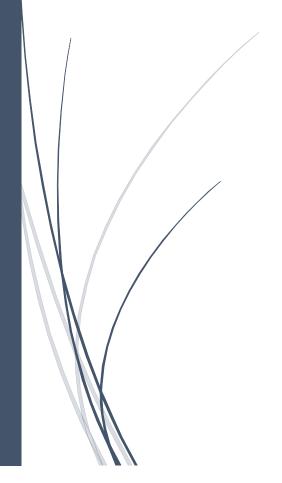
6/10/2019

Project Proposal

Micro Finance Solution



Project Manager INFINITY TECH.

Micro Finance Industry

Microfinance is defined as "provision of financial services to low income people" by the Consultative Group to Assist the Poor (CGAP). It brings credit, savings and other essential financial services to people who are too poor to be served by regular banks, mainly because they are unable to offer sufficient collateral. Microfinance is expected to expand and improve income generation activities and capacities of low income persons. Therefore, it is expected that through microfinance the living conditions of low income persons would improve, while they take on an active role in the economic development of the country.

Sri Lanka has a long history in having a rudimentary system of microfinance. 'Cheetu' in Sri Lanka, operating at least since the early 20th century, is an informal but an effective way of savings and capital accumulation, and therefore, functions as a basic method of microfinance for the poor. The microfinance sector in Sri Lanka has grown into a diverse range of institutions and products and represent a significant method of financial inclusion, and empowerment for the low income and poor segments of the society.

There is a variety of institutions providing microfinance in Sri Lanka, such as licensed banks, licensed finance companies, co-operative rural banks, thrift and credit co-operatives societies, divinaguma banks and other community based organizations, microfinance companies, non-governmental organizations that engage in microfinance business. Some of these institutions are regulated under different authorities. Licensed banks and licensed finance companies are regulated by the Central Bank. Co-operative rural banks and thrift and credit co-operatives societies are regulated by the Department of Cooperative Development, with Divinaguma Banks being regulated by the Department of Divinaguma Development.

Importance of Microfinance

Most of the low income people lack access to basic financial services. Hence, the challenge of providing financial services to them still remains. Increased access to finance among the low income population would contribute towards income generation activities, and thereby improve savings habits as well as their living standards. Further, "the microfinance services helps people fight poverty on their own terms, in a sustainable way" (CGAP, 2006). Therefore, microfinance is a powerful instrument for the poor, in the form of financial services directed specifically towards poverty reduction, enabling the poor to build assets, increase their income, and reduce their vulnerability to economic stress. As a result, the poor can improve their living conditions, while taking an active role in economic activities.

Problems in the micro financing industry

We have found vast area of problems in micro financing institutes while we are doing our research. Most of the micro financing institutes runs on paper / card standards and that along causes many problem itself. I have mentioned some of them below.

- Most of micro financing institutes issue loans by a paper card which has 0 security and lack of durability. And the above mentioned card is the only proof of collecting cash installments. And it can be easily falsely forged by the cash collector or the customer himself because there are no backups. Even though they have backups they are mostly written in books which has almost no security and provability.
- The cash collectors are committing theft & disappearing with the money is so common among micro financing institutes.
- The owners of the institutes are unaware of the accuracy of the financial records therefore the remaining arrears and collections are often wrongly calculated.
- The customers have no records or receipts when they make payments to the collector.
- The customers cannot receive reports of the recent status of their loan instantly.
- The owner has lack of idea of the invested money and the received profit or loss.

The solutions we have offered in the "Micro Finance Solution"

- Our first priority is the safety of the user's data. therefore we have used cloud technology to guarantee the safety of their data even when the computers got destroyed.
- We have provided a mobile application to the cash collector to issue receipts to the customer from a mini Bluetooth printer or a PDA device. And the cash collection records are updating to the cloud so the owner can view the cash collection real-time. If the cash collector are out of signal range of mobile they can still issue receipts with no delay. And the records are being uploaded to the cloud as soon as they enters to a signal range. In this way cash collector has no excuse for not issuing a receipt to the customer. At the end of the day cash collector is able to print a collection summary and submit it to the owner with the money.
- And we have provided a mobile application & web application to the owner instead of the desktop application so they can check reports, collections and issue loans.
- In our desktop application we have fully covered the requirements of the micro
 financing institutes all around the sri lanka along with an accounting package so that
 anyone with small understanding about computers can use our application without
 confusion. We have provided reports that the users can easily understand the status of
 their invested money, profits and losses.
- We have enhanced our applications with highest security standards the owner is notified by an SMS alert with the location data when someone is trying to access to their system. And the customer is receiving SMS alerts as soon as they make payments. Also the owner can track locations of the cash collectors by using a map. The cash collectors can only use single printer device per phone due to security purposes. When mobile application uploads data to the cloud it uses encrypted tokens to stop the hackers accessing the data. The owner is also able to make user-levels in the application.

Used technologies

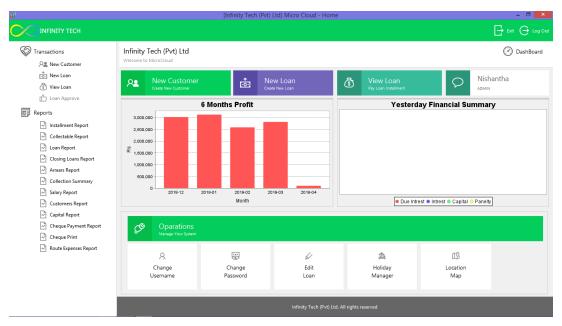
- To develop the backend we have used JAVA, MySQL and Hibernate maintaining OOP standards.
- We have used REST to communicate between the server and the android clients. To ensure the security we have also passing tokens.
- In the desktop application we have taken the advantage of the Web Services & SOAP to access data in the server. The front end was developed using Java Swing
- For the android application we have used SQL Lite so the user can keep the records inside of the device in case of the loss of signal coverage.
- To development of web application we have used JSP Servlets, HTML5, JavaScript & Bootstrap
- Taken this as an ERP application we have used glassfish clustering to maintain the load.
- We also used an SMS gateway to send SMS alerts.

Software design

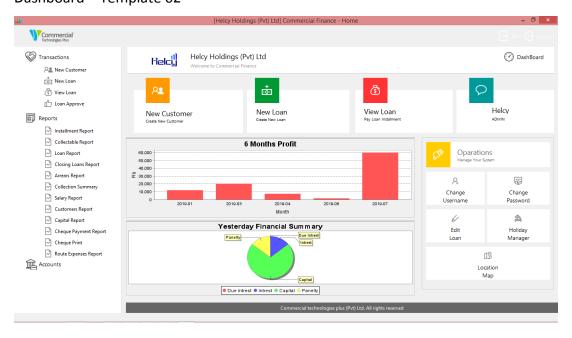
we have used the OO approach in various steps in the designing the micro finance system. When the defining the current problem it was used to understand the problem in detail. Also when the planning the system OO approach was used to designing UML diagrams, and creating database. When converting the functional & non-functional requirements in to a program, OO approach was used to create classes and objects. And the OO approach is very useful in the test phase and post modifications or future maintains of the system.

Screencaps of the main interfaces of the desktop application

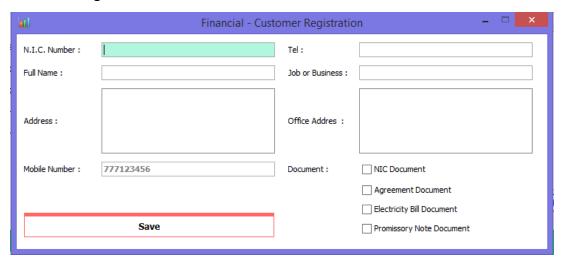
Dashboard - Template 01



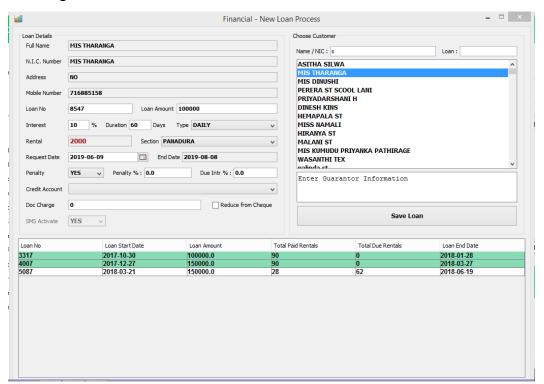
Or Dashboard – Template 02



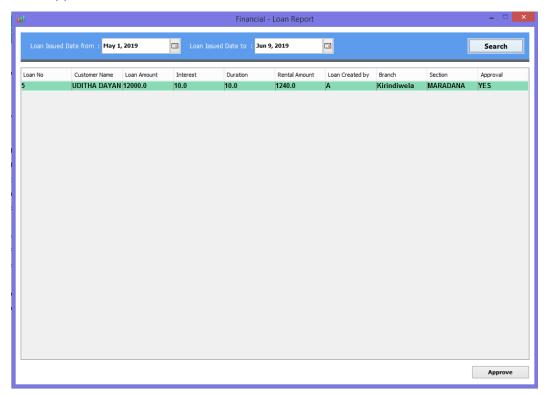
Customer Registration



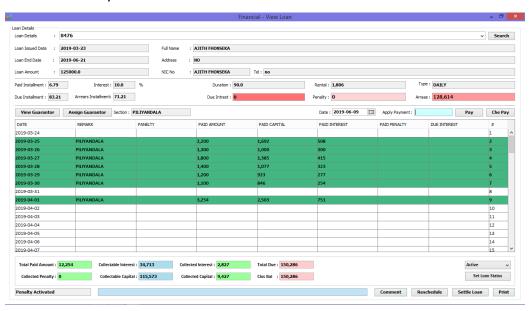
Loan Registration



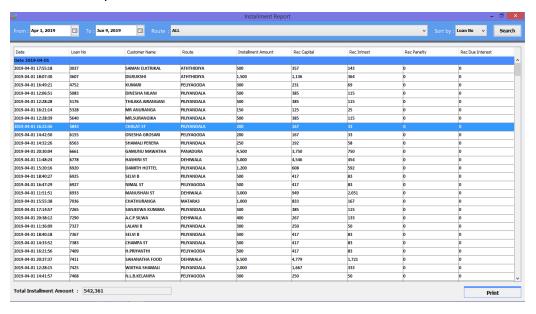
Loan Approvals



View Loan & Pay Installments



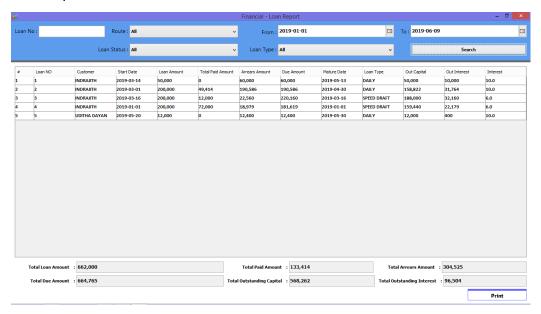
Installment Report



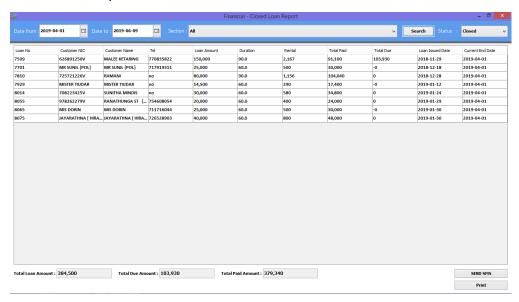
Collectable Report & Daily Targets



Loan Report



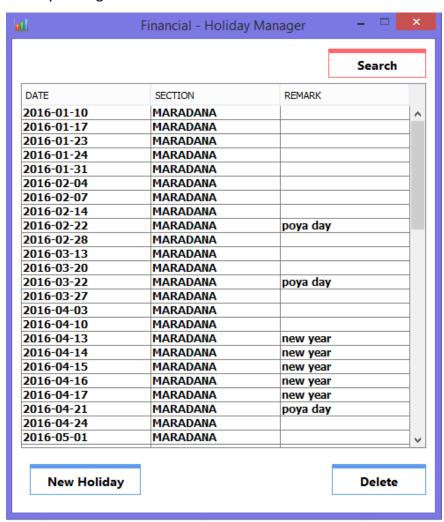
Closed Loan Report



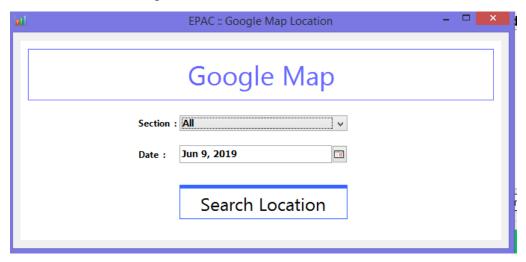
Arrears Report



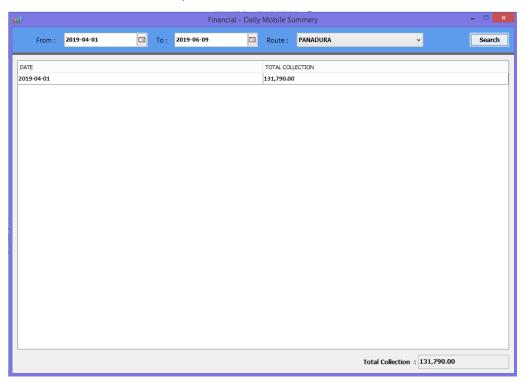
Holiday Manager



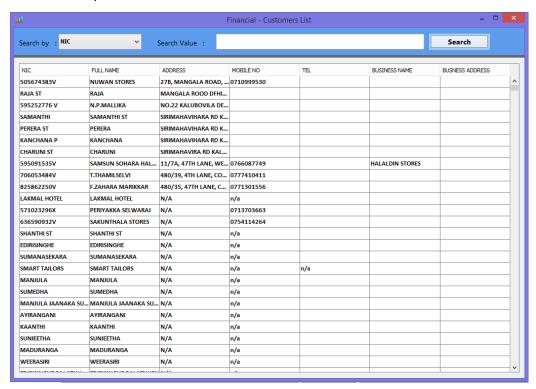
Cash Collector Tracking



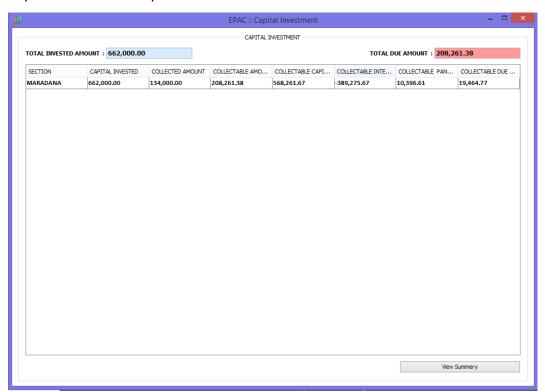
Mobile Collection Summary



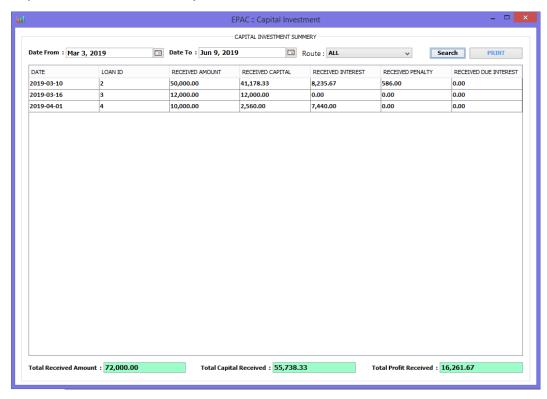
Customer Report



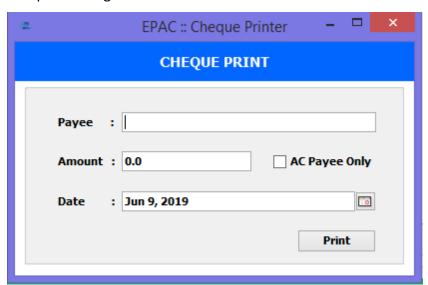
Capital Investment Report



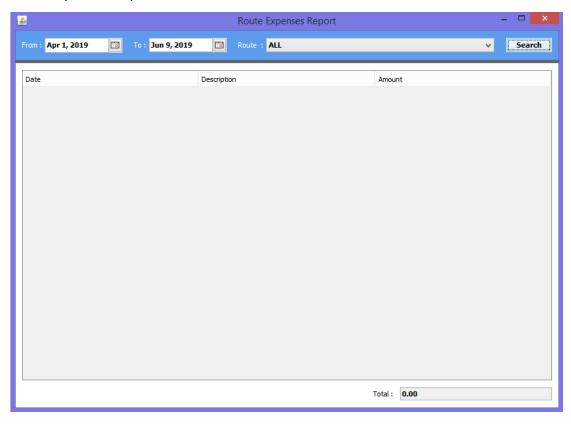
Capital Investment Summary



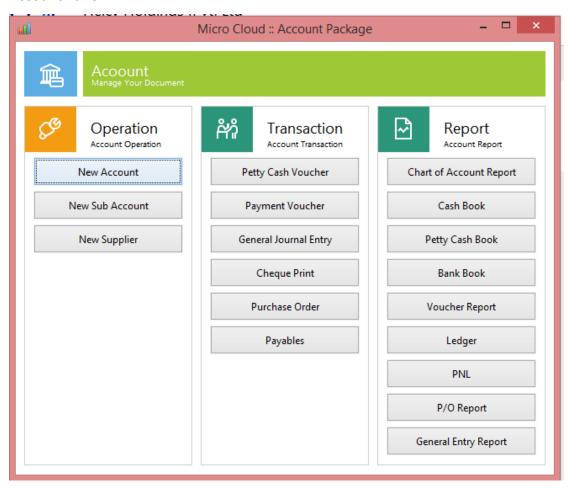
Cheque Printing



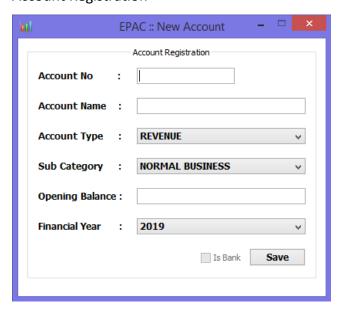
Route Expenses Report



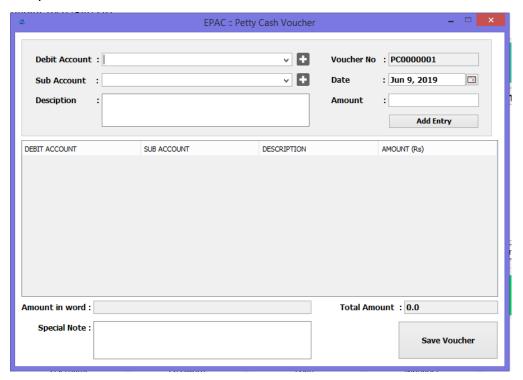
Account Panel



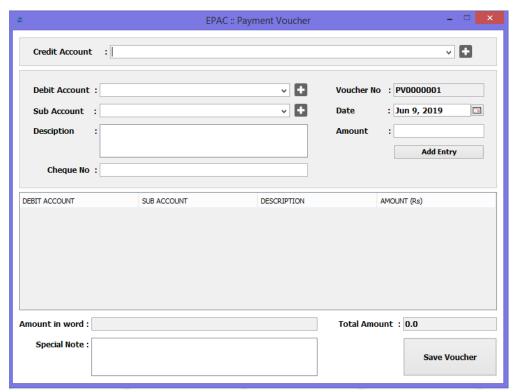
Account Registration



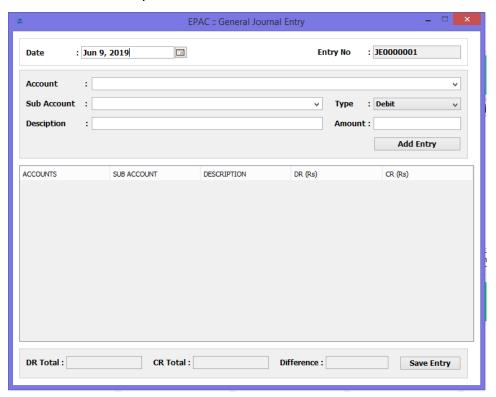
Petty Cash Voucher



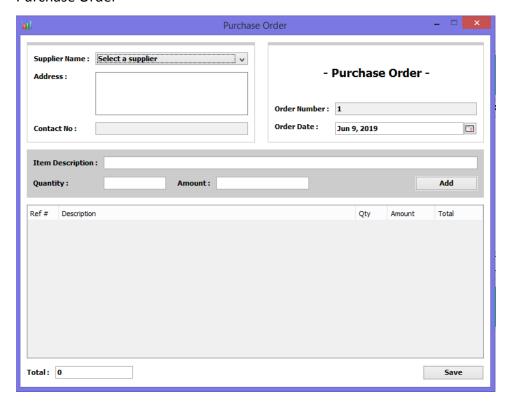
Payment Voucher



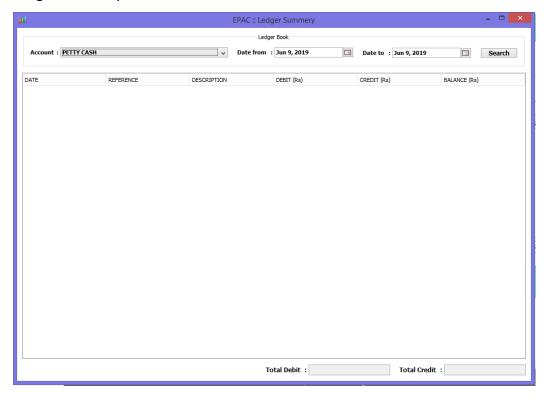
General Journal Entry



Purchase Order



Ledger Summary



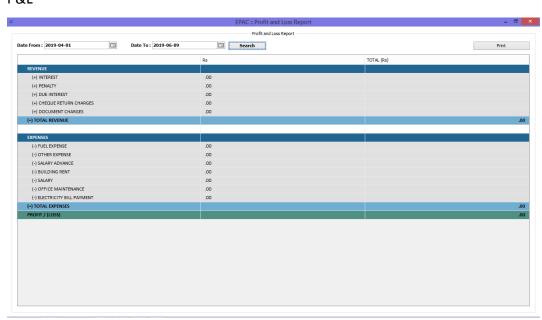
General Journal Entry Report



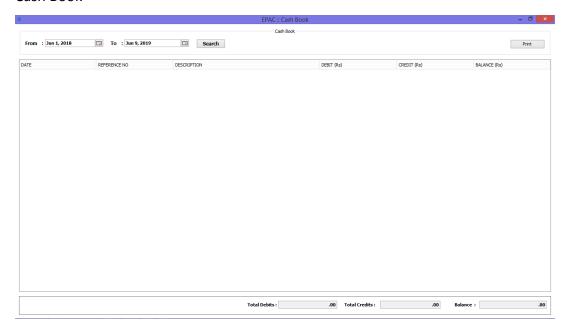
Chart Of Accounts



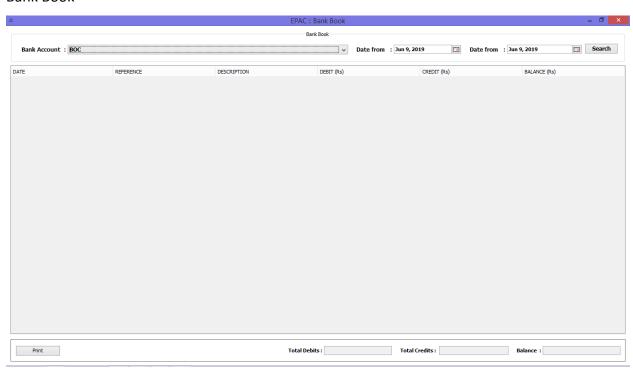
P&L



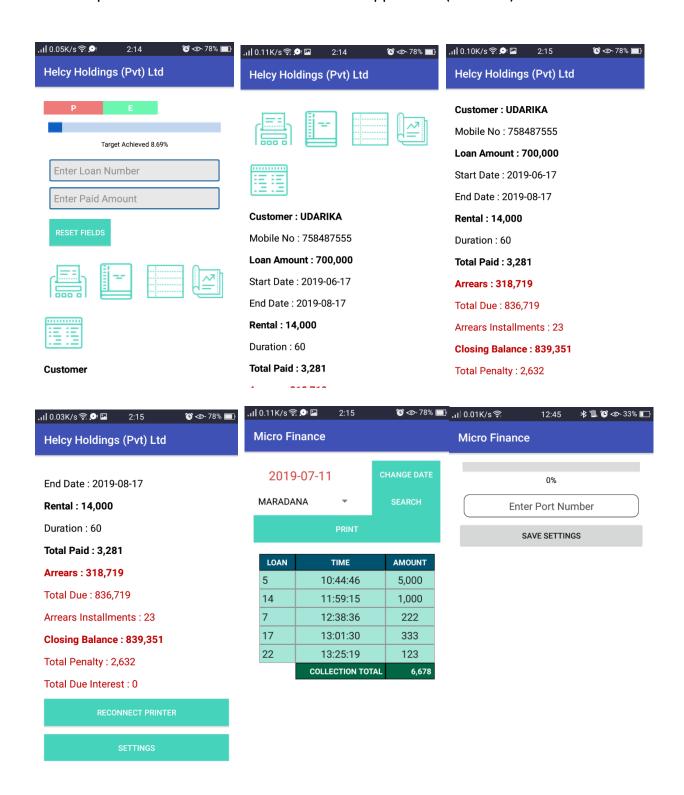
Cash Book

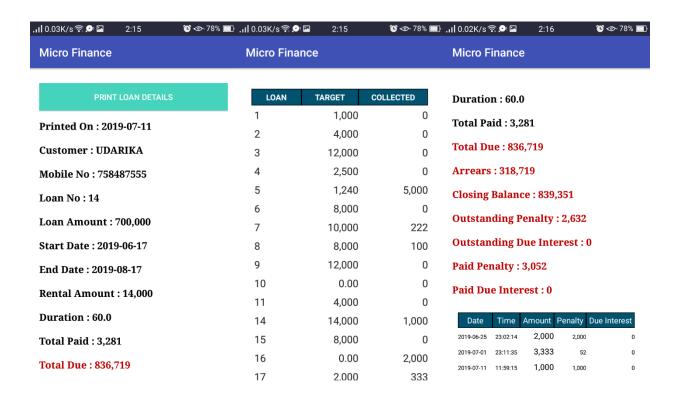


Bank Book

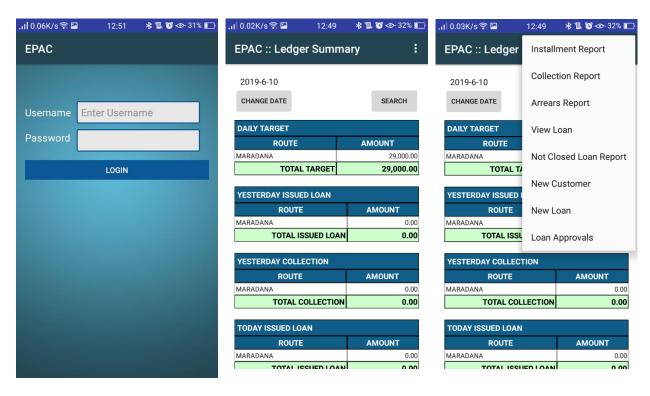


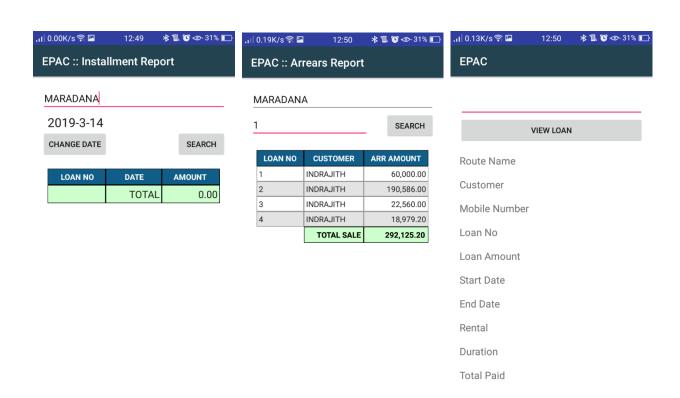
Screencaps of the main interfaces of the mobile application (collector)

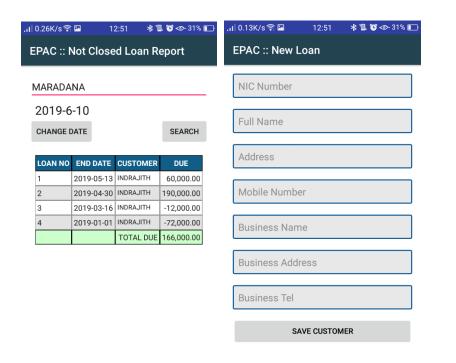




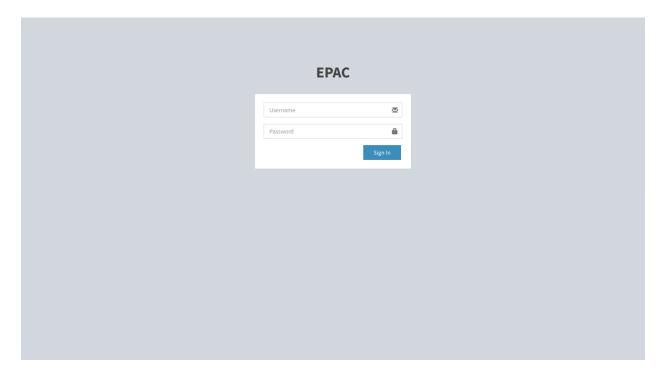
Screencaps of the main interfaces of the mobile application (owner)

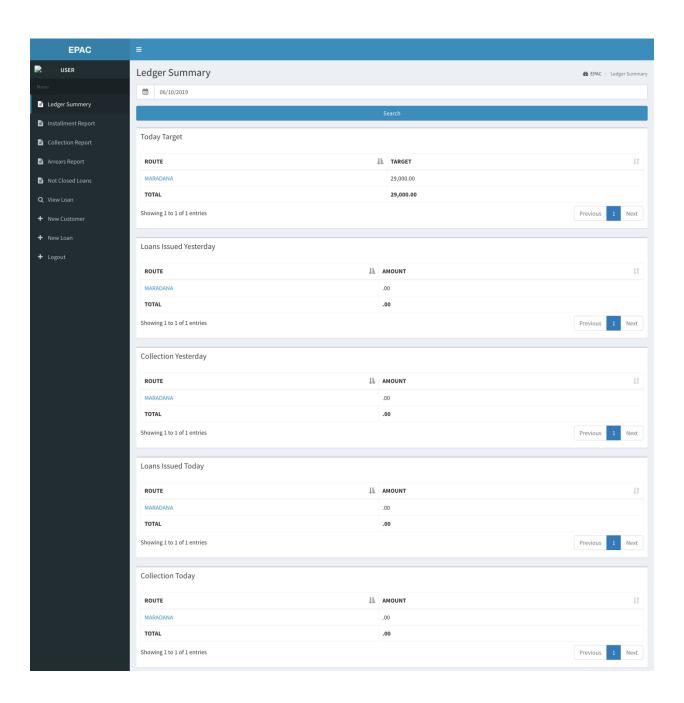


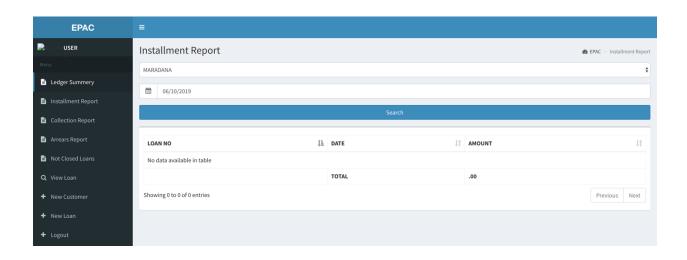


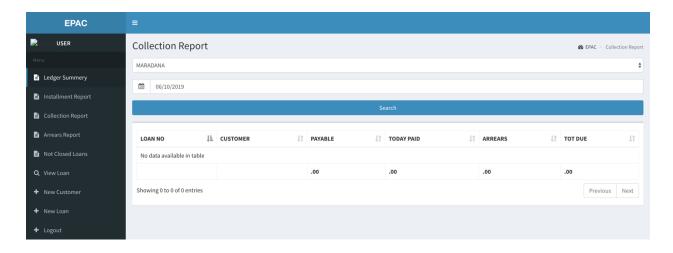


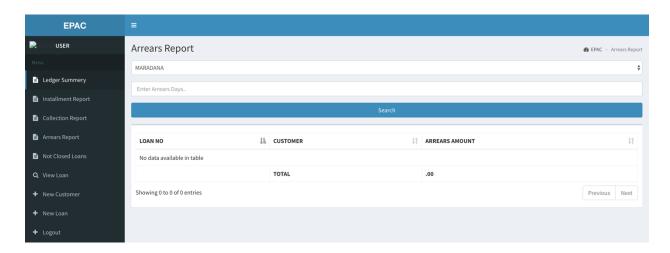
Screencaps of the main interfaces of the web application

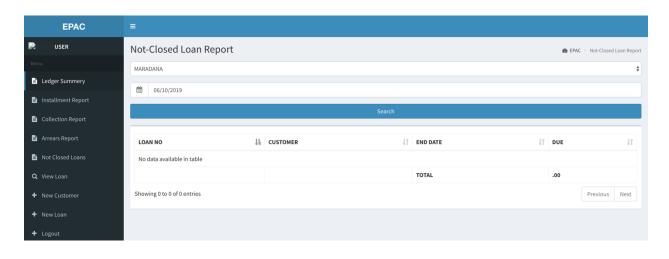


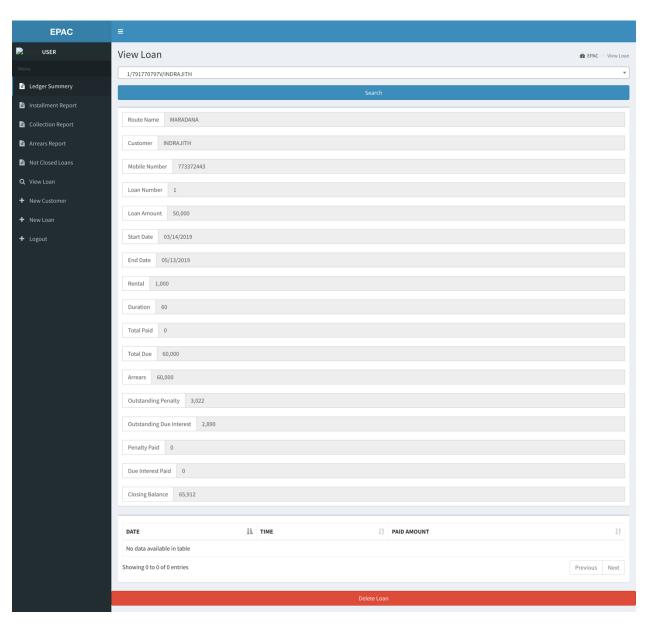
















Thank you for your time. If you need more information please request a demo version.