Title of the module : System Analysis and Design

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Name of the system : Automated Lanka I.O.C Filling Station Management System

Group : 22

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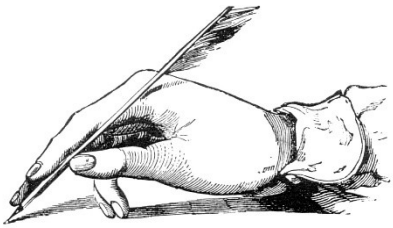
Acknowledgement



In performing our assignment, we had to take the help and guideline of some respected persons, who deserve our greatest gratitude. The completion of this assignment gives us much pleasure. We would like to show our gratitude **Ms. Dileeka De Alwis** for giving us a good guideline for assignment throughout numerous consultations. We would also like to expand our deepest gratitude to all those who have directly and indirectly guided us in writing this assignment.

Thank You!

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Introduction

Company Overview

Main dealer of Lanka Ceypetco in Mathugama Area **Lanka I.O.C Filling Station (Dealer- Suhith Prasanna Gunasingha)** which provides all types of vehicle fuel and the largest filling station in Mathugama. Also this has the biggest fuel store tanks in Mathugama area.

Objectives of the study

- Attracting new customers to petrol station network and ensure existing customer loyalty
- Flexible loyalty system for customers (possibility to create discount and bonus policies and attractive programs)
- Absence of a need of cash collection and hence the reduction in overhead costs
- Reception of preliminary payment from customers (cardholders) and hence quicker money turnover
- Control over purchases of customers from central office
- Possibility to analyze sales and monitor trends in sales
- Various identifiers can be used in the system for identification of the system user: RFID-cards, cards with magnetic strip, chip cards or barcode cards, various dongles
- Possibility to track actions of fuel attendants and generate reports on daily revenue and hence minimize stealing of fuel by personnel of petrol station
- Cards can be secured with a PIN-code

Scope of the Study

The main objectives of this study are identify the drawback of existing system and provide ways and means to overcome them. The computerized system we are going to propose will help the **Lanka I.O.C Filling Station (Dealer- Suhith Prasanna Gunasingha)** to achieve their objectives whilst overcoming difficulties encountered by the current manual system.

Hardware and Software requirements of the system will be analysis and justified during our study. In addition, cost benefit analysis & feasibility study will be providing with this documents.

This proposed automated system of **Lanka I.O.C Filling Station (Dealer- Suhith Prasanna Gunasingha)** will cover the following 3 main Activities.

- Sales Process
- Order Process
- Purchase Process

Details of the existing system

When we study the current existing system of the **Lanka I.O.C Filling Station (Dealer- Suhith Prasanna Gunasingha)** they are using a manual system to keep their organization activities as follows.

- They use manual system to keep their supplier information.
- They use manual system to keep their stock details, and analyze their details.
- They use manual system to keep their order details.
- They use manual system to keep their sales details.
- They use manual system for their billing system and analyzing billing information.
- They use manual system to calculate the customer's payments.

Drawbacks of the existing system

When we study their system we found some drawbacks of their system, but currently their existing system is enough for their business works, but at the future they have to face a lot of troubles from their system. So if amount of suppliers and amount of customers will height, it will be very difficult to manipulate their details and records. So these are the drawbacks of their system which we found.

- Analyzing mistakes.
- Have to keep an additional employee to manipulate those details.
- Have to spend money for stationeries.
- Filling employee can do mistakes while transactions.
- Difficult to arrange stock details.
- Difficult to arrange order details.
- Difficult to arrange sales details.
- Have to keep an additional employee to make transaction with customers.

Details of the proposed system

To solve difficult problems in their manual system we proposed a new system to help their business works. The new system should have the following functions:

- Administration Functionalities.
- Automated Order Details Functionalities.
- Automated Stock Details Functionalities.
- Automated Sales Details Functionalities.
- Sales Manager Functionalities.

Expected benefits from the proposed system

✓ **Speed and Efficiency**

A computerized filling management system makes everything from inputting information to taking all details easier. Doing a hand count of sales details can take days, but with a computerized filling management system, the same process can be done from less hours.

✓ **Less manpower**

A computerized filling management system do lot of thing with less man power than previous manual system. Customer can select fuel type and also they can make payments to the computerized machine instead of do payments with fuel tankers.

✓ **Generate reports easily**

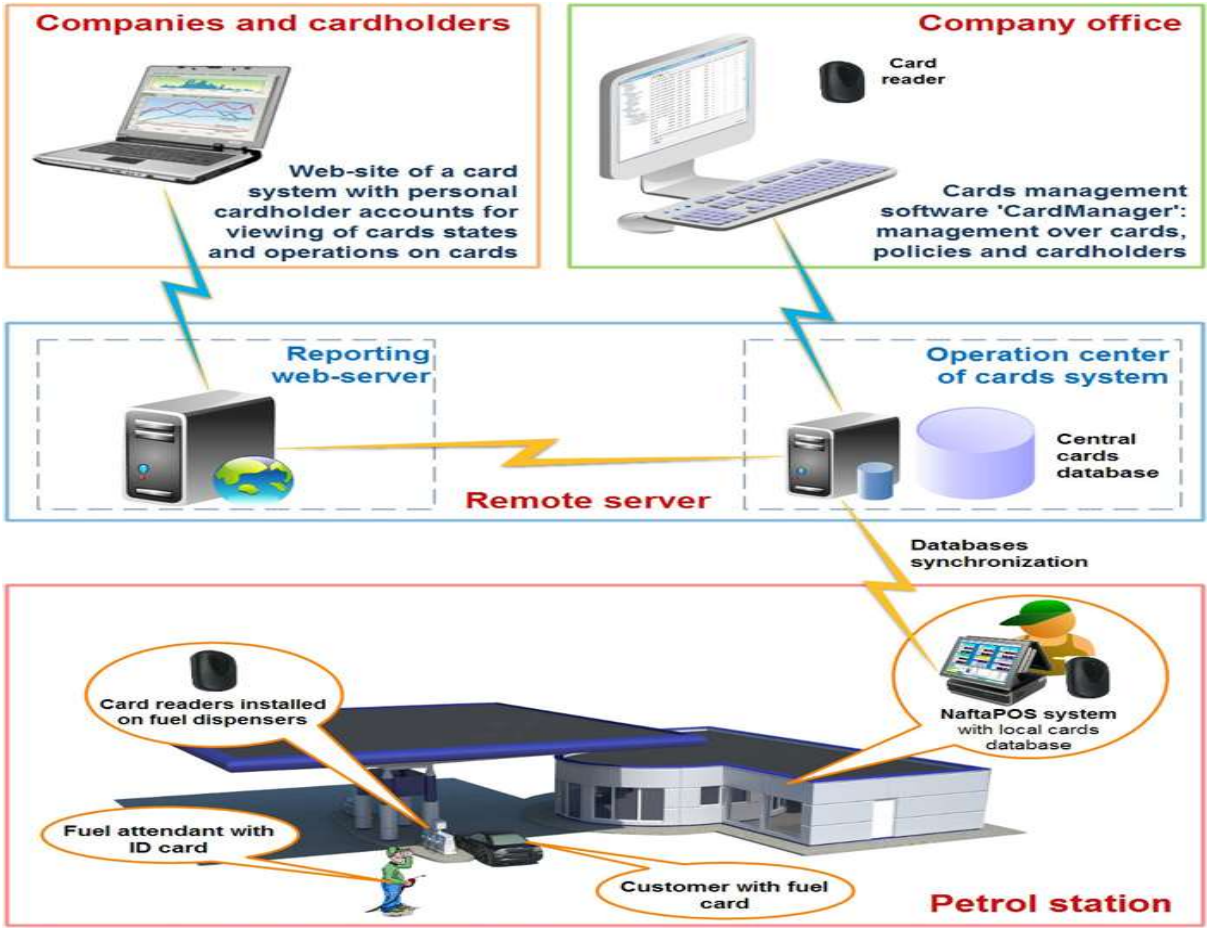
Once the computerized filling management system is in place, managers and workers can use it to automatically generate all kinds of documents, from purchase orders and checks to invoices and account statements. Managers can also use the system to automatically order products when they run low of stocks.

✓ **Can get customer more satisfaction**

With the help of new system, they can get more customer satisfaction than previous method. Customer can make payments via computerized system for refill the fuel and the workers have not able to join payments. Customer can get more trust with this system.

Resource Requirements

- Because we are building a system, we need **card machines** and **computers**. Similarly, computer cables should be equipped with pits with oil tanks.
- This filling station has 8 oil machines including four diesel pumps, two 92 octane petrol and two 95 octane petrol pump machines. So we need 6 credit card machines because there are 2 credit card machines are working there.
- We want Fiscal printers and Cash registers for this filling station.
- **Software for the web-site of the card system** with personal cardholder's accounts for viewing of cards states and operations with cards.



Budget Report

Requirements	Quantity	Cost (per one)	Cost (Rs.)
Card machines	6	15,790	94,740
LCD Display	8	943	7,547
Power supply unit	1	7,450	7,450
Alarm	8	1,840	14,720
Smoke sensor	2	465	930
Infrared level sensors	5	9,850	49,250
Computers	3	77,300	231,900
Total			406,537.00