Development of Prepaid Electricity Payment System for a University Community Using the LUHN Algorithm

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Abstract

This work presents a University Community based electricity prepaid billing system. Generally in Nigeria, electricity customers face a lot of problems with respect to their electricity bills from the distribution companies. The challenges they face include wrongly calculated bills as a result inaccurate reading of meters, general human errors in bill preparation among others. In some other semi-automated systems in which prepaid meters are used, consumers waste much time in purchasing utility units for electricity. This is the case presently at the university community we are considered in this work. This paper presents the design and implementation of a combination of a web-based and SMS alert prepaid electricity system called for the community. The implementation of the system was done using C# programming language and Microsoft SQL Server as the database platform. The system incorporates the Luhn algorithm for generating pins for use on the simulated

prepaid meters. The system is able to run on the university intranet and can also serve as internet based application.

Keywords

Prepaid electricity Luhn algorithm Payment system Pin

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