DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

SOUTHEAST UNIVERSITY

CSE4000: Research Methodology

SEU Purchase Requisition Management System

A dissertation submitted to the southeast university in partial fulfillment of the requirement for the degree B. Sc. in Computer Science & Engineering

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Letter of Transmittal

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The Chairman,

Department of Computer Science & Engineering,

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Banani, Dhaka-1213

Through: Supervisor, Kimia Aksir

Subject: Submission of Research Paper

Dear sir,

With due respect, we have researched on "SEU Purchase Requisition Management System" (Oracle Forms Development) under the course, Research Methodology. We want to make a SEU Purchase Requisition Management System software which is based on the Oracle platform.

So, we try our level best to complete our project. We have given our best efforts to complete the research. We are requesting for your kind approval of this report. Hope you will appreciate our hard work and excuse the minor errors.

Thank you.

Sincerely yours,

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Certificate

This is to certify that the research paper titled "**SEU Purchase Requisition Management System**" is the bona-fide record of research work done by Md. Saifur Rahman and Md. Habibur Rahman for the partial fulfillment of the requirements for B.Sc. in Computer Science & Engineering (CSE) from Southeast University.

This paper was carried out under my supervision and is record of the bona-fide work carried out successfully.

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We extend our sincere thanks to Monirul Hasan, Lecturer and Coordinator, Department of CSE for guiding us into a right direction when we were encountering bigger issues. We are also grateful to SEU procurement authority to give us the information and SEU Purchase Manual which was very helpful to implement our project.

Last but not the least, we would like to thank our parents who always give us mental support and encouragement. And finally, we are really grateful having such a great group member for the stimulating discussions, passing sleepless nights together for completing this project before deadline and all the moments we have passed in the last four months. For all these supports and encouragement, we are able to complete this report within deadline.

Abstract

This Research project is an web based application that defines **Purchase Requisition Management System of Southeast University**. The idea is to establish a strong communication between employees and authority in order to optimize time and effort and completing the procurement process efficiently and stay organized.

Here, an employees can place an requisition for an item according to their demands without any hassle and track the status of it and track which stage it is currently in. It will make sure that employees don't have to wait a long time for approvals with the traditional outdated manual system. An approver can give approvals for specific requisition item with proper resources all in one place.

In manual purchasing process, it is often difficult for organizations to identify the gaps and opportunities to save cost. Organizations often finds difficulties to expand their revenue. The alternate way to increase their revenue is by reducing cost.

The project SEU Purchase Management System will provide Visualizations of the procurement process, this is an effort to maximize the business through the development of this software and keeping the data .

Security is a big issue in a business process. The safety of this project has been of paramount importance. A specific user with proper role can access the specified information.

The system is able to help employees and authorities to the next era.

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Chapter 1

Introduction

In every Organization there is a Purchase department which is responsible for purchasing activities of that organization. It's an utmost important function of any organization. It needs intensive management too. Purchase department buys raw materials , Spare parts, services etc. at minimum possible price by following the organization policies as requisite by the employees of the Organization. It can decide profitability of the organization. "**SEU Purchase Management System**" simplest purchasing system saving purchase order processing time with its one-click approvals. It can be detected if there is duplicate requisition item exist, can avoid duplicate orders, what is ordered and by whom, when ordered, who audited, who gave the approvals and keep track of the transaction is more easier . With the use of this system supplier management is more easier than previous manual system. The legal documentation can be enforced here and most of all both parties organizations and supplier can be protected. This system can reduce costs in several ways, like less employees, no written entries are needed, less physical file storage needed. Authority can avoid paying damages for noncompliance

1.1 Project Overview

Using this software a user can create requistion and can send it for approval throughout the software. Using this automated system time is being reduced at high level. This system is with the aim of providing high efficiency, effective control of time, labor and cost savings

to its user in their purchasing activities. If a requisitioner needs an item immediately he can add note in the requisition item and send it for approval immediately and it can be approved right way by the approvers because all information are gathered here in one place. An approver don't have to call multiple places to confirm the validation of the information that has been added in the requisition item.

1.2   Motivation

In Southeast University's current existing purchase management system is a manual system. In here, if a requisitioner creates a requisition for an item, requisitioner can't track the requisition status and can't track which stage it is currently positioned. For transferring files desk to desk it takes a long time for processing the approvals for that requisition. A requisitioner can't even find out right away which approver when and why authorized the approval, modified prices, commented for that requisition item. Southeast University doesn't have any current software system to maintain purchasing process and didn't take any further step to make this kind of software before. SEU authority didn't fund for this type of software project before. If a system like this can be developed it will be very helpful to procurement authorities.

1.3   Purpose

The purpose of this software is to serve SEU procurement authorities, employees, lecturers and all other personals to avoid wasting of times and efforts and do procurement process more efficiently in this online system instead of a manual outdated purchase management system.

1.4   Courses and goals

Successful purchasing management system requires several procedures that are to be established for managing all critical materials and services. Some of the objectives are given

below:

- Secured Login System

- User management and access level assigning

- Role wise user access

- Requisition generation

- Requisition approvals and notifications

- Purchase order generation

- Supplier, Supplier Sites and Supplier Sites's product price information management

- Approve vendors by organization

- Maintain inventory items

- Manual and automatic database backup system

1.5   Contribution

The purchase requisition management system is a new project in Southeast University. In the past no one worked on this subject. It may be a good solution to help the procurement process undoubtedly. And this is a nonprofit software application.

Chapter 2

Literature Review

There are several ERP based system has been developed by many organizations including purchasing modules. Some are very expensive and huge resources and huge man powers are needed to make such environment fit for the organization, which most of the cases organizations don't have. Oracle E-Business Suite is one of them. Each and every organizations requires their own types of system which often requires a customized solution. Though southeast university doesn't have any software system for that and often requires a project like this to maintain and process the huge data it is currently dealing with . The main focus of this project is to gives a customized solution as per as southeast university procurement policy requires in daily basis. This project solves the requisition generations, requisition management, managing requisition item approval and notification systems, role wise access of the users to avoid unauthorized information, purchase order generations, supplier management, automatic database backup system and so on. The system can reduce cost in different ways such as can avoid unnecessary items by tracking the purchases all in one place. The scope of this review is limited by the availability of literature and time. As a broad study, it does not present the full range of literature on the state of SEU Purchase requisition Management System. But gives an overview of the main concerns and areas for improvement.

Chapter 3

Development Methodology

3.1 Process Model

3.1.1 Unified Process

For developing a complex, long and ongoing project like this it needs a lower risk and certainty and good process model too. So, by understanding the consequences of the reasons, Unified Process model is being selected for this project. The purposes of selecting this model are it's Use Case driven to capture the user requirements . This model is incremental and iterative and it resolves the project risks related with the requirements.

In, Figure-3.1 Unified Process Model has been shown below.
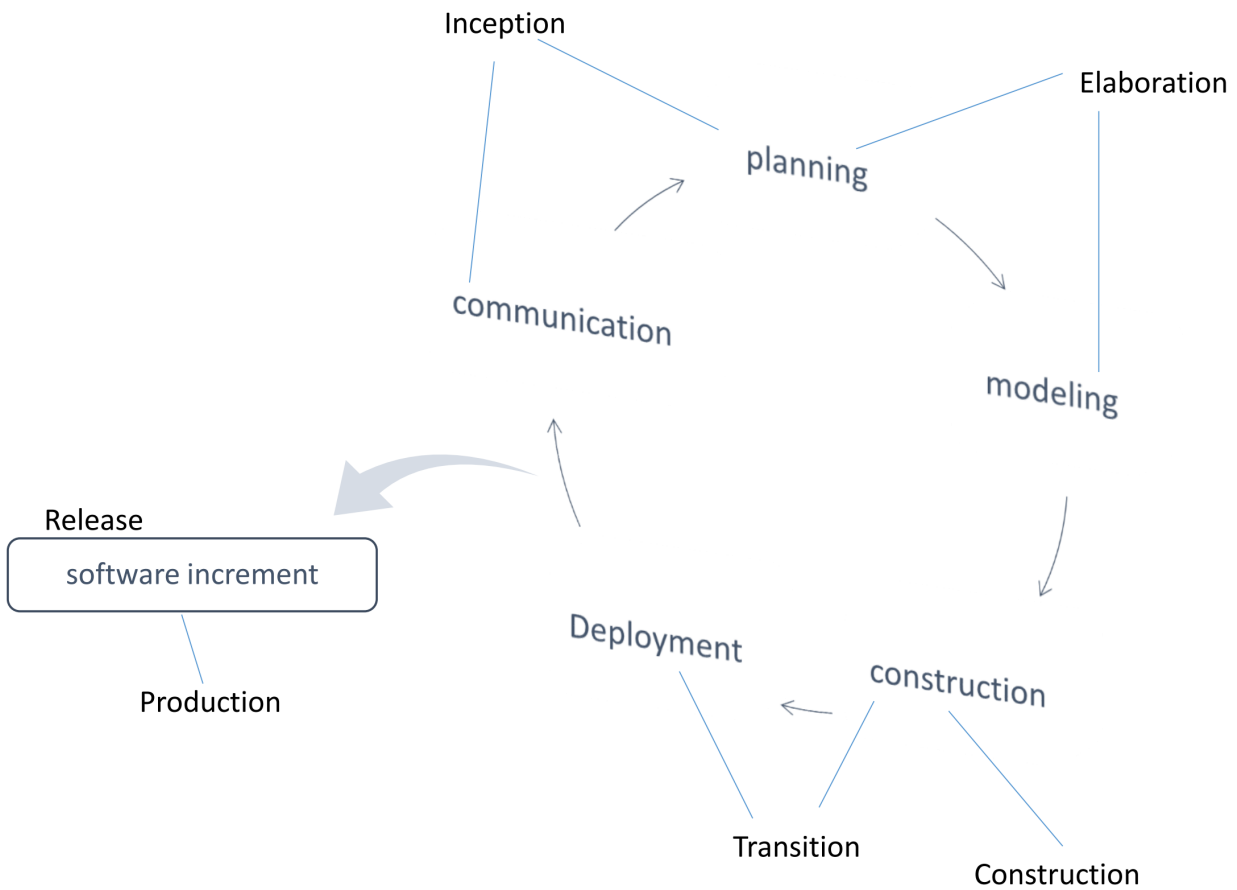
Figure 3.1: Unified Process Model

3.2 Problem Analysis

3.3 Scheduling

3.4 UML

A standardized, graphical modeling language for communicating software design. UML diagrams gives the "big picture" view of the project and help develop efficient, effective and correct designs, particularly Object Oriented designs. UML diagrams are also gives an environment to communicate clearly with project stakeholders (concerned parties: developers,

customer, etc).

3.4.1 Entity Relationship Diagram

3.4.2 Schema Diagram

Figure 3-2, "Sample Schemas OE and PM" illustrates schema PM. The scripts and table description for schema PM are at "PM Schema" .

3.4.3 Use Case Diagram

3.4.4 Entity Relationship Diagram

3.5 Testing

Chapter 4

Tools

4.1 Required Tools

4.1.1 Front End

1. Oracle Developer Suite 10g (10.1.2.0.2)

   (a) Oracle Form Builder [32-bit]

   (b) Oracle Reports Developer

2. Oracle SQL Developer (4.0.1.14)

3. SQL*Plus: Release 10.1.0.4.2 - Production

4. Enterprise Architect 13

5. Firefox 40.0.1 [32-bit]

6. Sublime Text 3

4.1.2 Back End

1. Oracle Database 11g Enterprise Edition Release 11.2.0.1.0 - Production

2. Java SE Development Kit 6u45

4.1.3 Supported Platforms

1. Microsoft Windows (XP, Vista, 7, 8, 10)

2. macOS

3. Red Hat Linux

4. and others

4.2 Features of this Software

- Role wise user access

- Requisition generation

- Requisition approvals and notifications

- Purchase order generation

- Supplier, Supplier Sites and Supplier Sites's product price information management

Chapter 5

Implementation

There are many issues that have been encountered during the project is being developed. of the difficulty we faced was in trying to make the desired functions work. At first the coding seemed a little complex, so we went back to the client for clarification and we were able to get a more detailed description of the functions. After studying the IDE we wanted to use, the coding became less complex and we were able to figure out how to go about it.

5.1 Login Form

Logging in is a process where an individual access into a secured computer system by entering authentic identification. Here, in this page a authentic user must enter valid username and password to access the main system to perform a task. After successful logging in Home page will be appeared. Which user when access to the system, it will be stored in the database for security purpose. A valid user of course can modify the password and modify the profile.

5.2 Requisition Entry Form

Here a requisition generator creates a requisition who must be a registered user and an employee of SEU of course. An employee can create requisition list which can contain multiple requisition items.

During a Requisition lifecycle, many people can act on the requisition including Employees, Buyers or buyer-planners, Approvers, Suppliers, Purchasing staff or employees.

In each requisition items, there will be information about requisition item id,the requestor's demanded product name, the requestor name, price of the product, quantity of that product that is required (QTY), total amount(which is automatically calculated, total amount = QTY * price), supplier site name, need by date, delivery locations and so on. Each item must need all level of approvals before generating purchase order against that requisition item.

5.3   Graphical User Interface

Graphical user interface is type of user interact that allow to interact with electronic devices with images rather than text commands. This is the software's **login page**. A user must log-in before accessing the main software to do his/her works by typing the username and password accurately.
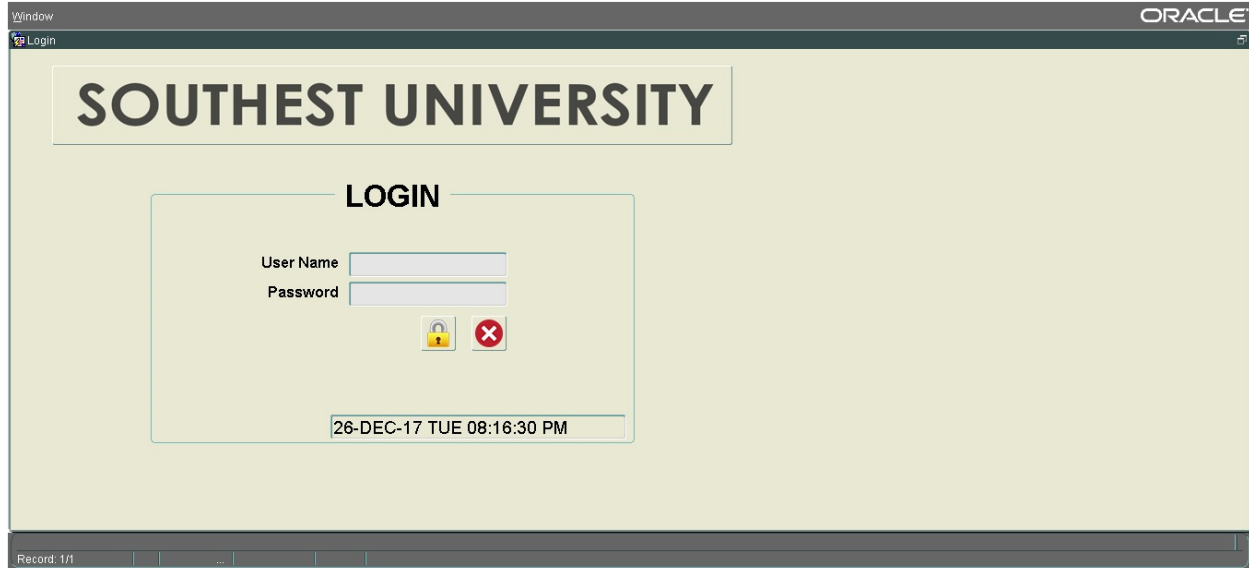

Figure 5.1: Login Page

In, Figure-5.1

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