

Water billing system with short messaging services notification

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WATER BILLING SYSTEM WITH SHORT MESSAGING SERVICES NOTIFICATION

----- A Special Problem Presented to the
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JONATHAN M. October 2012 Chapter 1 THE PROBLEM AND ITS BACKGROUND

Introduction

The Laguna Water Company, Incorporated (Laguna Water) is a subsidiary of Manila Water that provides potable water at affordable rates to urban poor communities. This company supplies water in Laguna, betting the acquisition will help it serve more customers in one of the Philippines highly-developed provinces. The Laguna Water currently serves around 120, 000 customers (out of around 600, 000 populations which it expects to increase to around 1 million within fifteen years). Currently, all of their customer's information including the water consumption was stored in the customers' database using spreadsheet.

Since the Laguna Water Corporation is using a manual process, they are wasting a lot of time to store, manage, update and retrieve all the information of thousands of its customers. Also, there are possibilities of pending transactions for other work activities such as saving the important customer data, registering the new customer and retrieving the important files regarding to their previous water bills. The Laguna Water Company is

one of the most helpful companies in Laguna province. In terms of billing process, the company's meter consumption analyst (MCA) goes to the house of all customers to read the water consumption.

After five (5) days, the MCA delivers the water bills to the customers by riding through motorcycle. Sometimes, the home owner is out for work or sometimes is out of town. In that case, the MCA puts the notice somewhere in the parts of the house such as the door, window or gate. By then, the home owners don't have any idea if their water bill for the current month is already given or not. Thus, the payment for their water bill will be delayed until it comes to its due date because the bill is misplaced. In addition, the company has many manual paper works in order to manage the important data of their customers.

Some customer wants to follow-up some documents regarding to the water billing, so the employee needs to retrieve those documents manually. In line with this, the proponents came up with an idea to design and develop a Water Billing System with Short Messaging Service Notification, a more convenient and economical mobile communication technology which is the easiest and fastest way for the consumers to remind them and to inquire their water bills. Sending SMS text messages is very convenient. This is very suitable way for sending the notification to consumer reminders.

It can also send the inquiry regarding to water billing consumption in a current month (Muhammad, 2007). Conceptual Framework According to Hunter et. al, (2009), the billing operations identify and calculate all the charges for a specific customer account, generate the actual bill and apply

payments and credit against that bill. It is therefore needed to analyze and identify on what is the appropriate method to compute all of the customer's charges the easiest way. The billing system gets whole information about the customer and the services. They get information about how and when the telecommunication provider delivers those services.

Within the billing environment, billing systems process large quantities of time and location - specific usage data into customer - specific usage information. They figure out how much to charge for the usage, as well as for other non-usage based services. They generate a readable bill format and print or electrically distribute the bill. Billing systems also get information on payments and apply those payments to customer accounts. They track delinquencies and flag accounts for " treatment" - collection activities including service suspension. They may generate letters to effect collection or give notice of discontinuance of service.

Figure 1 shows the conceptual paradigm of the proposed Water Billing System with Short Messaging Service Notification for the Laguna Water Corporation. The input includes consumer, water consumption reading and the bill inquiry syntax. The consumer is a person or group of people who avails the services and the primary users of water that supplied from Laguna Water Company. The residence in Cabuyao, Binan and Sta. Rosa is the first priority as consumers of Laguna Water Company. The water consumption reading is a meter that regards to water consumption in every period of time.

It is a data that gathered by Meter Consumption Analyst (MCA). The bill inquiry syntax is the syntax that should be sent by the customers through cell phone whenever they are about to inquire for monthly billing. For example, the customer wants to inquire their monthly bill. They should send their account number followed by registered name and the month that they wish to inquire. The process includes read and validate the syntax and querying the results from the bill database. The consumer's consumption is the data which can be found on the meter billing database.

The amount of bill inquiry syntax is the data subjected to be read and validated. The outputs of this study are fast and effective response to bill inquiry, computerized record and keeping and printing the billing statement of consumers. The consumers will have a convenient way of inquiring their bill and faster response on the part of the Laguna Water Company. The importance of feedback in this study is that whenever some outputs are not expected by users, in that case, the users can go back to input to find errors.

Figure 1 Conceptual Paradigm Statement of the Problem

The Laguna Water Company has many activities work, since the company has a thousand of customers, it is hard for employees to work easy and fast, particularly to computing the customer's water consumption, deliver the notice in every end of month and the other is to retrieve some data regarding to customer's water billing. The specific problems that encountered are the following; 1. What is the easy way to compute the amount of the customer's bill? 2. What is the best way to inform or notify all customers regarding to their due date and also the amount of their bill? .

What is the easiest way for the employee to retrieve and verify historical billing information of the customer? Objectives of the Study The general objective of the study is to design and develop a Water Billing System with Short Messaging Service Notification for Laguna Water Company. The specific objectives of the project are the following: 1. To provide an easiest way of computing the amount of the customer's bill. 2. To give the best way of informing or notifying all customers regarding to their due date and also the amount of their bill anytime and anywhere. . To help employees for minimizing the time for retrieving the previous data of consumers regarding to their bills. Significance of the Study The proposed SMS (Short Message Services) Computerized system will be of great help to the management and employees of Laguna Water Company. It will lessen their manual work, speed up processing and produce accurate reports that will minimize the problem of the management and the employees. In addition, the study will be essential to the company for good decision-making. Good decision-making means high productivity.

To Laguna Water Company, the study will be beneficial to the corporation most likely by automating their water billing transactions, speeding up data processing and providing new avenue of distributing notifications to their customers. The study will surely transform the corporation into a more knowledgeable organization and will help them establish good relationship with the customer. To the Administrator and Employees, they are the common users of the proposed system who are able to manage, update and retrieve the customer's information regarding to billing in a more efficient and effective manner.

This will lessen the inconsistency and redundancy of records and eliminate other human errors. Employees will be more productive and will surely help them to perform their work easily. To the Customers, through automation of water bill with integration of SMS application the customers will be updated with the status of their bills anytime and anywhere. To Future Researchers, the study will be able to contribute additional information when they want to conduct same study about the computerized water billing system with SMS notification.

To the Proponents, it gives them a chance to apply the knowledge they acquire in their years of studying. It also gives them opportunity to enhance and practice their ability and creativity. They will obtain guts and confidence to pursue and believe that they can make this study possible. Scope and Limitations The study focuses on the bill inquiry from the consumers of Laguna Water Company of Cabuyao, Laguna. It can only provide a service for all registered costumers. In addition, this study does not cover the signals of network and cannot be used as a replacement for the computerized notice for it only views the customer's bill.