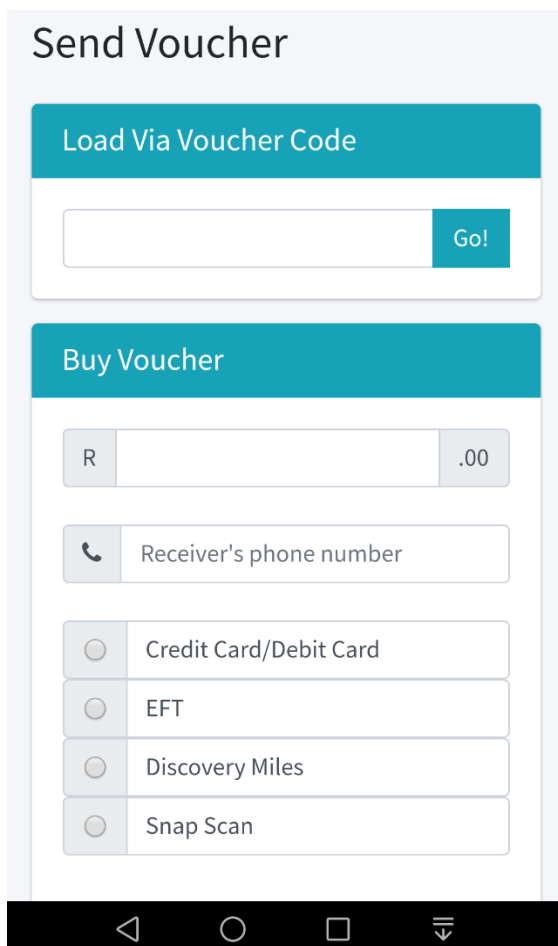


The login screen for the My Mani app has a consistent green background and branding as the registration screen. The 'myMani' logo is at the top. Below it are two white input fields for 'Phone' and 'Password'. A black 'Login' button is located below the password field. Underneath the button, the text 'Forgot Password | Register' is displayed. The bottom half of the screen features the same image of a woman in a green headwrap looking at her phone. The screen is bordered by a black Android navigation bar at the bottom.

Step 3 – Select Send voucher:



Step 4 – Select payment method of your choice:



Step 5 – Click on Go to see voucher details:

The screenshot displays a mobile application interface for purchasing and viewing vouchers. At the top left, a green notification banner reads "Yippi! Voucher Sent" with a "Go!" button. Below this is a "Buy Voucher" section with input fields for a voucher ID (R 1234) and a phone number (1234567890). A payment method selection area includes radio buttons for "Credit Card/Debit Card", "EFT" (selected), "Discovery Miles", and "Snap Scan". A "Proceed" button is at the bottom of this section. To the right, the "Vouchers You've Bought" section shows "4 Vouchers Bought" and "R 1234 Total Spent", each with a "More info" link. Below this is a "History" table with columns for Voucher ID, Amount, and Receiver.

Voucher ID	Amount	Receiver
1526800589	R 1234	1234567890

Recipient and Merchant transaction:

Step 7 – Recipient receives voucher via SMS:

```
Welcome To myPhone
2018/05/20 08:38:01 Voucher received
voucher id: 1526794226
for customer phone number: 0798648444
from sender phone number:
Password: oemnck15
amount: 450
```

Step 8 – Merchant initiates transaction:

```
Welcome To myPhone
Please Enter USSD Code:
*555*5#
Initiate Transaction Menu
Please enter customer voucher number followed by transaction amount(space delimited):
```

Step 9 – Receiver approves or rejects transaction:

```
Welcome To myPhone
2018/05/20 08:38:01 Voucher received
voucher id: 1526794226
for customer phone number: 0798648444
from sender phone number:
Password: oemnck15
amount: 450
2018/05/20 08:41:33 Transaction Request Received
From merchant phone number:
Voucher number: 1526794226
amount: 100
Please confirm the transaction request by selecting the correct menu option below:
1. Approve
9. Reject
```

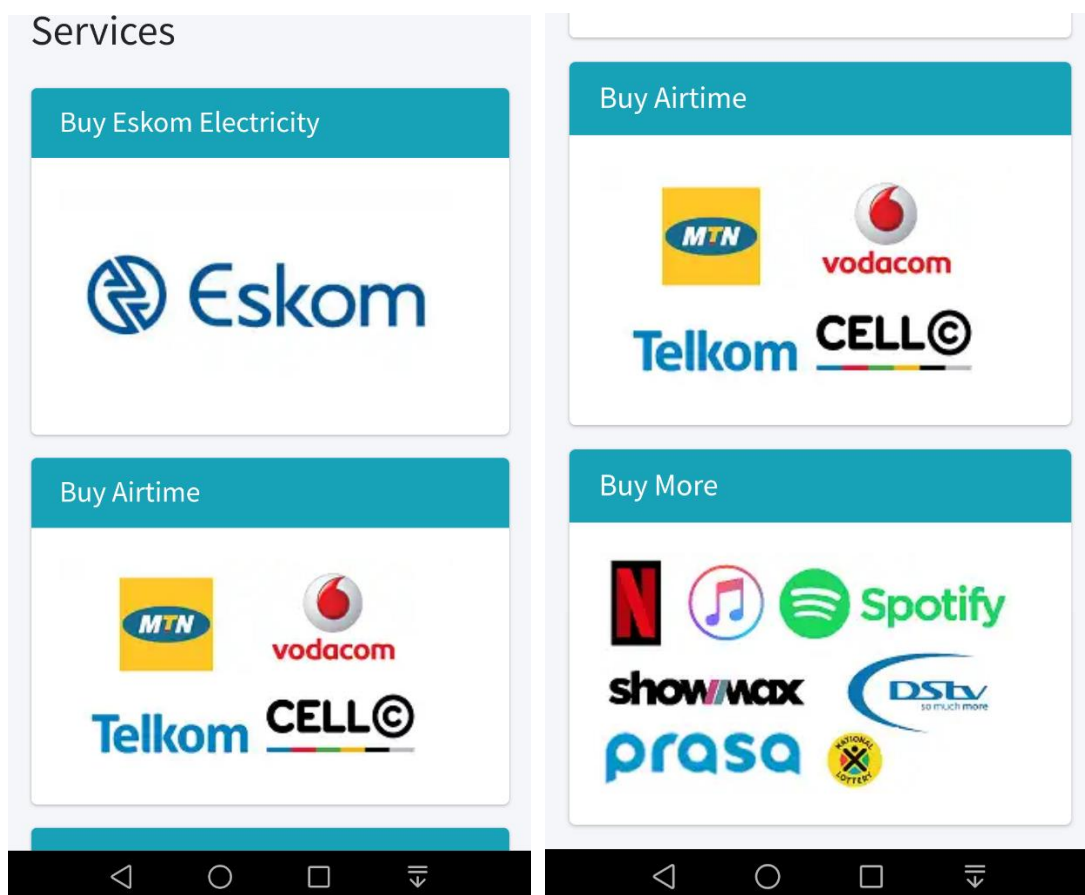
Step 10 – Merchant receives confirmation SMS

### Additional features to be implemented:

#### Conditional Token transfer

- This feature will allow the sender of the tokens/vouchers to specify where the vouchers can be spent as well as set the daily spending limit.

My Mani tokens can be used to pay for the following services.



## Technologies

### **Node JS (with express JS)**

- Used to build USSD backend server (Rest API)
- Node JS is used because it is faster due to its asynchronous nature. With express JS, it makes it easier to create Rest API's.

### **Firebase database**

- Used as a shared cloud hosted NoSQL database
- Powering both mobile app, client USSD app and USSD server.
- Firebase database is used because it is real-time, allowing data changes to be reflected in both ends (connected devices) as it happens. It is also faster since it is cloud hosted and require no additional server like SQL.

### **C#**

- Used to build client USSD app.