1. Introduction

If you are the one who wants to pay your mobile bills just on one touch instead of going all the way till provider’s store or by connecting to the net and accessing the official site then we have come up with an Android mobile application which promises to put all your network service provider’s options right in front of you on your Mobile screen.

We have introduced Customer relationship management application on Android. Using this application one can recharge your prepaid mobile, pay bills on the move, know your tariff details, access call centre numbers etc. This android version has newer features, smarter interface, quicker navigation and enhanced functionality.

Wi-Fi enabled mobile handset helps you to connect directly to your mobile account. This rich client based application needs to be installed on your mobile thereby enabling a single click access to your mobile account.

1.1 Literature Review

The objective behind making this application was to bring the functionalities of a network service provider onto a mobile device. So while surveying as to on which platform or rather operating system the project has to be implemented ,we selected android for the following reasons:

- Android is an open source platform
- Supports multifunction
- Provides rich tools to make interactive application
- Downloading the software’s required for making the application are absolutely free

Along with this we surveyed the popularity of the operating system [1]. Market share of android which was mere 2.8% in 2009(initial stage), boosted to 48% till August, 2011 which is almost half the share of the total market. Our basic aim is to make the application reach as many people as possible and this goal is achieved by implementing the application on android.

Share of worldwide 2011 Q2 Smartphone sales to end users by O.S, according to Gartner.

Fig: 1.1.1 Share of worldwide 2011 Q2 Smartphone sales according to Gartner
1.2 Problem Definition

All businesses are there to support its clients for it to achieve success. The focus of all the companies should be on their clients. In order to know the customer preferences, you will have to collect, group and analyse customer details, a tool that aids you in doing all these process is called as CRM (Customer Relationship Management).

A perfect CRM solution is one that is going to make the existing customers as lifelong customers and potential customers into new customers. The CRM methodology sounds simple, but actually it is not. We may appreciate the Android application for its ease of use, when it comes to offering applications to mobile users. Objective behind making this application was to bring the ‘Network Service Functionality’ onto a mobile device.

Maintaining the customer relationship on a handheld device usually involves the following:

- Instruct users about procedures to follow and precautions to take, including the following items:
- Maintaining physical control of the device, reducing exposure of sensitive data, employing user authentication, content encryption, and other available security facilities.

In order to achieve this we develop an android app which helps in managing various functionalities provided by any network service provider such as: bill payments, enquiries, tariff details, contact details of various call centres, current billing amount, value added services etc. Such an application would be available to customers on a single touch and they need not login into respective provider’s site every time.

Reason behind choosing this project as an App :-

The user interface is very good
- Access to most APIs like GPS, Accelerometer, address book, contacts etc.
- Apps can handle heavy graphics very well.
- Ease of usage

1.3 Objective

To exploit the functionalities of a mobile phone by making all features available in 1 ‘app’ thus taking Mobility a step higher. Requirement and ample opportunity, behind this project renders it necessary for a system of this kind to be developed. This hopes to breathe new life into the way ‘Network Service Providers’ relate to customers.

JUSTIFY CHOICE:-

This topic was chosen owing to a rising need for simplicity. The presence of all Network Service Provider related activities in one application is customer friendly. Being installed on the mobile, a portable device, the user will not have to wait to log into a computer or go to the store to perform activities that they can perform at their own location on the mobile phone, via just 1 touch. The Gartner statistics, showing a hefty 43% of Android’s market share, was a compelling reason to choose it over other operating systems. Currently pursuing this project at Essar-IT, this project is designed to cater to the requirements of the company.
1.4 Scope

The project is basically an android application that provides various functionalities of a network service provider. Functionalities like paying of bills in case of post-paid customers or recharge in case of prepaid customers can be done using this application. Also functionalities such as locating your current location and knowing the nearby stores, downloading stuffs, automatic sms generation n calls to customer care are included in this application. All such functionalities would make us achieve our goal of ‘Network provider services on hands’ which would help reducing the work of customers to reach the network service providers stores every time to get their work done.

For making this application, a computer with JDK, eclipse IDE, Android SDK and Android development tools installed on it will be taken to create the application. A server has been purchased online with name crmapp.in where server side coding is done using php. This helps in storing the database of various customers.

The connectivity of the phone with the server requires minimum net connection.
2. Process Model

Spiral model possesses the iterative nature of prototyping model and controlled systematic approaches of the linear sequential model. This model also gives efficient development of incremental versions of software. In this model, the software is developed in series of increments.

Figure 2.1: Spiral Model for the Project

Spiral model is realistic approach to development of large-scale systems and software. Because customer and developer better understand the problem statement at each evolutionary level. In the initial pass, product specification is built and in subsequent passes around the spiral the prototype gets developed and then more improved versions of the software gets developed. According to our system and its functionalities, Spiral would the best model to be used.
3. System Requirements

3.1 Software and Hardware Requirements

Hardware Requirements
- Internet connection with a minimum speed of 100kbps
- Computer with a minimum of following requirements:
  - Processor-Intel(R) Pentium(P) Dual CPU,32 bit operating system
  - Android hand-set version 2.2(froyo) API level 8

Software Requirements
1. Android SDK:
   A software development kit that enables developers to create applications for the Android platform. The Android SDK includes sample projects with source code, development tools, an emulator, and required libraries to build Android applications. Applications are written using the Java programming language and run on Dalvik a custom virtual machine designed for embedded use which runs on top of a Linux kernel. It enables application’s compatibility with android platform by means of API.

2. Eclipse:
   Eclipse is a software development environment comprising an integrated development environment (IDE) and an extensible plug-in system. It is written mostly in Java and can be used to develop applications in Java and, by means of various plug-ins, other programming languages. The IDE is often called Eclipse ADT (Android Development Toolkit) Eclipse JDT for Java.

3. Android Development Tools (ADT):
   It is a plug-in for the Eclipse IDE that is designed to give you an integrated environment in which to build Android applications.

4. Server: Bought a server by the name: www.crmapp.in
   Database: MySQL.
   Language: PHP

3.2 Functional Requirements

3.3 User Requirements
   Smart phone with Android OS.
   Version 2.2 (froyo) API levels 8.
   Phone connects to the server via Mobile Internet. Thus can be accessed anywhere.
4. Design Documentation

4.1 High Level Designing (Architectural Design)

The user interface of the project is used to record all the users’ actions. These details are converted into JSON Objects and are sent to the server. The server performs the desired action and sends it back to the client wrapped as the object. The client now unwraps the object and displays the result to the user. REST web service is used. Connection to the server is made using Internet on the phone.

*This is a working model; it’s being implemented and tested on an Android 2.2(+) phone and using a dummy server located on the Internet (www.crmapp.in).

![Diagram of Client Server Model: User - Client](image)

Figure 4.1.1: Client Server Model; User - Client
4.2 Low Level Designing (Detailed Design)

4.2.1 Use Case Diagram

Figure: 4.2.1.1 Use case diagram
4.2.2 Activity Diagram

4.2.2.1 Bill Payment

[Diagram showing the flow of a bill payment process involving user interactions with a mobile database and bank database.]
4.2.2.2 Recharge

[Diagram showing the process of recharge with steps like Start application, Enter password, Enter application, Start session, Select service, Mobile recharge, Redirected to recharge page, Enter mobile number and amount, Select payment option, Enter credit card pin, Enter recharge amount, Sims will be generated to the number, End session, Close application, etc., with decision points for valid and invalid inputs.]
4.2.3 Data Flow Diagram

A data flow diagram (DFD) is a graphical representation of the flow of data through an information system, modeling its process aspects. Often they are a preliminary step used to create an overview of the system which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design).

A DFD shows what kinds of data will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of processes, or information about whether processes will operate in sequence or in parallel.

Various levels of Data Flow Diagrams

1. Level 0 DFD or Context-level Data Flow Diagram
   This level basically represents the input and output of the entire system. Here, the input is the query from user’s mobile and output is the response to user’s mobile from the Bank database server.

2. Level 1 DFD:
   The basic modules of the system are represented in this phase and how data flows through different modules is shown. Here, the system is broken down into Mobile application and Wi-Fi connectivity where the user’s query will be connected to Wi-Fi and search data into the bank database and response back to the user.
3. Level 2 DFD:

The module details are represented in this level. Therefore, detailed Data Flow Diagrams can be drawn with regard to the complexity of system.

1.1: Mobile Application
Here the detailed flow of mobile application is explained. The user selects the various transactions like fund transfer, bill payment, mobile re-charge, ATM search and bill details by getting connected to internet via Wi-Fi.
4.2.4 Class Diagram:-
::com.example.androidhive.library

**UserFunctions**

```
billURL : String
bill_tag : String
jsonParser : JSONParser
loginURL : String
login_tag : String
registerURL : String
register_tag : String

billpay(...)
getuid(...)
isUserLoggedIn(...)
loginUser(...)
logoutUser(...)
registerUser(...)
UserFunctions(...)
```

**JSONParser**

```
(httpPost.setEntity

(httpEntity.getEntity

; ;

. ;

. is

httpEntity : HttpEntity

httpResponse : HttpResponse

is : InputStream

jObj : JSONObject

json : String

getJSONFromUrl(...)

JSONParser(...)

UrlEncodedFormEntity(...)
```

**DatabaseHandler**

```
DATABASE_NAME : String
DATABASE_VERSION : int
KEY_AMOUNT : String
KEY_CARDNUM : String
KEY_CREATED_AT : String
KEY_EMAIL : String
KEY_EMAIL1 : String
KEY_FIRSTNAME : String
KEY_ID : String
KEY_LASTNAME : String
KEY_NUMBER : String
KEY_TYPE : String
KEY_UID : String
TABLE_BILLPAY : String
TABLE_LOGIN : String
< String : HashMap
public : @Override
public : @Override
String : HashMap

addUser(...)

DatabaseHandler(...)

getUserDetails(...)
onCreate(...)
onUpgrade(...)
```
4.3 User Interface Design

Main Page (Login, Register)

User ID:
Password:
New user?
Register

login successful

New User

First Name:
Last Name:
User ID:
Password:

1. Prepaid
2. Postpaid
3. Locate Store
4. Loss of Sim
5. Download
6. Activate/Store

Prepaid (Plans, Offers, Recharge, Delights)

Prepaid
Plans
Recharge
Delights
Offers

Plans
Generate plan
SIM
● 500 mins for 35
● 1000 mins for 60
● Local/national
● Full 555
● Full 222

Offers
Take home a gift
Calls 500/min
Reduced STD call rate
Save paper, save trees

Pay online
phone no:
User ID:
Payment opt:
Bill Amt:
Card no:

Pay face-to-face
Amount:
Phone no:

Pay face-to-face
Notepad
files

Delights
Image of Glasses
Image of Watch

Coverage
Map
Postpaid (Offers, Plans, Payment Options, Billing Amount)

- **Postpaid**
  - Plans
  - Offers
  - Payment options
  - Billing amount

- **Plans**
  - Monthly Rental
  - Free calls
  - National sms
  - Local sms
  - Local minute
  - Applicable packs
  - Voice rate cutter
  - 2G data

- **All plans**
  - Double value 399
  - STD 99p at 50p
  - MNC per sec
  - Power to choose 150
  - VF talk 199 one per sec

- **Payment options**
  - Phone no:
  - User ID:
  - Payment opt:
  - Bill Amt:
  - Card no:
  - Submit

- **Billing Amount**
  - Click to receive your current bill amount

- **Offers**
  - sms
    - Take home a gift
    - Local Calls @ 49
    - Calls @ 30p/min
    - Reduced STD rates
    - Save paper, save trees

- **Locate Store (Coverage and Current Position)**

- **Locate Store**
  - Coverage
  - Current Posn and locate store

- **Map is shown with spots indicating coverage location**

- **Map after animating to current location**

- **Address shown OR Pin is placed OR View is changed**
Loss of Sim

Loss of Sim
Charges
TRAI
Billing

Each option opening a notepad file

Downloads :-

Choose
Download
View

Enlarged Image

Full Size Image

Activate/Deactivate Roaming:-

Roaming
Activate
Deactivate

Send SMS

Call
Call center no.
5. Coding Screenshots :-

Login / Register User
After Logging In:

Prepaid:
- Postpaid
- Locate Store

Recharge:
- Plans
- Recharge
- Delights
- Offers

Pay Online:

Face to Face:

Locate Store:

You’re Here: - Road Number 6, Pestom Sagar Colony, Ghatkopar West/nMumbai, Maharashtra

Enter number: 9619533873
Enter UserID of CRMAPP: neerg
Payment Options: American Exp
Enter bill amount: 700
Enter Card number: 3 4 0 0 0 0 0 0 0 0 0 0 9

Amount: 40
Phone No: 9619533873
Locate nearest Store
Recharge
Reset

Successful Recharge 700 to account: submit
**Payment:**
- Enter number: 9619985814
- Enter email_id of CRMAPP: d
- Payment Options: VISA
- Enter bill amount: 900
- Enter Card number: 411111111111111
- submit

**Downloads:**

**On choosing Image:**
- Options
- Pick any
- Download
- View

**Complete Download**
- Download complete!

**View**
- Downloaded image

**Gallery**
- Other (8) images
### Loss of Sim:

- **FinalCRM**

  **Loss of sim**

  **Charges**

  **TRAI Directives**

  **Billing**

  - **Loss of Sim**
  
    *Can I block my Vodafone mobile phone if I've lost the SIM card?*
    
    *We can't block the handset. If we are providing information on how to block your SIM Card then even this can be added as we receive lot of requests for the same. You can block your Vodafone mobile phone by informing Customer Care on 111.*

  - **Activate/Deactivate**

    - **Billing**

      *Can I change my billing address?*
      
      *No. You cannot change your address online. You need to visit the nearest Vodafone Store or Vodafone Mini Store for the same.*

      *Can I collect my duplicate bill copy from any Vodafone Store?*
      
      *No, you cannot collect your duplicate bill copy from Vodafone Store. However, you can place a request on My Vodafone or call 111.*

  - **FinalCRM**

    *Is this Regulation applicable on Roaming?*
    
    *Yes. All the SMSes sent during Roaming (National or International) will be part of this regulation.*

    *I am a SMS Pack (Bonus Card/ Special Tariff Voucher) user. Will this Regulation be applicable for me?*
Activate Roaming:
- Send SMS

Deactivate:
- Call Vodafone Call Center - 9886098860

Placing Call:
- End call

Locate Store:
Choose either of the following
- Coverage

Coverage:
- You're Here: - Yaswant Rao Chavan Marg, Mankhurd/ nMumbai, Maharashtra/

Current Position:
- Current position and nearby stores
Options :-
- Get Address
- Place a Pin
- Toggle View

Get Address:-
Ayappa Rd, Nerul/Navi Mumbai, Maharashtra

Place a Pin:-

Toggle View(Satellite):-

Toggle View(Street View):-
Press “Back” to go to Main Menu: -

[Image of a smartphone interface with options such as Prepaid, Postpaid, Locate Store, Loss of Sim, Downloads, Activate/Deactivate, and Logout button.]

On Logout:-

[Image of another part of a smartphone interface with options for User ID and Password.]
Snap Shots of the Database:

Users table – for Login

```
SELECT * FROM `users` LIMIT 0, 30
```

<table>
<thead>
<tr>
<th>id</th>
<th>username</th>
<th>unique_id</th>
<th>first_name</th>
<th>last_name</th>
<th>email</th>
<th>encrypted_password</th>
<th>salt</th>
<th>created_at</th>
<th>updated_at</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>ab</td>
<td>8Ep7y40nXf519b63mpc0jP897K8b36Z97926jY7Th1N</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>cd</td>
<td>cd</td>
<td>cd</td>
<td>cd</td>
<td>08j29654f235c984079</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ef</td>
<td>ef</td>
<td>ef</td>
<td>ef</td>
<td>987654321</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>gh</td>
<td>gh</td>
<td>gh</td>
<td>gh</td>
<td>1234567890</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>ij</td>
<td>ij</td>
<td>ij</td>
<td>ij</td>
<td>0987654321</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>kl</td>
<td>kl</td>
<td>kl</td>
<td>kl</td>
<td>1234567890</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>mn</td>
<td>mn</td>
<td>mn</td>
<td>mn</td>
<td>0987654321</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>op</td>
<td>op</td>
<td>op</td>
<td>op</td>
<td>1234567890</td>
<td>008904f24x</td>
<td></td>
<td>2011-03-02</td>
<td></td>
</tr>
</tbody>
</table>

Table 6.1: Database of Registered Users
Recharge – for Recharging a prepaid connection online

Table 6.2: Database of Recharge Online

Bill Payment - Online for Postpaid

Table 6.2: Database of Bill Payment Online
6. Testing and Results

6.1 System Testing

This is performed at the start of the system by the test team. It’s called black box testing. The system is tested in a controlled environment. The purpose of system testing is to validate an application’s accuracy and completeness in performing the function as designed.

Unit Testing:
Each individual module was tested.
1. Using Maps to check position
2. Testing the Recharge and Bill Payment using the details
3. Downloading pictures from the server
4. Testing the Send SMS and Make Call option

Integration Testing:
1. The back button which leads you to the previously opened page
2. Checking whether the downloaded picture is saved in the phone folder

Regression Testing:
Checking if the addition of 1 feature is negatively affecting others.
1. Constantly pressing the button while the download is going on, causes the entire application to force close.
2. While logging in, if the internet is not on, the entire application “Force Closes” as it’s not able to verify the login details with the server.

System Testing:
The entire system is tested together to confirm its validity. This ensures that it’s in a functioning position.

6.2 Black Box Testing

The purpose behind a black box testing is to check if the applications functions as desired irrespective of its internal coding and structure. Specific knowledge of the code being written isn’t essential. This is used to check if a certain input, gives the corresponding output. The tester is only aware of what the software is supposed to do, but not how i.e. when he enters a certain input; he gets a certain output. These tests can be functional or non-functional, though usually functional. The test designer selects valid and invalid inputs and determines the correct output. There is no knowledge of the test object's internal structure. This is applied to all levels of software testing: unit, integration, regression and system.

Eg: When a user enter the Login details, he only knows that:
If the entered details are valid he should gain access, else denied access to the features. The user is not aware (and need not be aware) of how this decision is made.
If he opens the Find Location function of the Maps, he needs to know the current location, not how the location has been concluded.

### 6.3 White Box Testing

As opposed to black box testing, white box testing solely focuses on the internal structure and working of the application. Programming skills are used to decide test cases. Eg:

1. While Logging in, the tester checks that the approval is made by sending the login details to the server (at the back end) and retrieving the result and not by using a switch or “if-else” case in the front end itself. The output of the login could be the same using either of the above mentioned methods, but the former method isn’t as desired.

2. In the Bill Payment process, the credit card details aren’t tampered with (or are secure) while the transactions are going on.

### 6.4 Test Cases

**a) Login**

<table>
<thead>
<tr>
<th>Input</th>
<th>Expected output</th>
<th>Actual Output</th>
<th>Result/Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter user ID and Password : efg</td>
<td>Login Successful</td>
<td>Application opens</td>
<td>Success</td>
</tr>
<tr>
<td>Enter user ID and Password : blank</td>
<td>Login Successful</td>
<td>Incorrect password</td>
<td>Failure</td>
</tr>
<tr>
<td>Enter user ID and Password : 0000</td>
<td>Login Successful</td>
<td>Incorrect password</td>
<td>Failure</td>
</tr>
</tbody>
</table>

*Table 7.4.1 : Login*

**b) Recharge Online**

<table>
<thead>
<tr>
<th>Input</th>
<th>Expected output</th>
<th>Actual Output</th>
<th>Result/Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter Credit card No 340000000000009</td>
<td>Valid credit card number.Bill Paid.</td>
<td>Valid credit card number.Bill Paid.</td>
<td>Success</td>
</tr>
<tr>
<td>Enter Credit card No Blank</td>
<td>Valid credit card number.Bill Paid</td>
<td>Invalid Card number</td>
<td>Failure</td>
</tr>
</tbody>
</table>
Enter Credit card No 0000  | Valid credit card number.Bill Paid  | Invalid Account No.  | Failure  
Enter Password: Blank  | Balance is 10000  | Invalid Password  | Failure  
Enter Password: 0000  | Balance is 10000  | Invalid Password  | Failure

**Table 7.4.2:– Recharge**

c) Bill Payment

<table>
<thead>
<tr>
<th>Input</th>
<th>Expected output</th>
<th>Actual Output</th>
<th>Result/Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter Credit card No 4111111111111</td>
<td>Valid credit card number.Bill Paid.</td>
<td>Valid credit card number.Bill Paid.</td>
<td>Success</td>
</tr>
<tr>
<td>Enter Credit card No Blank</td>
<td>Valid credit card number.Bill Paid</td>
<td>Invalid Card number</td>
<td>Failure</td>
</tr>
<tr>
<td>Enter Credit card No 0000</td>
<td>Valid credit card number.Bill Paid</td>
<td>Invalid Account No.</td>
<td>Failure</td>
</tr>
<tr>
<td>Enter User ID :- any random ID</td>
<td>Valid</td>
<td>Incorrect User ID</td>
<td>Failure</td>
</tr>
</tbody>
</table>

**Table 7.4.3: Bill Payment**

d) Recharge Offline

<table>
<thead>
<tr>
<th>Input</th>
<th>Expected output</th>
<th>Actual Output</th>
<th>Result/Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enter Phone Number</td>
<td>Accepted. Kindly pay the amount.</td>
<td>Accepted. Kindly pay the amount.</td>
<td>Success</td>
</tr>
</tbody>
</table>

**Table 7.4.4: Recharge Offline**
7. User Manual/Documentation

1. Start CRM application (Called FinalCRM).
2. If new user then register. Enter FirstName, LastName, User Id, and Password. Submit by clicking Register New button.
3. Login. Enter username and Password. Click on Login.
4. Homepage consists of modules:
   a. Prepaid
   b. Postpaid
   c. Locate Store
   d. Loss of Sim
   e. Downloads
   f. Activate/Deactivate
5. Prepaid:
   This module consists of various options such as plans, recharge, offers and delights.
   Here the main module is recharge which has two options
   a. Pay online
   Enter the amount, user Id, Credit card details. And click on Recharge button to recharge successfully.
   b. Pay face-to-face
   Enter the amount and click on recharge button. Now click on locate store to locate the nearest store and pay within 5 years to avoid blocking of your sim.
6. Postpaid: this module consists of options such as plans, offers, payment and Send Bill.
   The main module here is payment where you enter the amount, user Id, Credit card details. And click on Pay button to recharge successfully.
7. Locate store: This module consists of two options coverage and current position.
   Coverage – Click on coverage to know the various cities in which Vodafone connections are available
   Current position – Click on current position to know where your located current and to know the various stores located near your location.
8. Loss of sim – If you have various queries related to Loss of Sim, TRAI directives, Charges and Billing. Click on this option which gives you answers to most frequently asked questions.
9. Downloads – This option has various amazing wallpapers. Clicking on them gives you two options ‘View’ and ‘Downloads’.
   View shows an enlarged view of the image.
   Click on download and once download is complete “Download complete!” message is displayed.
   The image is downloaded in your SD card.
10. Activate/Deactivate: This option is used to activate or deactivate your roaming services just on click.
   Be careful as the necessary amount would be deducted from your current prepaid balance
8. Future Scope

Android is the chosen OS as it is an open-source software and is very developer friendly. Current market trends indicate its growing popularity over the next few years thereby substantiating our choice of the operating system over other prevalent ones.

CRM is the notion that businesses should focus on the customer and reinvent themselves to deliver personalized, service-driven sales and support. In just a few years Customer Relationship Management has emerged as a powerful business trend. Technology is changing at such a fast pace today that by just offering a service or a product a business won’t be at an advantage for too long. Also Mobile applications are undoubtedly the next wave in the evolution of e-business.

Therefore, this application “CRM for Android phones” allows the users to access the services provided by the network service provider in a more efficient and user-friendly manner. A one touch mechanism makes it easy for the customer to be aware of the services provided and also provides better way to fulfill all the customer requirements like bill payment, recharge etc. The customers can pay their bills through this application anywhere and anytime. Also they can recharge their account with amount they wish without having to worry to get to the nearest possible recharge store.

Key to stability in today's dynamic marketplace is in forging long-term relationships with customers. Hence, It is necessary to understand the needs of the customers and provide them services in an efficient manner. This application allows the network service provider to manage the relationship with their customers in a more appropriate manner, analyze their needs and give the customers a sense of satisfaction. Therefore the future of this application is indeed bright because CRM is a journey, not a destination.
9. Conclusion

The customer is of key importance because only relationships with customers generate revenues for a company. Establishing a good long-term relationship with customers can take the form of the provision of benefits such as special prices and preferential treatment. Simply stated, Customer Relationship Management is about finding, getting, and retaining customers.

In this application the customer is the main priority. Ever feature added in this application is keeping in mind the needs of the customer and the main aim was to provide the customers services in an efficient and user-friendly manner.

From a customer perspective, CRM on mobile phones provides a very cost-effective way of providing application access to the numerous customers. With this application the customer can access all the services provided anytime and anywhere and helps the organization satisfy the needs of various customers in an appropriate manner.

Requirement and ample opportunity, behind this project renders it necessary for a system of this kind to be developed. On the move, people are able to access requisite information and capture immediately any important information at any time. The promise is to ensure timely and accurate information flow to the customers. This hopes to breathe new life into the way ‘Network Service Providers’ relate to customers.
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