

Development of Co-Operative Society App using Android

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ABSTRACT

This paper reflects the implementation of our work. It is an Android Application that is developed as an E-brochure for a co-operative society along with certain technologies. It includes various components and features of the firm and aims to provide services to the customers. The enhanced features are the technologies included such as SMS service, location based service (LBS), etc. The application is developed using Eclipse ADT (Android Development Tool) which helps any project to be developed in an IDE (Integrated Development Environment). It can be proved as a small attempt to reduce the paper usage and cost of publishing the brochure, thus paving path towards digital India.

Keywords: E-brochure, SMS service, LBS, Eclipse ADT, IDE.

I. INTRODUCTION

The Android Application is an Electronic Brochure which includes various details and features of the co-operative society i.e. the small bank. The components of the firm are classified into different pages and activities. They involve certain schemes, activities, offers, addresses, etc. of the co-operative society. Each activity gives the detailed description of every feature and service by the means of texts, images and videos. Whole application is designed and developed in an Integrated Development Environment provided by an Eclipse ADT. It also includes certain technologies to be used with Android. They are the SMS service, GPS location service and Charity donation service. SMS service enables the customers to connect themselves with the organization. They can send feedback, reviews, comments, registration details, etc. by using this service. If the customers want to visit the organization, then by the means of GPS location service, it is convenient for them to trace the path through charity donation service which motivates them to donate their small pay in order to help for the social cause. The characteristic

feature of the application is that it is available in State language of Maharashtra i.e. Marathi. By keeping in mind, that it is a small scale organization for which this application is developed, the preferred language was Marathi. It provides convenience to the customers of all age groups.

II. RELATED WORK

The brochure is a backbone of every organization. Most of the organizations rely on paper brochures to inform the customers about their work and firm. Considering schools, colleges, restaurants, hospitals, it is necessary for them to provide information so as to reach and connect to people. This ultimately helps in growing their business. But again, a manual is not enough to do so. There should be something innovative and interesting which would attract customers to their organization. Today, we can see numerous websites doing this task. But it is not convenient for everyone to login the webpage each time to access the information. Also, some websites are not accessible on mobile phones and have the alignment problems. Hence, an application is the

better option. Android is a platform which helps us in developing such Android Applications. It has got numerous tools and advanced features with the combination of XML and Java programming languages [1]. XML provides the layout designing with the help of different widgets. Java makes that widgets work in synchronization so as to make the application run and work properly. As the traditional way to publish brochure is to use the paper, the modification and updates cost more. Also, it is not beneficial for the organization to repeat the procedure every year. Using an Android Application, one can easily look for the updates and perform them. With newer versions of Android, the application will be needed to be updated [1]. Although it is efficient to comfort customers through an application, but again there comes the matter of satisfaction. Mobile banking is helpful in satisfying customers and retaining the valued customers [2]. In our application, limited transactions have been included, but the services are appropriate. One of the major services is Location Based Service (LBS) in any product. Previously, there used to be short description about the user's location in most of the applications. But it has to be mentioned that location based services can be proved as value added services in such work [3]. One can easily trace out the path to the destination and locate nearby areas along with his own current location. LBS acts as a boon to the users so as to retrieve information in order to find their desired location [3]. The application should be attractive enough to grab the attention of customers [4]. The proposed system is well designed to attract customers and provide them the quality services. As a result, the customers will find it efficient to access the application rather than opting for brochures. This system will ultimately help in reducing the paper wastage and cost of publishing [4].

III. PROPOSED SYSTEM

The proposed system is an Android Application which comprises of various elements of the co-

operative society in order to provide services to the customers. All of the components are accessible in a sequence for the smooth functioning of application. It also includes certain technologies which are broadly classified into modules.

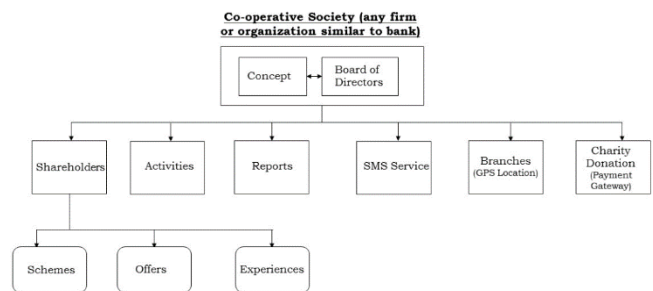


Figure 3. Working of the application

Figure 3 depicts the working of various components in the application. The co-operative society is formed by the collaboration of these two elements:

1. **Concept:** It includes the conceptual idea behind the establishment of the firm. It is shown with the help of text which is displayed in the activity.
2. **Board of Directors:** It involves the information about the directors and other members of the cooperative society. All photographs are included along with their description in the dialog box.

The components can be described as follows-

1. **Shareholders:** This section includes 3 subcomponents as-
 - a. **Schemes:** The schemes are given as texts in proper order.
 - b. **Offers:** It also includes texts in points.
 - c. **Experiences:** The experiences of customers regarding the co-operative society are being depicted by the means of videos.
2. **Activities:** The society conducts numerous social and other activities which are described by photographs and texts in the application.
3. **Reports:** The annual budget of the society is given in the form of scanned copies. They are arranged pagewise with zoom in and zoom out functions.

4. SMS Service: This module provides the facility to send message to the co-operative society for any query, review or certain registration details. It includes a GUI for sending SMS on one click.

5. Branches: It includes the information about various branches of the society. In order to visit them, the customer can check the address given and trace the path by the means of GPS location service provided.

6. Charity Donation: Being involved in a social cause is a great thing to be done. For this, charity donation service is included so that customers can donate certain amount if they wish to help the organization.

As different pages of the application include detailed information along with certain technologies, one more feature is provided for the ease of access to them. The Navigation Drawer implemented in the application helps in moving from one activity to another without clicking the back option. Simply the option from the list provided is to be selected. This offers convenience to the customers to roam in the application fluently and perform their tasks. As mentioned earlier, the proposed system is fully developed in Android platform. The tools and methodologies used are explained in the technologies used section.

3.1 Technologies used

Android is a Linux-based software system which is free to download and open source software. It contains something which is endless and limitless. It provides amazing GUI by the means of Android 4.0 and onwards for the users to feel it lively. It provides numerous opportunities to the developers to work with zeal in this development environment. It has versions which enables any application to be installed on the mobile phones from lower to higher configuration. It simply provides everything a developer wishes to build and a customer or user wishes to utilize. Hence, the Eclipse ADT (Android Development Tool) is being chosen. It enables the developer to work in an Integrated Development Environment (IDE). It

provides an interface to various technologies like GPS Location, Payment Gateway, etc. (which will be implemented in this application). The overall proposed system seems to be more advanced and more enhanced.

IV. RESULT AND DISCUSSION

The significant technologies used in this application are segregated into various modules. The description of each is provided in the following contents:

4.1 SMS Service:



Figure 2. a SMS Module



Figure 2.1.b SMS Sent

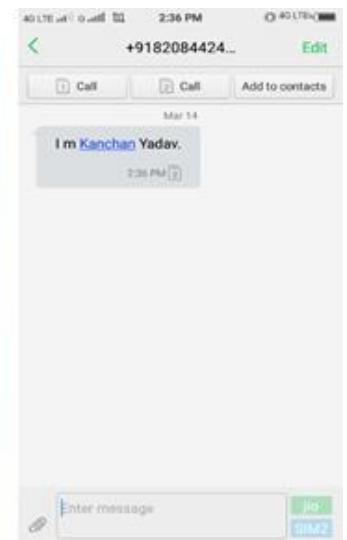


Figure 2.1.c SMS Received

In section 2.1, SMS module has been implemented for establishing reliable communication between

bank authority and customers. With the help of this service customers are now able to send their reviews, feedbacks, comments, etc. Figure 2.1.a shows the SMS activity. In figure 2.1.b, the customer has sent an SMS and in figure 2.1.c, the SMS has been received at registered number of bank authority. The main objective of including this service is that if any customer wants to open an account in this co-operative society, then he will simply send an SMS reflecting his wish. In turn, the organization is now able to contact that customer for further procedure by the means of contact number received through an SMS.

4.2 GPS Location Service:

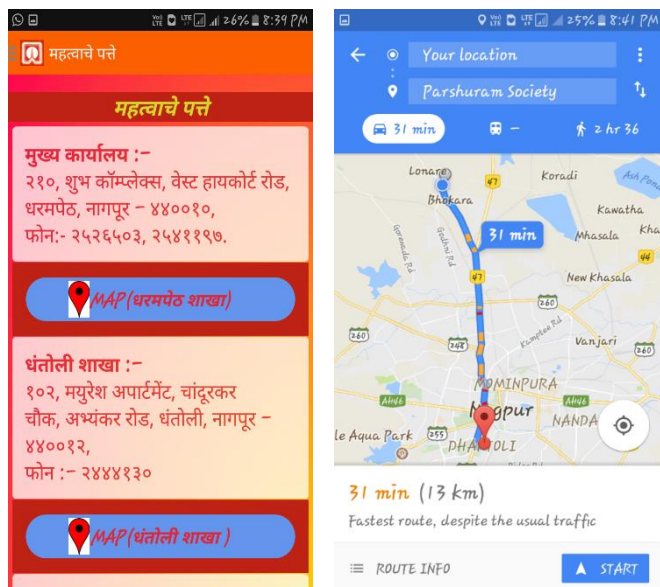


Figure 3.1.a Branch Addresses Figure 3.1.b GPS View

In section 3.1, GPS location service has been depicted. It has been implemented in the application to provide location facility. As there exists various branches of the Co-operative Society, then it becomes difficult to search for each location, every time the customer wants to visit. Therefore, the GPS location with predefined destinations of all the branches has been implemented in this application. Whenever the customer will desire to visit the branch, then on just one click, the route will be displayed and he/she will simply have to follow the path as shown in above figure 3.1.a and 3.1.b.

4.3 Charity Donation:

Charity Donation service has been implemented in the application. This service enables the transactions within different accounts. The main objective of applying payment gateway is to make donations. If anyone wants to donate a small pay to the society, then it can be done by this service. This page contains a form and a submit option as shown in figure 4.1.a. This activity links the application to the payment gateway where further transaction is carried out as shown in figure 4.1.b.

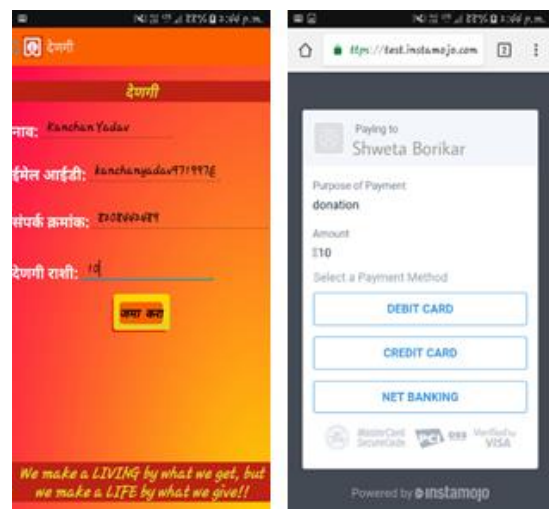


Figure 4.1.a Donation Form Figure 4.1.b Transaction View

4.4 Navigation Drawer:

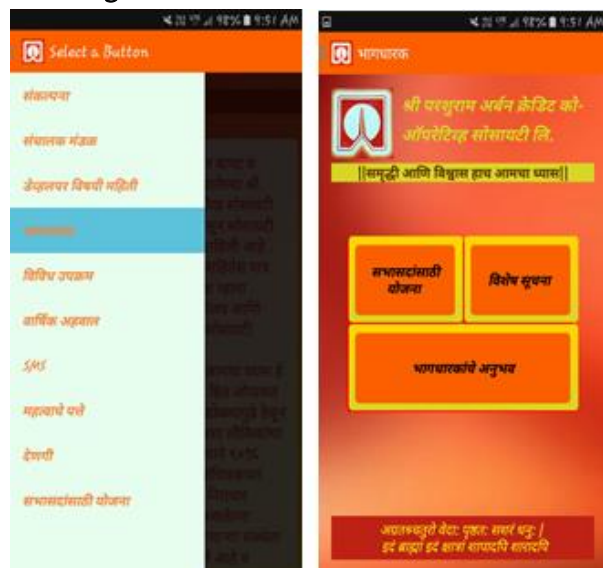


Figure 4.4.a Navigation Layout Figure 4.4.b Activity Chosen

Navigation drawer service has been implemented in the application. This application consists of various

activities, hence to move easily from one activity to another we implemented this service as shown in figure 4.4.a. This navigation drawer contains all the fragments of application. This drawer menu bar opens with same width and height no matter from where you access it. It is therefore ideal for usage on a responsive design layout and therefore is fit for any screen size. The activity chosen will be displayed as shown in figure 4.3.b.

V. PROJECT SCOPE

The current scenario of information brochure is that a brochure is usually published using high quality paper. It is made available to the customers providing information about the firm. During the time of updates, the new brochure is to be published again. Also, the cost of implementation increases gradually. Hence, it is one of the best options to install an Android Application and check for the updates. This helps in reduction of the frequent cost of publication. It is a one-time investment which increases the scope of project. Also, the paper brochure lacks the multimedia part. There is no provision for interactive videos and multimedia services on paper. The application which is an 'Electronic Brochure', does this with sophistication. The customer is not able to contact the organization by the means of textual brochure. The customer is unable to find the route to different branches reading the addresses given. The customer definitely requires an interface which directs him to the exact location. The application provides this on just one click. There are number of services which differentiate the application from traditional practices, thus increasing the scope of project.

5.1 Application and Implementation

The application has been implemented in the Co-operative Society, for which it is specifically designed. It helps the organization to promote its services efficiently and grab the attraction of the customers with a touch of technology. The other organizations

in which such applications can be implemented are banks, hotels, schools, colleges, hospitals, transportation, etc.

5.2 Advantages

1. The wastage of paper will be reduced as all elements are covered in this application.
2. It includes multimedia part such as photos and videos for attractive interface.
3. As the application is an electronic brochure, there is a one-time investment and the cost of printing paper brochures is reduced.
4. GPS location module provides exact path to the destination without any need to specify it.
5. Navigation drawer provides ease of access to the customers to roam within the application.

5.3 Limitations

1. Android based smartphone is mandatory for the application to be installed.
2. Due to newer versions of Android, updates will have to be done.

VI. CONCLUSION

The application is capable enough to take the informatory brochure to electronic level and to enhance the use of technology to great extent. Eventually, it is a small step towards 'Digital India'.

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