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*MINI PROJECT*

*ON*

**TELECOM BILLING MANAGEMENT SYSTEM**

By

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**CHAPTER1**

**INTRODUCTION:**

**1.1 PROBLEM STATEMENT**: To manage the telecom billing records .

**1.2 DESCRIPTION:** The main aim of this project is to manage the telecom billing records of the customers where the record consists of various attributes like phone number,account number of the customer, user name and the amount. The records can be managed by adding the new record, listing all the existing records, modifying the data and also accepting the payments by entering the customers phone number, user name and the amount of payment. In this project file handling should be effectively used for almost all major functions. The whole project is based on file handling as all records are stored in a file.

**Outcomes:**

* Planned approach towards working : The working in the organization will be planned well and organized data will be stored properly in the database which will help in retrieval of information as well as storage .
* Accuracy : The level of accuracy in the proposed system will be higher. All operations would be correctly done and it ensures that whatever information is coming from the centre is correct.
* Immediate retrieval of information : The data retrieval is just a click away rather than going through a lot of registers the whole day. It also saves a lot of time.
* Immediate storage of information : Data is easy to store can be saved with no difficulty.
* Easy to handle: The system is not physically bulky so it is easy to handle and use as the staff has full access to the system for maintaining the records.

**CHAPTER 2**

**REQUIREMENTS**

**2.1 Software used**: Code::blocks version 17.12

**Operating System:** Windows.

### **2.2 Header Files Required:**

* **<stdio.h>** (Standard input-output header) **:** Used to perform input and output operations in C.
* **<conio.h>** (Console input-output header) **:** Perform console input and console output operations like clrscr() to clear the screen and getch() to get the character from the keyboard.
* **<stdlib.h>** (Standard library header) **:** Perform standard utility functions.
* **<ctype.h>:**It is a C standard library that declares the several functions that are useful in testing and mapping the characters.
* **<windows.h>:**It is a windows specific header file used in C programming which contains declarations for all the functions in windows API.

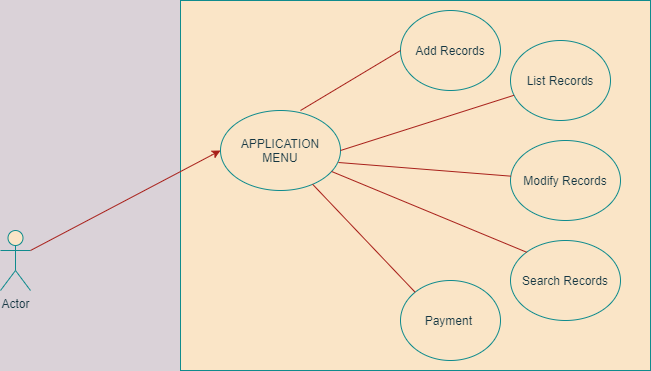
**2.3 Functions Required:**

* Void add records()-This function is used to add the new record. To add the new record it requires the phone number, user name and the amount.
* Void list records()-This function is used to list all the existing records of the customers. This list has various attributes like phone number, account number,user name and amount.
* Void modify records()-This function is used to modify the existing record by changing the phone number, user name and amount.
* Void search records()-This function is used to search the existing record entering the phone number.
* Void payment()-This function is used when the payment needs to be done. The payment can be done by entering the phone number, user name and amount.

**CHAPTER 3**

**DESIGN**

3.1 USE CASE DIAGRAM

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**CHAPTER 4**

**TEST PLAN**

**4.1 Introduction:** Test plan is required to understand the scope and the risks that are to be tested and not tested. It can also be useful in deciding the entry and exit criteria. This is also done to evaluate the test estimate.

**4.2 Test Strategy**

**Features to be tested:**

|  |  |
| --- | --- |
| **MODULE** | **DESCRIPTION** |
| To add the records to the list | The records can be added to the list by entering the new user account number, phone number,user name and the amount. |
| To list the existing records | The available records can be viewed in the list. |
| To modify the records | The modifications of the available data can be done by entering the user phone number that needs to be modified and make the required changes. |
| To make the payment | The payment can be done by entering the user phone number and the amount that needs to be paid. |
| To search the records | The record which needs to be accessed can be done by simply entering the phone number of the user.  If the account number does not exist then it displays as a record not found in the database. |

#### **Features not to be tested**

The features that are not to be tested are:

* User Interfaces
* Hardware interfaces

**4.3 Test Objective:**

The main objective is to verify the different functionalities of the Application Under Test (AUT). The project should focus on testing operations such as entering, editing, deleting, storing and searching data to make it work without errors on an actual environment.

**4.4 Test Criteria:**

The entry and the exit criteria can be determined by four levels:

1. **Unit testing**: It is a type of testing where individual units are tested.
2. **Integration testing**: It is a type of testing where individual software modules are tested in a group.
3. **System testing:** It is a type of testing where the integrated or the complete product is tested whether the product meets the requirement or not.
4. **Acceptance testing:** It is a type of testing done to determine the system compliance and whether it meets the business requirements.

#### **4.4.1 Suspension Criteria**

If more than 40% of test cases are failed then the testing is suspended until all failed cases are fixed.

#### **4.4.2 Exit Criteria**

The exit criteria is a situation where all the test cases planned are successful and meet the expected outcome which is defined in the corresponding test case.

**4.5 Test Environment**

All the test cases are carried out in Code::blocks IDE version 17.12

**CHAPTER 5**

**TEST CASES**

|  |  |  |  |
| --- | --- | --- | --- |
| **TEST CASE ID** | **TEST SCENARIO** | **TEST STEPS** | **TEST DATA** |
| **1** | * To add the new records | (Enter 1 for Adding the records).  Enter Phone Number,  Enter account Number, User Name and Amount that should be added. | 1.Phone Number:1234  Account Number:123  User Name: abc  Amount:100  2.Phone Number:2345  Account Number:456  User Name: mno  Amount:200 |
| **2** | * To list the added records | (Enter 2 for listing the records) | It should display the list of records. |
| **3** | * To modify the records | (Enter 3 for modifying the records.)  Enter the phone number of the user that needs to be modified and enter the new details like phone number, user name and amount. | Enter the phone number of the user to modify: 123  Enter phone number: 789  Enter user name: sam  Enter Amount:50 |
| **4** | * To make the payment | (Enter 4 for payment)  Enter the phone number of the user for payment and Enter the amount of payment that needs to be done. | Enter the phone number of the user for payment:456  Enter amount of payment:150 |
| **5**  5.1  5.2 | * To search records. * To search the record which is **NOT** present in database. * To search the record which is present in database. | (Enter 5 for searching)  Enter the account number to search in database  Enter the account number to search in database | Enter the account number to search in database:1234  Enter the account number to search in database:789 |

**CHAPTER 6**

**Expected results/Outcomes**

|  |  |
| --- | --- |
| **TEST CASE ID** | **Expected Result** |
| **1** | Records are successfully added. |
| **2** | Phone number User name Account number Amount  -----------------------------------------------------------------  1234 abc 123 Rs.100/-  2345 mno 456 Rs.200/- |
| **3** | Phone number User name Account number Amount  ----------------------------------------------------------------  789 sam 123 Rs.50/-  456 mno 456 Rs.200/- |
| **4** | Phone number:456  User Name:mno  Current amount:200  Phone number User name Account number Amount  ----------------------------------------------------------------  789 abc 123 Rs.150/-  456 mno 456 Rs.50/- |
| **5.1**    **5.2** | Requested data not found in our database.  Record found  Phone number:789  Username:abc  Amount:Rs.150 |

**CHAPTER 7**

**Conclusion**

This project helps in the effective management of the telecom billing system.This provides an easy way to interact with the database and to manipulate the required data in the database. It works as per the requirement and can modify the options accordingly. The user will be able to add, search, modify the records present in the database and do the payment.

**Chapter 8**

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