Report – Electricity Billing System

L&T Technology Services

Document History

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1. Electricity Billing System

The Electricity Billing system is specially designed for the purpose of calculating the electricity consumed and generating the electricity bill. The bill will also contain information about the customer such as name, place, customer ID and units consumed. The whole project is designed in C language.

The tariff per unit will be displayed initially. The customer has to then enter their name, place and customer id. Based on the number of units consumed the electricity bill will be generated. The main objective is to increase efficiency of managing electricity bills.

2. Design

The design adopted to implement the electricity billing system is as shown in figure 1.

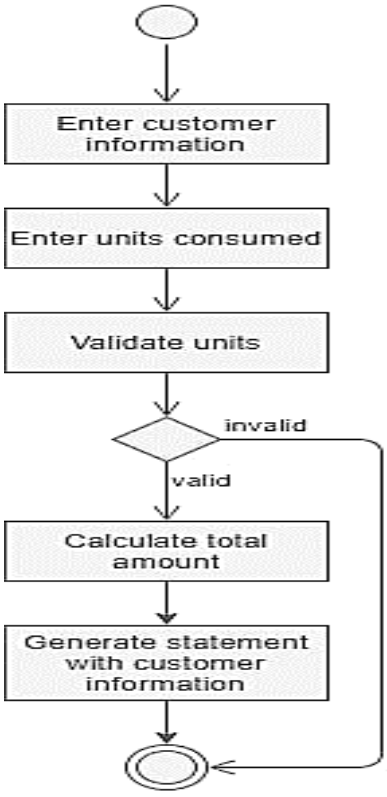

Figure 1. Design

3. Requirements

1. Ability to bill customers from the approved tariff: The rates per unit cost is to be displayed. The cost changes on the basis of the total number of units consumed. This is provided as a reference.
2. Ability to review customer account information: Customer information like name, location and customer ID will be displayed in the bill.
3. Ability of the system to manage billing processing: The billing process includes identifying the right tariff based on the units and then calculating the total amount.
4. Generation of statements: The statement will include details of the customer and the total amount to be paid after calculating the rate per unit consumed.

4. Test Plan

4.1 Purpose

This document describes the plan for testing an electrical billing system. The objective of this test plan is to identify the information that should be tested and to describe the testing strategy. The test plan applies to unit testing.

4.2 Unit testing

Unity is used for unit testing. In unity the input and the output should be given by us so that the tool can know how to check the result and notify whether the unit is passed or not.

4.3 Features to be tested

1. Display of tariff plan
2. Adding customer information
3. Calculation of tariff plan for billing cycle
4. Statement generation

4.4 Entry Criteria

1. Tasks are defined
2. Resources are available
3. Procedures are defined
4. Test cases are documented

4.5 Activities performed

1. Manual test cases are analysed
2. Software test environment is setup
3. Conduct test
4. Software requirements are fulfilled

4.6 Exit Criteria

1. Completed test plan
2. All test cases are executed
3. Tests passed
4. Acceptance criteria satisfied

5. Test Cases

Test case ID	Action	Inputs	Expected output	Actual output	Test result
TC_01	Start Application	Run application	Display tariff plan	Display tariff plan	PASS
TC_02	Enter customer information	Name: abc Place: xyz Customer ID: 123	abc xyz 123	abc xyz 123	PASS
TC_03	Tariff plan calculation (units up to 20)	Units consumed: 8	24	24	PASS

TC_04	Tariff plan calculation (units between 21 to 30)	Units consumed: 25	175	175	PASS
TC_05	Tariff plan calculation (units between 31 to 50)	Units consumed: 42	357	357	PASS
TC_06	Tariff plan calculation (units between 51 to 150)	Units consumed: 80	800	800	PASS
TC_07	Tariff plan calculation (units between 151 to 250)	Units consumed: 194	2134	2134	PASS
TC_08	Tariff plan calculation (units between 251 to 400)	Units consumed: 356	4272	4272	PASS
TC_9	Tariff plan calculation (units above 400)	Units consumed: 543	7059	7059	PASS
TC_10	Statement generation	Enter units	Statement generated with customer information and total amount	Statement generated with customer information and total amount	PASS

6. Expected Result

A statement will be generated with the customer's name, place, ID and the total amount based on the units consumed.