

Introduction to Software Engineering

Term Project

(Increment 3 Part 2)

WORK BASED STRUCTURE

GUI Based LESCO Billing System

- 1.1 Register and login page of employee portal
- 1.2 Registration page for employees
 - 1.2.1 Set password for a new employee to register
 - 1.2.2 change/update password
 - 1.2.3 exit application
- 1.3 Login page for employees
 - 1.3.1 User ID and password for login
- 1.4 Employees Portal
 - 1.4.1 Add a customer
 - 1.4.1.1 Generating unique ID for customer
 - 1.4.1.2 Asks for user's cnic, name, address, phone number, customer type and meter type
 - 1.4.1.2.1 Checks if the CNIC is registered in NADRADB file or not
 - 1.4.1.3 adds new customers detail in the CustomerInfo.txt file
 - 1.4.1.4 Back button to return back to Employees portal
 - 1.4.2 Display
 - 1.4.2.1 Displays information of recently added customer
 - 1.4.2.2 Back button to return to employees portal
 - 1.4.3 Search
 - 1.4.3.1 Asks for any customer's ID and displays its information
 - 1.4.3.2 Back button to return to employees portal
 - 1.4.4 CNIC Expiry Dates
 - 1.4.4.1 View all expiry dates
 - 1.4.4.1.1 Read data from NADRADB file and display all CNICs with their respective expiry dates
 - 1.4.4.1.2 Back button to return to CNIC page
 - 1.4.4.1.3 Back button to return to Employees portal
 - 1.4.4.2 View close expiry Dates
 - 1.4.4.2.1 Display CNICs which are about to expire in the next 30 days
 - 1.4.4.2.2 Check if user with that CNIC have any billing information or not
 - 1.4.4.2.2.1 if yes, ask the user to display the information of the person with the cnic or not
 - 1.4.4.2.3 Back button to return to CNIC page
 - 1.4.4.2.4 Back button to return to Employees portal
 - 1.4.4.3 Update CNIC expiry Dates
 - 1.4.4.3.1 ask for user ID and CNIC and display the user information (name, cnic, issue date of cnic, expiry date of cnic)
 - 1.4.4.3.2 ask for new date, month and year
 - 1.4.4.3.2 Show the previous and updated expiry dates
 - 1.4.4.3.3 Back button to return to CNIC page

- 1.4.4.3.4 Back button to return to Employees portal
- 1.4.5 Billing information
 - 1.4.5.1 Add new bill
 - 1.4.5.1.1 ask for user ID, password, billing month, regular reading, peak meter reading, due date/month/year
 - 1.4.5.1.2 adds detail in the BillingInfo.txt file
 - 1.4.5.1.3 Back button to return to billing page
 - 1.4.5.1.4 Back button to return to employees portal
 - 1.4.5.2 Display
 - 1.4.5.2.1 Displays information of recently added customers (ID, name, month, reg units, peak hour units, cost, tax, bill, due date, status)
 - 1.4.5.2.2 Back button to return to billing page
 - 1.4.5.2.3 Back button to return to employees portal
 - 1.4.5.3 View
 - 1.4.5.3.1 asks for user ID and password displays the billing information of the customers(ID, name, address, phone number, customer, meter type, billing month, reg units, peak hour units, cost, tax, total bill, due date, billing status)
 - 1.4.5.3.2 Back button to return to billing page
 - 1.4.5.3.3 Back button to return to employees portal
 - 1.4.5.4 Pay
 - 1.4.5.4.1 asks for user ID and password and displays total bill and status
 - 1.4.5.4.1.1 if not paid, ask user to pay the bill and show the current time when bill is paid
 - 1.4.5.4.1.2 if paid, it shows the time and date when it has been paid
 - 1.4.5.4.3 Back button to return to billing page
 - 1.4.5.4.4 Back button to return to employees portal
 - 1.4.5.5 View paid and unpaid invoices
 - 1.4.5.5.1 Show amount of paid and unpaid bills
 - 1.4.5.5.2 ask the user to display the IDs of paid and unpaid bills separately
 - 1.4.5.5.2.1 if yes, it displays the IDs with their names of paid and unpaid bills separately
 - 1.4.5.5.3 Back button to return to billing page
 - 1.4.5.5.4 Back button to return to employees portal
- 1.4.6 Update a Tariff
 - 1.4.6.1 update information
 - 1.4.6.1.1 asks for customer type and meter type
 - 1.4.6.1.2 ask what to change (reg unit price, peak hour unit price, tax percentage, fixed charges)
 - 1.4.6.1.3 ask for new value
 - 1.4.6.1.4 Back button to return to tariff page
 - 1.4.6.1.5 Back button to return to employees portal
 - 1.4.6.2 Display information
 - 1.4.6.2.1 displays recently updated value in tariff file
 - 1.4.6.2.2 Back button to return to tariff page
 - 1.4.6.2.3 Back button to return to employees portal
 - 1.4.6.3 Display tariff file
 - 1.4.6.3.1 Display complete tariff file
 - 1.4.6.3.2 Back button to return to tariff page
 - 1.4.6.3.3 Back button to return to employees portal

