AL FARES, Derar (Supervisor: Steve Gill)

Smart Accounting System

This project implements the basic screens of accounting system including financial reports.

It is difficult to have everything about the implementation, development and business analysis of accounting system or even a complete one cycle of accounting system in one document.

This project does that! This project explores the background of accounting system with historical vision. It also investigates the need of the accounting system in the companies through giving a brief explanation of its components and main financial reports.

The project also includes a detailed design and analysis of accounting system based on requirements. It illustrates the modern methodologies and techniques for developing such systems.

Finally the project also includes a detailed evaluation chapter accompanied with project’s limitations and indications for the future works.
Dividing people into effective teams to work on a certain project, is a troublesome task. Different people have different ways to handle things. For example, some people are social and like to communicate and discuss things with others, whilst others prefer to do their tasks without discussing things with others. Since understanding people behaviors is a challenging task, researchers have tried to categorise people into different personality types and to understand the interaction between them. Because of that, the need of an automated software tool to divide them into effective teams becomes important. Genetic algorithms will be mainly used to classify people into one of 16 personality types, according to the Myers-Briggs type indicator instrument. After classification, genetic algorithms will be used to divide people into effective working teams based on their personality type and the way each individual behaves in a certain team. The program will help the instructors to divide their students into different teams.

The document starts by discussing the relevant research topics of genetic algorithms and team selection. The document starts by introducing the MBTI tool and how it is used in assessment. Team selection strategies and theories are investigated throughout the document. Genetic algorithms have some factors that affects its performance. This includes the mutation, cross-over and selection strategies chosen. Those topics are explained in details. The rest of the document explains all the work done from designing the program to evaluating the performance of the system.

Finally, In every work done there will always be a space to improve the work. Future works will include many things such as investigating the topic in more depth especially when it comes to understanding human’s behaviour. Further work may include designing a graphical user interface for the system and implementing other selection and crossover strategies.
WEB BASED INVENTORY MANAGEMENT SYSTEM

The main purpose of this thesis is to design an intelligent and innovative web-based inventory management system that can be used by different organizations. The aim is to build a system that will provide an automated control of inventory processes to efficiently manage the flow of materials, communicate with customers and vendors, and utilize people and equipment effectively. The main objective of the web-based inventory management system is to provide system for retail, warehouses, manufacturing and other organizations that performs the function of purchasing, sales, inventory and reports in real time anywhere in the globe.

The application was developed after considering a case study of an existing system and a detailed understanding of the requirements and functionalities of the system identified. In addition more innovative features (like graphs, alert) were added to the system making it more advanced and interactive. The technologies used for the development process were critically analyzed to help built a system that is flexible for future enhancement. Such technologies include Struts framework, Java Server Pages and Servlet etc.

Through the successful implementation of the web-based inventory management system developed, based on the questionnaires carried out the system will be 80% faster, cheaper, accurate and better than what most companies are presently using as inventory control in Nigeria. The system will no doubt help reduce inventory costs like warehousing, transportation etc. And also improves the cash flow and visibility for better decision making.
Design & Development of an Inventory Management System

The main purpose of this thesis was to develop an inventory management system that will provide effective inventory control, sales, purchases, inventory reports and accurately keep track of stock as well as manage vendor and customer information for Sahad Stores. The focus however was to develop a web based application that aims to provide better access to inventory information from anywhere and provide a multiuser access.

The system was developed after a detailed investigation into the existing inventory management system of the company, analysing their inventory processes and identifying the problems with the existing system. The developed inventory system aim at eliminating the problems of the existing system as well as providing better features that will enhance and simplify the entire inventory processes. Effective investigation techniques like interviews were used and the results obtained were used to understand user requirements.

The system was implemented as a layered application (based on Model, View, and Controller) using Struts, JavaBeans, Servlets, Java Server Pages (JSP), Apache Tomcat Server, and MySQL database engine. The MySQL Server functions as the back end of the system.

The development process presents a methodology that follows commonly used and already tested approach for software engineering projects and was chosen basically because of the nature and scope of the project. Although, the system is considered as a prototype for future enhancement, it however meets all basic requirements and will effectively manage Sahad store’s inventory and automate their inventory processes.
GUPTA, Ullas (Supervisor: Steve Gill)

Design and Implementation of a Business Automation Solution

This dissertation is about designing and implementing a business automation solution for a company in Sharjah, UAE named Avalon Office Equipments. The company deals with distribution of office supplies to its customers located in various locations in the GCC like Oman, UAE, and Qatar etc. The business solution involves streamlining business data inflow through web and email, automating mailbox monitoring and cost analysis creation. It also allows quotation and invoice creation, database data modification along with graphical report generation with export options. This dissertation also involves the creation of a mobile application for quick and easy access to business data when away from office.

During the length of this dissertation, the current business process is studied and its weaknesses are identified. After the weaknesses are identified, the appropriate IT components required for improving business process efficiency and nullifying the weaknesses are finalised. These components are then designed, developed and tested. The developed system is then evaluated and critically analysed. The shortcomings are highlighted and future work is recommended.
COMPANY BASED PROJECT FOR ONLINE INSURANCE SERVICE

In this thesis, an attempt is made to solve the problems faced by the Customers of Al Fujairah National Insurance Company (in which this student is working) and to improve the customer satisfaction. The application developed is an online web based insurance portal, whereby the customers can access motor vehicle insurance service without having to physically visit the Insurance Company. Not only is it advantageous to the customers, but it is so to the Insurance Company as well, as this will help the Insurance company reduce its business acquisition costs, administrative & transaction expenses and various other overheads.

In order to analyse the difficulties faced by the prospective customers in accessing the services of Insurance in the UAE, (especially in Dubai, Sharjah and Abu Dhabi), Al Fujairah National Insurance Company had conducted a detailed Customer Research, the results and the feedback of which form the central core of this Study.

The application was developed after conducting and analysing in detail about the existing systems, their drawbacks and strengths. The development process included use of various web based technologies such as ASP.Net and MS SQL.

Although there are still areas that need improvement, this system does however meet the functionality and requirements for an efficient and effective functioning which would turn beneficiary not only for the Customers, but also for the Insurance Companies.
RAGHAVAN, Shriram (Supervisor Steve Gill)

Inventory Management System Enhancement

An inventory management system is required for any organization that is solely dependent on their inventories for business. Inventories are of different types for example raw materials, finished products, consumables etc. An inventory management is required for maintaining details of inventories; maintain required stock in the inventory, Carry out purchases for inventory at the right time. Inventory management should maintain inventories with minimized cost and also meet customer’s expectation.

The objective of this project was to identify the limitations of an existing inventory management system that was developed by (Ayub Ali Ahmed, Heriot Watt University 2008). This system had limitations in its functions like purchases, goods receipts, transfers, accounting & inventory replenishment. In this project an attempt is made to redesign existing system into online application with changes to functions like purchases, goods receipt & transfers. Additional functions like replenishment & accounting are provided in order to enhance business for the existing system.
SULTANA, Salma (Supervisor: Dr. Hans-Wolfgang Loidl)

KNOWLEDGE PLATFORM 2.0

This project focuses on a web application that employs Web 2.0 technology to create a Knowledge Platform for the dissemination of Scientific Knowledge where academic related information would be found. The website developed is called ‘Your Word of Science’, whose main goal is storing, querying and representing publication data in a structured form.

Although, websites like Wikipedia, CiteseerX, Britannica use the same internet technology, this project attempts to enhance the features and security options along with a more user friendly user interface. Information published on the website is presented in an intuitive layout. User level privileges ensure that admin members manage the publication data, user profiles and control the content being posted on the website. Other user friendly mechanisms like tagging, participating in a ‘conversation-like’ feedback thread, subscribing to RSS feeds is supported.

The major highlight of this project is that it is very functional, simplified and structured backend database. Unlike, most other websites where the front end of the website is quite colourful and crowded, this website has used relatively neutral shades along with improved features that would make dissemination of scientific information and imparting of knowledge more dynamic. The system is implemented using PHP and mySQL as database backend.
Knowledge 2.0 platform

The nature of the disseminating new knowledge and of knowledge management has been adjusted since the creation of Web 2.0. While in the traditional approach, the focus was to use static documents to represent knowledge. It has now shifted to employ the new aspects of the Web in the representation of knowledge. Yet, this avenue must be complemented with the traditional capabilities of the “publishing” process. Including: quality control such as anonymous peer refereeing process to ensure the quality and objective of knowledge.

The aim of this project is to contribute and develop a scientific knowledge management system that implements the aspects and capabilities of Web 2.0 and allows users to publish their scientific knowledge easily. In addition, the system should provide some advanced features such as; electronic refereeing process, and semantic search. Realizing such an open platform puts strong demands on security, safety and privacy, which must be handled carefully in each level of this platform.
ZAINEE, Yusuf (Supervisor, Steve Gill)

A Web Based Customer Relationship Management System

Businesses are in a constant race to increase profits, keep the current customers coming back and attract new customers. Customer Relationship Management methodologies are aimed at building strong long term relationships. It aims to help organizations build individual customer relationships in such a way that both the firm and the customer get the most out of the exchange, providing both parties with long term benefits. The purpose of this project is to gain a better understanding of CRM in e-Business. The research part of the project explores, describes and begins to explain how CRM objectives are described, how CRM is managed, and how CRM is measured and evaluated. The development part of the project comprises of developing a CRM Application for a Web Development company based in the United Arab Emirates. This CRM Application will basically focus on the Collaborative aspect of CRM and will be developed on a web based framework. Collaborative CRM is basically a communication center for the Company and the Client. The communication center will ease the project execution by providing a communication platform that handles client messages, sharing of documents, sharing updates of projects, receiving feedback from clients, sharing of multimedia files etc.