MICRO ENTERPRISE LOAN (MEL): A SMART SOLUTION FOR MANAGING MICRO-FINANCE

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Abstract

Maintaining the financial data in any bank or finance firm requires a high degree of efficiency, quality and accuracy. When it comes to financial organization lead generation and loan organizations are usually a tedious task as it is processed manually. Since mobile devices have become more and more powerful and distributive, mobile computing has greatly changed our daily life. This paper presents an android based mobile application called Micro Enterprise Loan (MEL) for the small and medium finance organization to maintain their data efficiently through the smart phone. This paper also explains the architecture and effectiveness of the application.

Introduction

Microfinance is the source of all financial services for entrepreneurs and small business lacking access to banking and related services. Microfinance network provides formal savings and credit services to 86 poor households. Yet, there are some disadvantages in maintaining the records of the customers. Most of the financial institutes are unable to maintain the high-quality records. Basically the records are maintained in a paper which is handwritten and some are maintained in excels. There is no system capture of lead generation process. Since, the lead generation process is done manually.

The recent years have witnessed a rapid growth in the usage of mobile devices. Now the mobile phones are not only used for basic uses like texting, calling etc., but used for various purpose like mobile banking, mobile bill payment etc. Mobile devices have become more and more powerful and distributive and mobile computing has greatly changed our daily life. Android is one of the most popular mobile operating system. But the efficient uses of smart phones are not be seen in small or medium financial firm operations. If the micro financial organization uses smart phone applications in their daily operations will reduce the manual time consuming works. Also it will overcome the troubles in lead generation and loan processing by a highly efficient and user friendly mobile application with necessary security.

Proposed Model

The proposed application is basically designed for financial companies who are into micro small and medium enterprises. The application can be used for lead generation and partly loan organization. The proposed mobile application MEL contains the Login-password for the individuals who use it. It also has Lead creation, Backup and Restore module. The user will enter all the fields that is been appeared in the lead creation screen. On clicking of a save button the information will be stored in the database and this information can also be viewed, updated and deleted. The backup and restore module will store the data in secure digital card. Finally the decision will be made by the lead generator whether to approve or reject the lead based on the requirements given by the customer. The app provides high security by authenticating the user through password and username.

The application MEL basically deals with lead generation process it includes lead creation module which consist of details that has to be filled by the user. The detail includes personal information of the customer, Business details etc. The application also contains a system calendar were in the date is selected directly from the calendar. The information which is filled in the lead creation page is saved in the database and also this information can be retrieved. Basically it will accept the information from the user and this information can be analyzed later. The application also includes Backup and Restore Module this screen contains two buttons. In order to back up the data the application provides a Backup Database button for the user and it will overwrite the current lead creation information with previous lead creation data. The application also provides a facility for restoring the database information's. The main feature of this application is it used to maintain the lead information, which can be updated, viewed and deleted. The application also contains a login page for authentication. The authentication is done with the username and password. Once the authorization process is successfully completed the application will provide the home page access to the user. The user can also sign up for new password and username. The application can be installed and used by providing the required the security.

The front end development tools used for building a mobile application are (UI tools, Eclipse 4.3 IDEs for Java Developers, Android SDK, ADT (Android Development Tools)

plugin for Eclipse, SQLite database). The Android compatible apps can be tested and made to run in Windows PC with the use of android SDK. The android SDK Emulator includes mobile device emulator which performs all hardware and software features of a typical mobile device. The mobile application MEL basically it is designed for lead generation that is keeping track of the customer loan procedure and

analyzing the customer data and takes further decision whether to continue the loan procedure or not.

System Design

All the information from any finance organization requires good security as it contains very sensitive and important information.
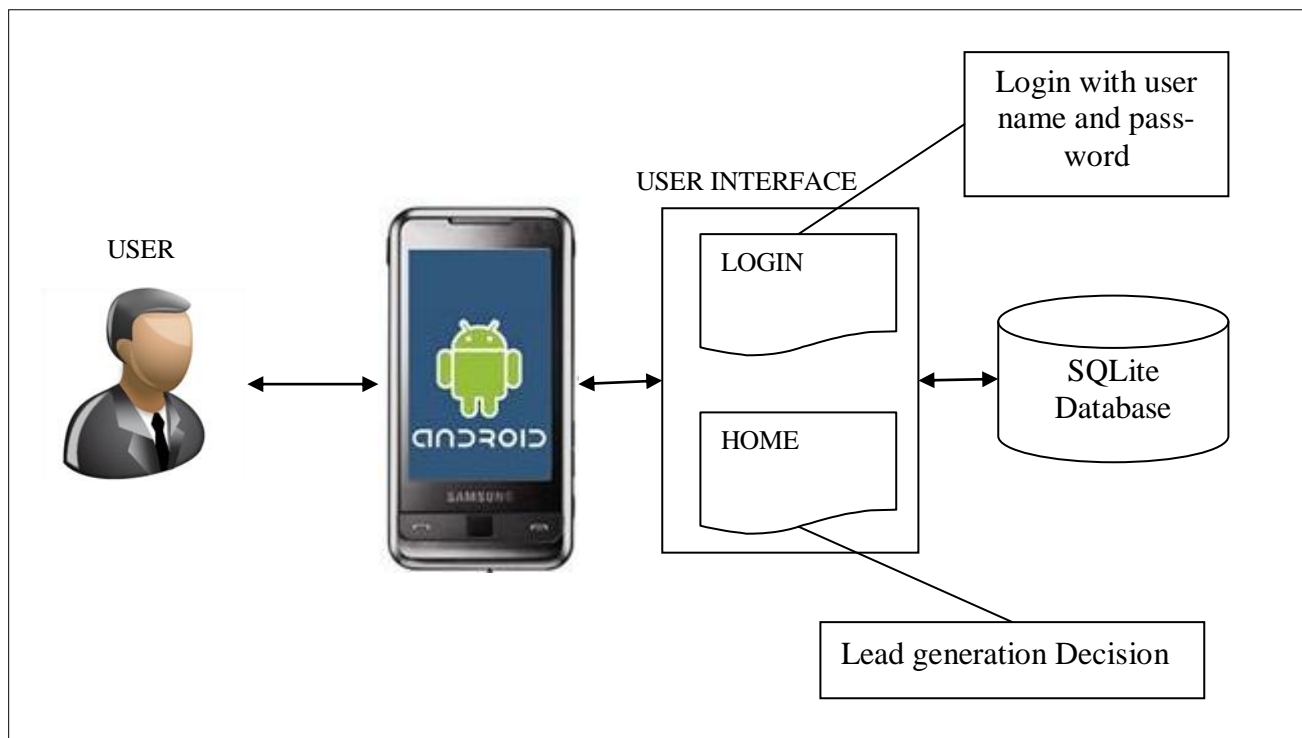

Figure 1. System Architecture of MEL

The MEL application was developed with an android-permission based application model. Figure 1.shows the detailed system architecture.

This application is basically used by the employees of finance organizations to analyze the customer information and take further actions in lead generation process partially on loan organization. The figure [1] shows the three tier system architecture of mobile app MEL. The system architecture includes the Presentation tier, Application tier and Data tier. The Presentation tier is the topmost level of application it is actually an interface were in a user can interact with the app and it provides a result which is understood by the user. The interface consists of login and homepage.

The Application tier is the middle tier, the logical tier is pulled out from the presentation layer it performs detail processing of the app and it also moves and process login and lead creation data between the two surrounding layers. Data tier is the layer in which login and lead creation data will be stored and retrieved, this information will be passed back to

the logic tier (application tier) for processing, and then eventually back to the user in the presentation tier. SQLite database is used for storing the data. SQLite is a relational database management system; SQLite is not implemented as a separate process. Rather, it is part of using program. The main advantage of this app is it provides a high security by authenticating the user before entering into the home page. And a user can also change the password if it is required. The application is basically user friendly and provides a wide range of scope because it makes the work easier with a single touch it reduces the work pressure.

The Application Design and Implementation

The application is divided into three parts: login, lead generation and lead update.

The login screen is used for the user to login into the app with appropriate username and password. That links to the

lead creation screen. And it will also validate the username and the password. If the user enters invalid input a message appears on the screen saying that the user name or Password does not match. Hence the app provides proper authentication of the user. The user name and the password is stored in the SQLite database

Figure 2. User Interface for Login

The lead creation screen allows the user to enter the following details like customer personal details, Business Details and other details. All this information will be stored in SQLite database. This information is used to analyze the customer during the lead generation process. It helps to keep track of the customer.

Figure 3. User Interface for Lead generation

The user can enter into update screen from lead creation homepage, the lead creation homepage links to the lead updating screen and allow the user to update the information and the changes made will reflect in SQLite database. It also allows the user to delete the information. On successful updating and deletion a message appears on the screen saying that the information is successfully updated and deleted.
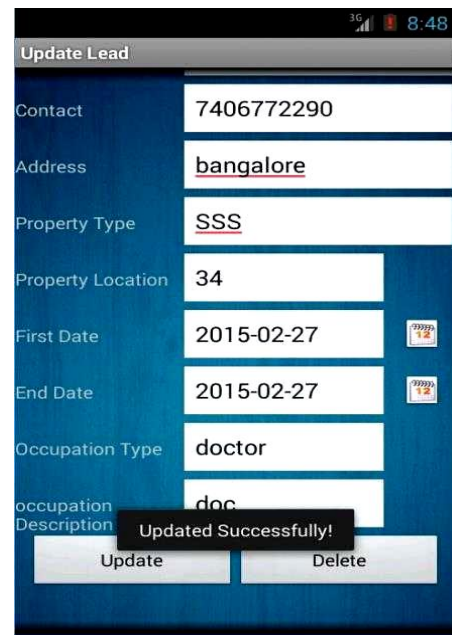

Figure 3. User Interface for Lead update

Conclusion

The application proposed in this paper has been designed to automate almost all the tasks of micro-finance operations. It also increases the interaction between the user and the system. Though the application is basic but it provides a variety of features both in terms of design and information storage and retrievals. This application, automate the complete lead generation operations of small scale finance organizations. The application helps the user to analyze the customer data and take further actions for lead generation process. It enables the user to update, delete, and view the information given by the customer. And also it helps the user to keep the back up of database and restore the database. This application is proposed to provide the employees of any financial organization with a mobile application that could be used for analyzing the customers during lead process anywhere at any time in a secure way with proper authentication. It also provides good scope for the betterment of operations in any financial organization. This application is more flexible in terms of usability.

Acknowledgments

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Biographies

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