

Expert locating System (ELS)

Project Domain / Category

Web Mining/Information Retrieval

Abstract / Introduction

In this era of Internet, World Wide Web (WWW) has become an ultimate source of information for the people from all walks of life. Due to the big collection of non-uniform Web data, it is a challenging task for the users to find their relevant information. Finding experts who have the appropriate skills and knowledge for a specific domain, academic program and research field etc. has become an important academic activity. Expert Locating System (ELS) is very helpful for students, organizations, industries and academic institutes to find experts of their needs. The aim of this project is to develop a web application which will facilitate students and academic institutes in finding experts of their choice. This application will act as search engine to extract faculty related information from different (at least 200) academic institutes including Universities, colleges and other Training institutes. This includes faculty name, highest qualification, expertise area, expertise type (Teaching, research, coaching etc.), experiences (in years) and affiliation(s) and store them in the database. Students are required to develop their own Web crawler for extracting these information. Students are also needed to develop an attractive user interface for entering search query and displaying query results.

This project has the following basic modules:

1. **Web Crawler:**

Web search engines work by storing information about many web pages, which they retrieve from the HTML itself. These pages are retrieved by a Web crawler which is an automated Web browser which follows every link on the site. The contents of each page are then analysed to determine how it should be indexed.

2. **Front end for query processing and their results:**

The front-end presents a search bar for users and the query processor parses the request and executes the search. The results are displayed by the front-end.

3. **Ranking of experts:**

Based on the user query, experts will be ranked in descending order. Ranking will be done on the basis of faculty total experience in their relevant domain i.e Teaching, Research and Coaching etc. The system will display only top 5 experts at a time.

4. **Data base:**

A database will be maintained for storing faculty information extracted by the crawler. Administrator of the Web application will run the crawler and populate the database with the updated information.

Tools:

1. C#, .Net and Sql Server
2. PHP, MySql and Dreamweaver

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Important links:

1. <http://expertisefinder.com/>
2. <https://www.expertguide.com.au/Search.aspx>

Opinion Mining for Website Evaluation

Project Domain / Category

Information Retrieval

Abstract / Introduction

Opinion mining refers to the use of natural language processing, text analysis, computational linguistics and biometrics to systematically identify, extract, quantify, and study affective states (i-e the emotional states of the author or speaker) and subjective information. Sentiment analysis is widely applied to voice of the customer materials such as reviews and survey responses, online and social media. Generally speaking, sentiment analysis aims to determine the attitude of a speaker, writer, or other subject with respect to some topic or the overall contextual polarity or emotional reaction to a document, interaction, or event. The attitude may be a judgment or evaluation, affective state, or the intended emotional communication.

Website Evaluation system that rates the website based on the opinion of the user. Website will be evaluated based on factors such as genuineness of the website, timely delivery of the product after online transaction and support provided by the website. User will comment about the website. Based on the comment, system will rate the website. The system takes opinion of various users. Based on the opinion, the system will decide whether the website is genuine or not. The system uses opinion mining methodology in order to achieve desired functionality. We use a database of sentiment based keywords along with positivity or negativity weight in database and then based on these sentiment keywords mined in user comment is ranked. The system contains keywords related to fraud, genuineness, timely delivery of the product and service meters in the database. Based on these factors, the system will rate the website.

System Hierarchy:

- ❖ The user logs in to the system he can view various websites posted by the admin and can comment about the website.
- ❖ User can see the comment of other user.
- ❖ System will rate the website based on the comment of various users.
- ❖ The role of the admin is to add various website to the system and to add keywords in database.
- ❖ So that system will match the comment with the keywords in database and will rate the website based on the sentiment analysis.

User can easily find out which website will deliver the product in time. And also helps to find out website which will provide good support. This application helps to find out whether the website is genuine or not that is useful for those users who do online transactions.

Functional Requirements:

System should be able to:

1. Share the users view about the website
2. Help users to decide whether the website is genuine or not
3. Provide ease for online transactions user
4. This system helps the user to find out the website which provides good service and delivers the product in time
5. Ranks the website based on the weightage of the keywords in database, so the result is appropriate.

Tools:

Development Environment

- ❖ C# Dot net 4.0
- ❖ Searching Tools – Apache Lucene 3.0.3
- ❖ Stanford NLP – POS Tagging
- ❖ SentiWordNet

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Vehicle information dissemination system for Cloud (VIDSC)

Project Domain / Category

Web Mining/Information Retrieval

Abstract/Introduction

Most of the vehicles are equipped with advanced technology devices (i.e., cameras, sensors, on-board CPUs etc). The vehicles can get information from the environment and share it on the Cloud. This information will be helpful for the drivers to take various decisions like: safety on the road, time taken by a driver to a certain place using a route. Moreover, this information can be helpful for the traffic management on a certain route.

This project has the following basic modules:

1. Information Disseminator

This component is responsible for obtaining information (i.e., pictures, temperature, distance) from the environment and disseminate over the Cloud.

2. Cloud Database

The information obtained from the information disseminator is stored in the Cloud DB.

3. Query Manager

The query manager is used by different drivers and traffic manager to take various decisions like which route to choose for travelling, and carrying out traffic scheduling etc.

Tools:

1. Android application suite, and SQL Server

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Important links:

1. www.gosur.com/driving-directions/pakistan/
2. <https://www.greenflag.com/route-planner>

General Store Inventory System

Project Domain / Category

Database Programming

Abstract/Introduction

The General Store Inventory System is a software which will be used for the General stores. This Application is used to manage the inventory of grocery items. With the help of this application shop keeper will be able to record his sale/purchase for each grocery item. It would allow shopkeepers to immediately check stock quantities, when to reorder supplies, track expenses, and providing the right amount of inventory on hand along with clients. As shopkeepers are normally illiterate person so we have to develop this application in such a way that he can use it easily with some training.

Functional Requirements:

1. It is normally a single user system, but the user must have to enter a password to use this application
2. The system can be able to store the buyer record using its name and mobile number
3. The Shop keeper can be able to look up sales on a daily basis, weekly or monthly basis.
4. On the sale of any item the stock should be updated with the quantity left.
5. Once a buyer finalized all the required items, then the system should show all the purchase items with their quantity and amount and in the end it shows the total amount.
6. The System should have the option of both cash and credit once buyer tells that he/she will pay the cash the shopkeeper will print the cash button and bill is generated. For

credit option buyer record will be saved in the system against its name and mobile number.

7. The System should also keep track of all the credit record both amount wise and each buyer wise separately.
8. All types of reports should be generated on demand, i.e. number of customers, sales record, credite record etc.

Tools:

Oracle

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Gym and Fitness Management System

Project Domain / Category

Database application

Abstract / Introduction

Manual record keeping of Gym and Fitness center will be very tedious job in which you need to manage different activities of the club members like fees, attendance, exercises and most important their previous records. Keeping record of equipment's is also a big issue. It is not easy for staff members to manually manage all the activities therefore to overcome these problems we are going to fully automate all the activities of the Gym and Fitness center.

Main functional requirements of the system are as follows.

1. Trainer and Members Attendance
 - Integrated Biometric Attendance (auto attendance) is used to keep record of each member and trainer.
2. Trainer and Members Registration
 - There are two types of members Ordinary and Special members to register with their complete bio data and physical measures.
3. Trainer and Members Physical measures
 - On monthly basis physical measures "height, weight, waist, biceps, triceps, chest etc" will be compare with previous measures on the basis of which exercise will be advised for upcoming month.
4. Members Fee Management (upcoming, overdue)
 - This form provides the option to the administrator of the system to add, delete, modify and search the information of the fee deposited by the members.
5. Trainers Salary Management
 - This form provides the option to the administrator of the system to add, delete, modify and search the information of the Trainers salaries.
6. Equipment's detail
 - This form provides the option to the administrator of the system to add, delete, modify and search the information of the equipment's.

7. Exercises

- This form provides the option to the administrator of the system to add, delete, modify and search different type of exercises for members.

8. Reporting on Members registration, Members attendance, staff attendance, fee management.

- Depending upon the organizational needs following reports can be generated
- Weekly or yearly based report of members or trainers

Tools:

- C #, Java
- Visual studio
- Sql Server

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HR Management System

Project Domain / Category

This project belongs to Database category.

Abstract/Introduction

“HR Management System” is an information system which deals with human resources of an organization. It is designed to manage the computerized human resources (HR) processes of the organization. This system provides the detailed information of employees, like their education, certifications, skills, family information etc. It enables the HR management of the organization to add, view and update employees’ information and also generate different reports.

Functional Requirements:

A set of functional requirements of the proposed system may include the following.

1. There must be login process for administrator and authorized users to avoid unauthorized access to the system.
2. The system would maintain the employees’ information like name, father name, age, salary, designation, skills, education etc...
3. The system would maintain the family information of employees, like number of children, spouse etc...
4. The system would maintain the attendance of the employees.
5. The system would maintain the leave record of the employees.
6. The system would maintain the loan information of employees if the organization provides the facility of loan to its employees.
7. The system would be able generate different reports.

Tools:

SQL Server 2008, VB.Net etc.

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Employees Attendance System via Fingerprint

Project Domain / Category

Desktop Applications

Abstract/Introduction

A corporate firm is interested to replace manual attendance system for their employees. They need an automated system through which the attendance of employees could be marked via fingerprints and reduce the chances of fraud recording of working hours that employees otherwise used to do with manual paper attendance systems.

Functional Requirements:

The System will be desktop based application which will perform the following tasks:-

1. Attendance of employees through finger print.
2. Registration of employee's data in the system by administrator.
3. Vacation management system.
4. Reports
 - I. Daily wise present/absent/on-leave employees
 - II. Weekly wise employees present/absent/on-leave statistics
 - III. Monthly wise employees aggregate report

Tools:

The system needs to be developed in C#.Net with Microsoft SQL Server; no other development tools will be accepted for this project.

C#.Net, MS SQL Server, Visual Studio

NOTE:

The university will not provide any biometric device for this project; you need to purchase the product on your own once you choose this project. The project will not be accepted without fingerprint reader device.

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Remote Admin

Project Domain / Category

Networks / Desktop Application

Abstract/Introduction

The system will be a multi-tier, network application. It will be implemented for computer machines running under Microsoft's server class operating systems. The socket interface will be used to connect client and the server. Server will be multi-threaded. TCP packets must be used to send compressed images to the server at a certain frequency. Any type of stream can be used but will require CBR (constant bit rate) and more bandwidth.

The **daemon** running on the client must be well aware of the activities performed and must use a XML protocol to send that information to the server. The server might be able to store its logs and the stations' logs in a database or in files.

Functional Requirements:

The proposed Remote Admin Server will be a multithreaded server implemented as a windows application using MFC. It will use TCP/IP suite to communicate among the clients and the server. It will have a standard windows interface which should be well user-friendly. It will have a TCP socket interface to send and receive packets. In addition, the architecture of the server is component based.

The important tasks of the Remote Admin Server include:

1. Remote Admin Server display the client's live screen from list of any active client.
2. Remote Admin Server display the Web Browser history of any active client.
3. Remote Admin Server can shut down or logoff any active client remotely.

The proposed Remote Admin client will be a special agent running as a service in the client workstation when it boots up. No one except administrators can remove or control this service. In other words, it, is like a daemon process.

The important tasks of the Remote Admin Client include:

1. Remote Admin Client will capture the clients screen and compress it in any low-resolution image format. Compressed image will be packaged into TCP datagram and

sent to port of Remote Admin Server on its request with optimal frequency (feel like live video on server side).

2. Remote Admin Client will get its Web browser history and send to Remote Admin server on its request.
3. Remote Admin Client Automatically goes to shut down or logoff on Remote Admin Server's request.

Tools:

Microsoft .Net framework, Visual C++. NET, Microsoft Visio

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Pharmacy Record Management System

Project Domain / Category

Desktop application

Abstract/Introduction

City pharmacy is one of the famous Pharmacies which provide medicines to customers prescribed by particular doctors.

The pharmacy has medicines for different diseases. Also there are several members in the pharmacy to for keeping /taking medicines in or from the relevant cupboards to facilitate customers. The pharmacy staff is responsible for the management of information of medicines, company, sales, and inventory in register books.

To make the City Pharmacy more reliable and convenient for staff as well as for customers, the whole pharmacy should be computerized to reduce errors chances and hardworking of the staff members by eliminating manual entry in registers for record keeping, remembering cupboard or rack of any particular medicine , making bills for customers. The system should be able to keep the information of customers and medicine for long time.

Working mechanism: Customer comes and provides prescription paper to the pharmacy staff. The concerned member search for the required medicine(s) in computer and note the location of that particular medicine(s). The staff member picks the medicine(s) from the rack and gives the medicine(s) in a basket to the admin. The admin make entry of medicine(s) in computer for calculating prices which are stored in database. The system automatically calculates the bill against the medicine(s) entered by admin. The admin tell the total amount of the required medicine(s). The customer pays the bill. The admin take the print of the bill and provides the receipt to the customer. The system then balances record of the remaining quantity of sold medicine(s).

In case a particular customer returns the medicine(s), the medicine quantity should be brought to the previous state as before.

Upon return the total quantity of same medicine should be updated and the amount should be deducted from the total money of sales according to the returned quantity.

Functional Requirements:

Some common functional requirements are:

1. Admin Login
2. User friendly interfaces
3. Interfaces validation check for entry, update, delete, search etc.
4. Medicine(s) record entry, update, delete
5. Track all information of medicine(s), inventory, pharmacy
6. Shows information and descriptions of pharmacy, stocks
7. Bill calculation.
8. Record updating in case medicine(s) sold, returned
9. Total Cost of all medicines
10. Calculate total profit
11. Deduct amount from total sales if the customer returns medicine(s)
12. Updating quantities of medicine(s) in case of populating pharmacy with medicines.
12. Report generation

Tools: Optional

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GSM/Bluetooth/Wifi & GPS (Android) based Car Tracking & Control System

Project Domain / Category

Digital Logic Designing / Embedded System Programming

Abstract / Introduction

Vehicle tracking system main aim is to give Security to all vehicles. Accident alert system main aim is to rescuing people in accidents. This is improved security systems for vehicles. The latest like GPS are highly useful now a day, this system enables the owner to observe and track his vehicle and find out vehicle movement and its past activities of vehicle.

This new technology, popularly called vehicle Tracking Systems which created many wonders in the security of the vehicle. This hardware is fitted on to the vehicle in such a manner that it is not visible to anyone who is inside or outside of the vehicle. Thus, it is used as a covert unit which continuously or by any interrupt to the system, sends the location data to the monitoring unit. When the vehicle is stolen, the location data from tracking system can be used to find the location and can be informed to police for further action. Some Vehicle tracking System can even detect unauthorized movements of the vehicle and then alert the owner. This gives an edge over other pieces of technology for the same purpose.

Functional Requirements

- Through Mobile Application, Vehicle movement will be controlled.
- GPS coordinates plotting on mobile application using Google Map.

Tools

- Microcontrollers (Intel 8051/8052 series) OR Arduino modules
- Android Programming (Android Studio)
- C/C++ Programming Language
- Assembly Language
- Circuit Designing Softwares (OrCAD Pspice, WorkBench)
- Keil Embedded Development Kit
- Microcontroller Burner Kit
- Circuit Components (Resistors, Capacitors, oscillators etc.)
- GSM & GPS Modules
- Google API

Note: Virtual University of Pakistan will not provide any kind of hardware for this project, student has to arrange required hardware by himself/herself.

Supervisor

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Comparative Study of TCP New Reno, CUBIC and BBR Congestion Control in ns-2

Project Domain / Category

Networking

Abstract / Introduction

TCP is one of the main protocols of TCP/IP Internet suite. Many popular Internet applications like World Wide Web and E-mail use TCP as their transport protocol. A good understanding of TCP can serve the bigger objective of learning how Internet communication works. Many variants of TCP protocol have been proposed over the years; the main differentiating point between each of these variants is their congestion handling. Our focus here will only be on three variants of TCP, namely: i) New Reno, ii) CUBIC, and iii) BBR. The objective of this project is to carry out comparative study and performance analysis of these three variants in network simulator ns-2. Working in ns-2 requires: i) understanding of basic commands of Linux operating systems (for ns-2 installation and running purposes), ii) good programming skills in C++ (for implementing TCP CUBIC and TCP BBR models), iii) programming in TCL (for writing simulation scripts), iv) understanding of AWK command (for trace text processing), and v) understanding GNU PLOT command (for drawing graphs). The three TCP variants will be compared on the basis of their congestion control mechanism and their performance will be analyzed using different simulation scenarios. Students may use existing ns-2 implementations of CUBIC and BBR (written by other developer hosted on sites like github.com) but it is preferred that students implement these protocols themselves.

Intended Outcomes

1. A theoretical comparison of TCP variants: New Reno, CUBIC and BBR using different parameters.
2. Performance analysis of the three TCP variants in network simulator ns-2 using different simulation scenarios.

Required Programming Skills

1. Understanding of basic Linux commands
2. C++, TCL, AWK and GNU PLOT (for working in ns-2)

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Recognition and Authorization of Remote User & Access Provision by Admin on network

Project Domain / Category

Networking

Abstract/Introduction

There comes a conditions when Admin needs to verify the user by making a click on his image and then providing access to user if he is valid to use the system. The algorithms used for Image processing are not that good at user verification because of changed image angle, beard, facial expression, clarity and many more other factors. To achieve 100% accuracy sometimes manual recognition is needed.

An application is proposed where a web server demands to take a photograph on requesting a session on a PC by the user. The clicked image is being transmitted to the server by the PC without utilizing much bandwidth. The image sent by user to admin may now be verified by the web server admin manually. On recognizing the user as a valid one the server machine now sends a command to client pc system in order to allow access to the system. Such remote computer authentication and authorization system is required in secure system areas like government PC's, military Pc's and other sensitive company PC's that need proper user authentication through remote admin. The web server desired to monitor and handle this system makes use of http request and response in order to interact with client machine. Web cam click of remote user is requested on any particular user as and when needed by the admin. After manual verification of image at server side, the system sends command to allow or reject user access to the user

Functional Requirement

- There will be two modules i.e. Admin Module & User Module. Admin Module contains login and password.

Admin Module

- The admin module dash board will have access request tab where table with "PC Name", "MAC address" and "Status" will be given to see and check all the requests

from registered PCs with their MAC addresses, So that whenever user want to access the system the request will be queued into request access module.

- Admin Panel will also have a table with registered PC drop down menu box “PC Name” & “Status” i.e. Status 1 = Image user image, Status 2= grant access, status 3= end session.

USER panel

- To register the system User panel will be consisted of “PC Name”, “MAC address” and Register button. Once registered there can be a button “Request access”.
- **Tools:**
- C# .net
- SQL server

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Network Management System of ABC Company

Project Domain / Category

Networking

Abstract/Introduction

There is a company having four departments namely production, finance, human resource (H.R) and sale and marketing, the organization has only one switch of 24 ports and a router the CEO of the company wishes to restrict the access of every employee out of his/her own department plus implement access police against every employee of the company.

Primarily the big and vital motive of the system to be developed will be to overcome and streamline the above task, this application will logically divide the switch ports. And interlink them using router plus make use of a domain to implement access policy against every employee.

The system will be user friendly so that the user would not come across any kind of inconveniences to access out department or go on internet.

Functional Requirements:

Each department has six employees
Installation of window server 2012 r2
Installation of domain controller
Creating users accounts, group policy, rights (privilege)
Creation of VLANS
Installation of FTP and web Server

Requirements:

Cisco switch, router, window server 12 r2, desktop/ laptop core i3, 4gb ram, hard drive 120 gb.

Tools:

Tools (optional)
Virtual Box, GNS3, UNL, NS2 VMware etc.

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Intelligent Network Security Controller (INSC)

Project Domain / Category

Network Security / Linux Programming

Abstract / Introduction

Users of an organization or a department in an organization may have some common network security requirements. There may be some common, known or intended resources to be accessed by employees to ensure the day to day operational duties are being carried out without interruption. This project will require implementation of a reputation database that can be updated by a security administrator or user behavior that is used to permit, deny or redirect user traffic dynamically on network.

Functional Requirements:

Following are functional requirements of this project

1. Virtual Machine to running Linux with 2+ Interfaces
2. Design and Develop necessary Reputation Databases (1- Persistent, 2 Memory Resident). Persistent may be a MySQL database. Memory resident database could be a simple hash table). On reload applicable rules shall be copied to memory resident database, active changes or learned changes shall be stored first in [2] then in [1]
3. Develop a Linux Application (INSC) to manipulate the IP Tables on Linux as per the reputation Database.
4. INSC must redirect user to web a interface that will require user to explicitly confirm his required access along with some validation information.
5. Both [1] and [2] should be configurable in a web interface.

Tools:

C/C++ , Linux , IPtables , Virtulbox , Web Development PHP/ASP/CGI

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Car information System using android and arduino

Project Domain / Category

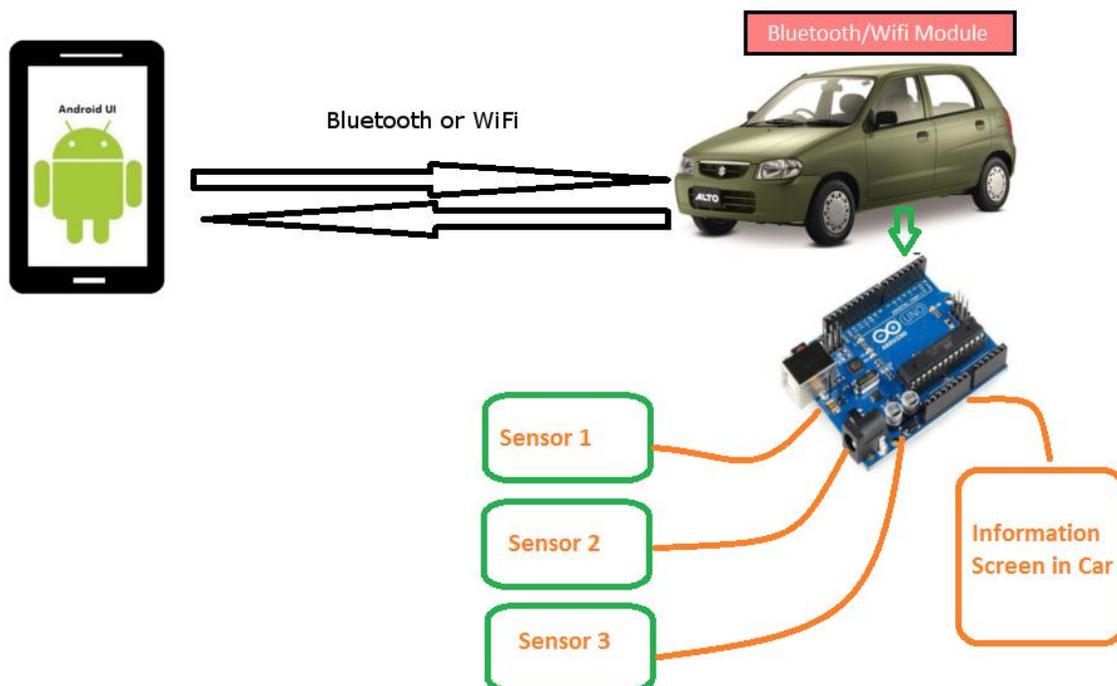
Digital Logic Design & Mobile Application

Abstract / Introduction

Most car manufactured in Pakistan do not have OBDII or OBDI port, which is used to diagnose the car or get the real time information like engine temperature , voltage , coolant temperature etc.

In this project students will be required to access the car's data like engine temperature, coolant temperature, in cabin temperature, outside temperature etc, using various sensors, Android phone and Arduino. Information gathered using the sensors will be utilized. Note that students will not use OBDII port or device to get the information from car instead they will deploy their own sensors. All the information gathered will be displayed using a small screen in car, and this information will be sent to android mobile phone using Bluetooth or Wi-Fi.

Project will comprise of two parts hardware and software part. In hardware interfacing part student will write the code for arduino and setup the sensors, board and screen. For specific purposes students will use the specific sensor. For software part student will write an application for android phone. student will be required to work on these parts simultaneously. You are not required to implement it on a real car. You can just use a model of a car with specific sensors.



Functional Requirements:

For Application

1. A fully functional android application capable of communicating with arduino (Via Bluetooth)
2. Application will show current values related to car, Engine temperature, Coolant temperature, in cabin outside temperature and voltage.
3. Application will maintain the daily log of these values.
4. Reports on Engine temperature, Coolant temperature, in cabin outside temperature and voltage. User will be able to view the reports on various dates.

For Hardware

1. Arduino board setup along with code to control the door locks and lights.
2. Relay modules properly setup.
3. LCD to display current status in car

Important Notes:

1. Students will buy his/her own hardware. Virtual university will not provide hardware or financial assistance to buy hardware.
2. Students will not implement it on a real car; instead they can use a model of car made of paper/hard board etc ,
3. C code will be used for arduino and Java for the mobile application.

Tools:

Android Studio, NetBeans IDE, JDK, Arduino IDE

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Agile File Master App

Project Domain / Category

Android Mobile App

Abstract / Introduction

Agile File Master is a file management app for Android that allows you to work with your files in a similar way to how you would do it on a computer, supporting functions like copying, pasting, and cropping.

File Master can also work with files on the cloud, including Dropbox, Google Drive, or SkyDrive. You just have to set up your account on these services and then you can start working with your files.

Some of the interesting features in File Master include a miniature preview of your photographs while you are working with them and the ability to move APK files from installed applications.

Manage your files efficiently and easily with this File Master, Agile File Master helps you handle all your files, whether they are stored in your device's memory, MicroSD card, local area network, and cloud storage accounts.

Functional Requirements:

Following are the functional requirements that File Master has to manage.

1. **Light and savvy file explorer:** Search, access, save, move, delete, or share files that are stored in your smart device's internal storage to or from a MicroSD card, LAN, or Cloud storage accounts and vice-versa.
2. **Access files in LAN:** Manage files within your LAN (local area network).
3. **More storage options via Cloud storages:** Supports cloud storage accounts such as Dropbox, Google Drive and Microsoft OneDrive.
4. **Suave and smooth multimedia streamlining:** Stream multimedia files such as music or videos or open documents, pictures, or photos stored in any of your Cloud storage accounts
5. **Save disk space by packaging files:** Compress files to save space of your storage and extract compressed files in Zip and RAR formats
6. **Easy file browsing:** Browse files easily by category right from the File Master's home screen: images, videos, music, applications, downloaded, and favorites.
7. **Disk tools:** Storage analyzer, recycle bin and hidden cabinet let you manage your disk easily.

8. **Home Screen Shortcuts:** Tap and hold a category to create a shortcut on the Home screen.
9. **Fast path navigation:** Tap the path name to select files from different folders.
10. **Toolbar:** Manage your selected files easily with the toolbar.

Tools:

Development environments / IDEs for Android application

Android SDK

Java and xml

SQLite database tool

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Android Messenger

Project Domain

Mobile Application

Abstract

Android Messenger will be an online messenger for android-based mobile phones. This mobile application will help users to communicate online in real-time via sending and receiving text, images and audio / video files transfer. Online users from all around the world can talk with each other through audio and video using Internet free of cost. This application will facilitate communication among users anytime, anywhere using their smart phone / cell phone.

Functional Requirements:

1. Should do user registration, login/logout
2. Able to communicate / chat among users online through text messages
3. Should be able to work with 3G or 4G and/or Wi-Fi
4. Able to share photos / images in your phone gallery with your friends in real-time (one-to-one photo sharing)
5. Communicate with groups in real time through text messages (Group text chat)
6. Should share text files, images (able to do basic file-sharing) among friends/family
7. Express yourself by sending emojis, stickers, and GIFs to conversations

Tools

1. IDE: Android Studio 2.3 (or later) for Windows
2. Programming Language: Java
3. Database: SQLite / any other DB you like
4. Unified Modelling Language(UML): Microsoft Visio, IBM Rational Rose

Supervisor:

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Android Call Recorder

Project Domain / Category

Mobile Apps

Abstract / Introduction

Sometimes, you just really need to know exactly what someone said on a call; whether it's an important discussion with your colleagues or a brainstorming session with your business partner, there are times when you might want to keep a record of your conversations so that you can refer to them later. But if you aren't recording your calls, those details may escape you.

If you're looking for ultimate ease of use, Android Call Recorder may be the best choice out there. You can set up the app to record all calls or just record calls from specific contacts and choose which calls you want to save or share.

Functional Requirements:

There are the following functional requirements for Android Call Recorder application;

1. No root device is needed (*i.e. needed to implement proper background services*).
2. Record all incoming and outgoing phone call on basis of these two modes;
 - Automatic Mode: record calls automatically.
 - Manual Mode: after each call ask user to keep recording or not.
3. Filter option: record all, contacts to record and contacts to ignore etc.
4. Add title/note with any call; use *SQLite* database to store data.
5. Search for a recording by title/note.
6. Organize call records; view all calls with options such as list by time, group by names or group by dates.
7. Mark calls to favourite list.
8. Support mp3, amr and wav audio format.
9. Play back, save/delete audio files to/from SD card features.
10. Auto delete feature to delete calls after specific days.

Tools:

1. IDE: Android Studio
2. Programming language: Java / Kotlin
3. Database: SQLite

Supervisor:

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Music Listening App

Project Domain / Category

Mobile Apps

Abstract / Introduction

The proposed mobile app allows users to tailor their music listening experience using the metadata. Each song has its associated metadata (for example, album of the song, year of release, genre, tempo and artist etc.). User will have to provide the metadata of a song while saving it into its music library. While listening to music, the app will automatically select the next song based on the user's preferences (the values of metadata selected). For example, a user may select that I want to listen to fast music released in 2017 then the app will automatically select the next song that is fast and is released in the year specified.

Functional Requirements

1. The user will be able to add a new song to the library (in the app) by providing the following metadata regarding the song:
 - a. Artist(s)
 - b. Year of release
 - c. Album of the song
 - d. Genre
 - e. Tempo
2. While saving a new song in the library, the user will select one or more artist(s) from a list of artists already present in the database. If the artist(s) of the song is/are not already present in the database then user will first add the artist(s) in database. Now the new artist(s) will also appear in the list and user can select it/them.
3. While saving a new song in the library, the user will select album of the song from a list of albums already present in the database. If the album of the song is not already present in the database then user will first add the album in database. Now the new album will also appear in the list and user can select it.
4. While saving a song, user can select one of the following as its genre:
 - a. Rock
 - b. Folk
 - c. Pop
 - d. Jazz
 - e. Classical
 - f. Hip hop
5. While saving a song, user can select one of the following as its tempo:
 - a. Slow
 - b. Mildly slow
 - c. Moderate

- d. Slightly fast
 - e. Fast
6. While listening to the music, user must be able to select metadata values that are relative to the current song or some absolute values.
 7. When the user selects the metadata values that are relative to the current song then he/she can select:
 - a. Next song should be either of the same artist(s) or of different artist(s)
 - b. Next song should be newer or older (determined by the year of release)
 - c. Next song should be of the same album or from a different album
 - d. Next song should be of the same genre or of a different genre
 - e. Next song should be faster, slower or of the same tempo as the current song
 8. When the user selects an absolute metadata value of the song then he/she can select the exact values of:
 - a. Artist(s)
 - b. Year of release
 - c. Album of the song
 - d. Genre
 - e. Tempo
 9. The application must automatically determine the next song to be played on the basis of the metadata values selected by the user. For example if a user has selected particular values of metadata and only three songs in the library match these metadata values then the songs will be played in the following order:
 - a. Song 1
 - b. Song 2
 - c. Song 3

After song 3, song 1 will be played again. This cycle will continue until the user changes metadata values.

Tools:

Android

Supervisor:

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Personal Budget Management System (PBMS)

Project Domain / Category

Android Mobile App.

Abstract / Introduction

A personal budget management is a finance plan that allocates future personal income towards expenses, savings and debt repayment. Past spending and personal debts are considered when creating a personal budget. Budgeting is the most basic and effective tool for managing our monthly income. But most people avoid doing it because they think keeping record of budget or expense is hectic task.

Recording monthly expenses on paper is very difficult as modification, removal and searching is not easy on paper. Similarly using any which run on our computer like MS excel or any other tool is also clumsy. Because will have to note all expenses on paper then later record them all on tool installed on computer. Better solution use mobile application to keep record of every expense easily at any location.

In this project, your task is develop an Android based application which will be used to manage personal budget. Your application should fulfill following requirements.

This project has the following basic requirements:

- Application should be a mobile based app which will run only on Android.
- User should be able to create a monthly budget or expenses plan.
- There should be option to create different categories of expense like medicine, grocery, rent, etc...
- Allocate budge to each category
- Add items in category and permissible money of this item.
- Alert the user if planned expense of any category reaches its limit.
- Able to remove and update any item or its price in any category.
- User should be able to see expense details of each category
- At the end of month left over money in any category should be added to savings.

- If in any category expense exceed to its limit then excessive money should be added to debts.
- User should be able to see bar and line chart on the basis of per month for monthly expenses and comparison of monthly expenses of any category.

These are some basic requirements of application. Student should add more and detailed requirements in SRS document.

Tools:

1. Android Studio
2. Xamarin

Supervisor:

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Like mind matches application

Project Domain / Category

Android Application

Abstract/Introduction

- 1 The Religion of Islam has encouraged marriage and has ordered Muslims to help to have unmarried believers marry. Our Prophet, Muhammad (p.b.u.h.) is a good model in this way. Scholars conclude that marriage is a duty for all the Muslims that have the proper circumstances to create a family and that are afraid of fornication. There are following hadiths about this issue: Narrated 'Alqama and 'Abdullah:
- 2 "O young people! Whoever among you can marry, should marry, because it helps him lower his gaze and guard his modesty (i.e. his private parts from committing illegal sexual intercourse etc.), and whoever is not able to marry, should fast, as fasting diminishes his sexual power." (Bukhari, Nikah,1)
- 3 The proposed application will provide all premium matrimony services to every one free of cost. By using this application, user can find matches in Pakistan and can contact overseas Pakistanis from countries like USA, Canada, UK, UAE, Australia, Singapore and etc. You can also find matches right in your city; be it Islamabad, Lahore, Faisalabad and etc.
- 4 The application allows you to narrow your search based on your native language. With the help of this app you can use GPS-enabled City Search feature to find relevant matches near your location. Users can view members' profiles, photos and phone numbers; send interests or personalized messages directly through mobile. Application will use encrypted data to keep all information safe and private.

Functional Requirements:

1. Register and create your profile right through the app.
2. Search for suitable matches, refine results, and save favorites for future viewing.
3. Use GPS-enabled City Search feature to find relevant matches near your location.
4. Clients can change any of their requirements any time.
5. Get instant notifications regarding new matches.
6. Users can view members' profiles, photos and phone numbers; send interests or personalized messages directly through application.
7. Application will use encrypted data to keep all information safe and private.
8. User can narrow your search based on his/her native language.
9. Application will allow users to provide feedback about services.

Tools:

Any android application development tool (Android Studio, Eclipse, Etc.)

Any database of your choice

Supervisor:

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Financial Helper Using QR/Barcode Scanner

Project Domain / Category

Mobile/Android based Application

Abstract/Introduction

This project will be developed to scan the QR code or a barcode through mobile and analyze the cheapest rate of any product on various Supermarkets. This is a camera-based system to scan the barcode behind the image and read the description of the product with the help of Id stored in the barcode. This is very beneficial in case of finding out the description of product among price and thus helping us in deciding to purchase a product with cheapest rate. In order to use this system, all the user needs to do is scan the barcode on the product through mobile phone camera and resolves the barcode to find out the Id stored. This is now easy to implement as most of the mobile phones today have the required resolution in order to scan the barcode to identify the Id stored in it and read out the product description. Description of every product among its price and store's name will be stored in the database. This project can be implemented in any shopping mall, supermarket, Bookstores etc.

Functional Requirements:

- ✓ System should be able to read the barcode through mobile camera and abstract the descriptions of product from barcode.
- ✓ System should able to use the mobile camera to take the picture of barcode.
- ✓ System should abstract the detail of product from the picture that has been taken by mobile camera and save the description in a repository.
- ✓ System should compare the price of product with other prices on other store.
- ✓ If it finds the less price of the same product in other store, It can suggest the user to postponed the product to buy.

[NOTE: Student can add/enhance requirements as per needed.]

Tools:

Android Studio, My SQL

Supervisor:

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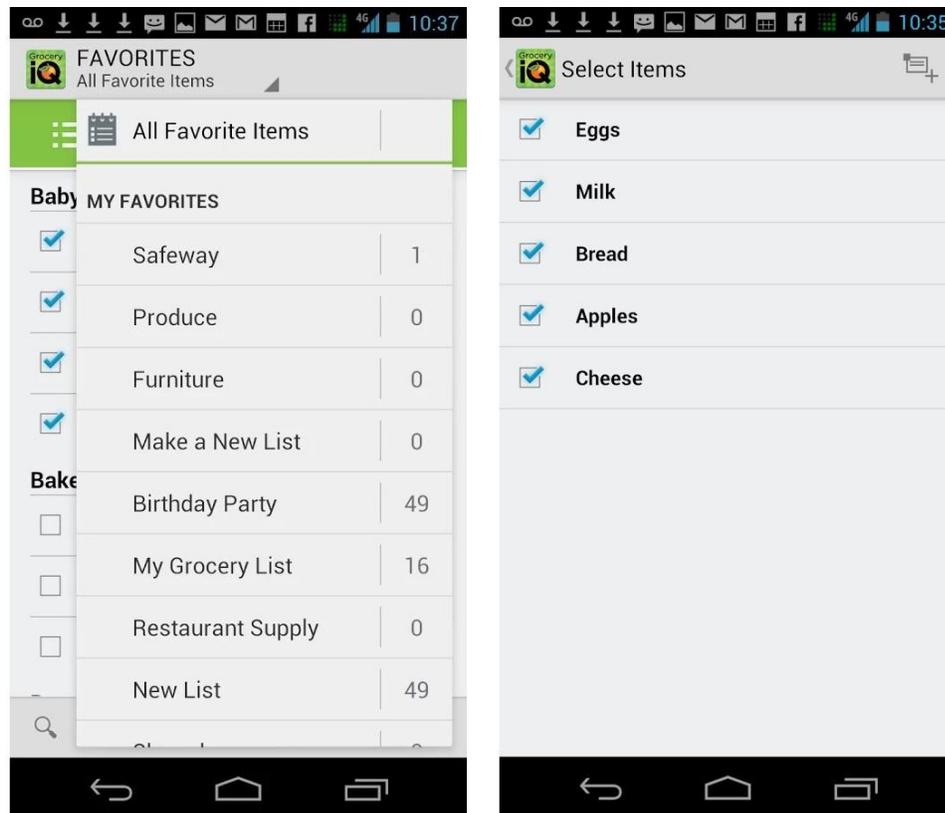
My Grocery List Mobile Application

Project Domain / Category

Mobile Apps

Abstract/Introduction

My grocery list mobile application is Android based mobile app which will help consumers/end users to buy and order their desired grocery from the grocery man. . The app offers you exclusive promotions, retailer leaflets, digital loyalty cards and many more features. It is your shopping assistant for your grocery shopping. With this app, you will also benefit from exclusive discounts and promotions. The app allows you to build lists from the extensive product database using text, barcode or voice search. It makes it hassle-free to shop for your favorite items.



Functional Requirements:

1. The app will require user login with SMS authentication on the registered mobile number.
2. Admin User will be able to upload the grocery list and grocery items.
3. Buyer will be able to view complete grocery items list wise with status available or out of stock and updated rates.
4. Buyer will be able to place order against any available item.
5. Push Notification will be shown on the screen of admin user for new order placed.
6. Admin User will be able to view daily sales, daily orders list.
7. Buyer will be able to see his/her order history.
8. Buyer can search the items also using voice search technique.

Tools:-

- Android Studio\Eclipse
- SQLite\mySQL
- PHP\Java

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CRM (Customer Relationship Management) Based Mobile App

Project Domain / Category

Mobile Apps

Abstract / Introduction:

Every business marketing manager / CEOs need to have the most current customer information at their fingertips and be able to work on the move. While on the road they need the ability to create and update all of their records, see what is planned, how they are progressing, have answers ready for their customers, and more importantly, be prepared for upsell opportunities. CRM will help us to manage your end-to-end sales cycle with access to Leads, Contacts, Accounts, Potentials, Tasks, Events, Calls, Inventory, and Custom modules in CRM.

Functional Requirements:

The functional requirements of this mobile app can be divided into following points.

1. Access or modify customer information offline and automatically sync when you go online.
2. Get instantly notified as you receive emails from customers.
3. Collaborate with your team in real time using Feeds by posting comments, @mentioning peers, and much more.
4. Locate leads, contacts, and accounts on maps.
5. Schedule and track all your events, tasks, and activities.
6. Check in and record your visits at customer locations.
7. Log incoming and outgoing calls instantly.
8. Use voice notes for hands-free note taking.
9. Attach files (Images/Docs/Excel Sheets) directly from your device.
10. Receive push notifications for reminders set on Tasks/Events.
11. At the day end manager will be able to see the daily sale report, with different filters like date wise, salesman wise, area wise, customer wise.

Tools: Android / Xamarin Studio + Java / C# / PHP + MySQL / SQL Lite / Fire Base

Supervisor:

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Anti-Zombies AR Game

Project Domain / Category

Android Game Programming

Abstract/Introduction

Augmented reality is defined as "an enhanced version of reality created by the use of technology to add digital information on an image of something." AR apps use your phone's camera to show you a view of the real world in front of you, then put a layer of information, including text and/or images, on top of that view. AR is all about superimposing computer-generated images on top of your view of reality, thus creating a composite view that augments the real world as explained in the following image:



In this game you will kill dreadful zombies appearing around you in virtual space. You can watch through the camera and you see tens of zombies around you like on the ceiling, hovering above the floor, on your left and to your right and hiding among the real objects. The overall effect should be such that zombies are actually in the real environment.



Functional & Non-Functional Requirements

There will be two stages of the game:

Stage 1

In this stage zombies appear still in the vicinity of the user. The user will move the camera around to find zombies and shoot them out with a gun in a limited time of 2 minutes. Scores will depend upon the number of zombies killed. There should be proper sound effects related to the gun and killing of zombies. Suitable background music should be played at the end.

Stage 2

In this stage zombies can actually appear traveling closer to the user. There will be a life line of the user. Zombies can actually harm the user by scratching or even killing by biting.

Scratching will cause the life line to decay. Biting straight away will end the game. Proper effects should be emerged on the screen while playing. Scores should be calculated accordingly. There should be limited bullets for killing.

Tools:

Unity 2018.1

Development Language:

C# (C sharp)

NOTE:

VU will not pay for any license of the software, the libraries/toolkits used or any sprite for this project.

Supervisor:

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Child Security Mobile Application

Project Domain

Mobile Application

Abstract

This mobile application will be designed especially for the school going children. The application will track the children movement while they are on the way to school or vice versa. Now days android phone are very popular and they have embedded Global positioning system (GPS) system which is the main requirement of this app. This app will keep the record of the exact time at which child reaches at the school and what time the child will leave the school. The app will also provide information about the vehicle location which provides pick and drop services to the school going children.

Functional Requirements:

- ✓ There will be two admins for this app Parents and school.
- ✓ User authentication will be done by using facebook or google account
- ✓ Complete information about the user will be saved in the app like user first and last name, Email id , cell number, vehicle number, child name , class name and batch, information about the driver of the vehicle Like Name, Phone number, CNIC
- ✓ The expected school arrival time will be saved in the application and if there is some delay, an sms will be sent to the parents and school about the delay.
- ✓ On the other hand when child leaves the school, the departure time will be noted and again if child does not reach home within the expected time a notification will be generated via sms.
- ✓ Parents and school can locate the position of the vehicle anytime during pick and drop timings.
- ✓ An sms will also be generated on safe arrival of the child to his/her destination

Tools

Android studio

SqlLite

Supervisor

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My Time Planner

Project Domain / Category

Mobile Application

Abstract/Introduction

Time can be termed as one of most precious resource that should be managed and utilized very efficiently to achieve maximum productivity. In today's busy life, many activities (such as office tasks, house hold tasks, various events and any other daily life activity) are going on simultaneously and managing/remembering all of these activities is very difficult. The proposed application will allow users to plan and schedule their activities on hourly, daily, weekly basis (or any specified time duration). The application will remind user for any upcoming activity/event through notifications and alarms. With the help of this application, users can improve their daily life routine by doing more tasks with their time.

Functional Requirements:

- User should be allowed to add / remove / modify different pre-defined activities/sub-activities as per his/her daily routine.
- User should be able to schedule his/her activities from pre-defined activities/sub-activities (or any other custom activity/event).
- User may add/remove repeating activities and events.
- Application will provide facility to add reminders (or multiple reminders) in the form of notifications and alarms as defined by user while scheduling any activity or event.
- Application will remind user regarding upcoming activity/event well before time (or as defined by user during scheduling).
- Application will allow user to modify/delete his/her scheduled activities/events.
- Application will provide different reports regarding activities on hourly, daily, weekly basis (or any custom range) for better time management.

- Application will provide import data and export data feature in case user wants to switch from one device to another.
- Application should provide password based secure access to user to manage his/her activities.

Tools / Technologies:

Android Studio, SQLite

Supervisor:

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Real time sound analyzer (Mobile App)

Project Domain / Category

Android Mobile App

Abstract / Introduction

This is an android based mobile application that takes input of voice, sound from a nearby device and shows the spectrum of the audio. The sound is analyzed with Fast Fourier Transformation and the data is uniformly updated. The spectrum consists of the power in dB, shows frequency and wave form like sinusoidal. It takes less than one second to build the frequency response curve in the full audio range of 20-20000 Hz in 2.5 Hz resolution with the wideband audio signal generated by the same device. This app is useful to visualize your own voice or music or any other sound. It can also be used to test instruments or even tune them.

Functional Requirements:

1. Input source selection is microphone.
2. Offline Android App (No Internet required)
3. Design spectrum interface
4. App can take screen shots of the spectrum interface.
5. Peak finding
6. Linear and logarithmic scales
7. Markers frequency and amplitude deltas
8. Frequency is measured by analyzing maximum sound level.
9. Show the spectrum of the signal
10. Low latency for high responsiveness
11. Low battery drain due to high performance native code
12. Software is using FFT (Fast Fourier Transform) internally.
13. Permission must be taken from the phone's microphone for the input.

Tools:

Development environments / IDEs for Android application

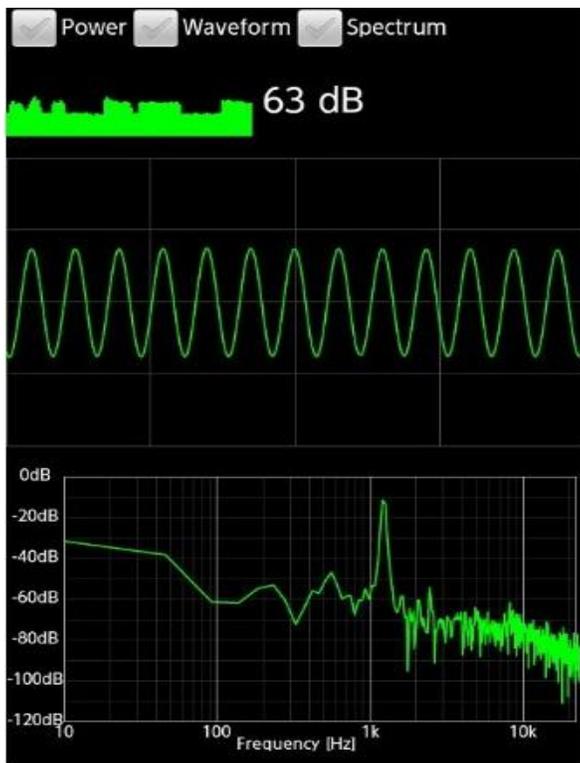
Android SDK

Java and xml

OpenGL ES (2.0 or 3.0) can be used for graphics.

Interface:

An exemplary snapshot of spectrum is below:



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Online Hospital Information System

Project Domain / Category

Web application

Abstract/Introduction

Online hospital information system is a software application that fulfills the overall information needs of hospital administration. This project will be able to cover all aspects of hospitals such as medical, administrative, finance and patient management.

In this application the staff will be able to schedule appointments, check duty timings of doctors, submission of fee for OPD, conducting diagnostics tests and generating reports regarding patients, diagnostics tests, salaries and different financial matters both on demand and periodic.

Functional Requirements:

1. The administrator user can login and logout.
2. The administrator user can add and edit staff record.
3. The administrator can schedule outdoor patient appointments.
4. The administrator can view history of a patient
5. The administrator can create receipts for outdoor patient's fee.
6. The administrator can add, edit or print data of indoor patients.
7. The administrator can print reports for different purposes such as patients data, patients fee, patients previous history, Diagnostics test results, Appointments for each doctor etc.
8. The administrator can add, edit, or view different aspects of pharmacy such as medicines available, medicines which needs to be purchases, monthly and early bills etc.
9. The patient can sign up to the HIS.
10. The patient can login and out.
11. The patient can view the results of diagnostics tests.
12. The patient can take printouts of the diagnostics reports.
13. The patient can place request for appoints.
14. The patient can view details of doctors.

15.The patient can view different financial bills such as appointment charges, medical bills, bills of diagnostics test etc.

16.In case of any complaint, the patient user can submit his/her complaint

Tools:

ASP.net, Php, MySQL, Xampp, MS vision.

Supervisor:

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Auto Reply Assistant for E-Learning System (ARA)

Project Domain / Category

Web Development

Abstract / Introduction

An E-learning Educational System communicate and guide students via Email or Moderate Discussion Board(MDB). There are bulk of queries via Emails or MDBs which are almost same in nature according to the phase of educational activity and require same reply for these queries. So manual reply for these types of queries require much time, effort and resources.

To resolve above mentioned problem, we can update system by auto reply of same type of queries which will save time, effort and resources.

Functional Requirements:

1. Select one course as domain (Software Engineering, Programming, etc)
2. System could assess the type of query (question, information, course related query) and save unique query along with type in database.
3. Train the system to generate answer for each type of query and save against respective query in data base.
4. Auto reply the Emails or MDBs according to their type and nature of question.
5. Keep the Emails or MDBs as unread which new queries are (don't have same type of question saved in database).
6. Manually reply that unread Emails or MDBs.

Tools:

Visual Studio

C#

(Intelligent agents, Chatbots) Optional

Sql Server

Gmail smtp

Supervisor:

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Adaptive Learning Management System by using chatbot Based on Learner Preferences

Project Domain / Category

E-Learning Web Application by using Artificial Intelligence (AI) and Natural Language Processing technique.

Abstract/Introduction

E-learning is considered as the new alternative for the traditional learning environment. In E-Learning system context each individual is able to receive teaching strategy that is more fine-tuned to its learning style. Success of E-learning is based on flexibility and ease of use and diversity in assessments are the major factors having leading role in E-Learning implementation. Learning management system are playing major role in E-Learning environment. Natural language processing combined with Artificial Intelligences can be used in E-learning environment. For this conversational chatbot can be used in E-Learning environment. Chatbots are a form of artificial intelligence associated with natural language processing that interacts with users in a human-like manner. Often, this technology used as personal assistants and has becoming accessible to almost anyone thanks to mobile phones. Chatbots are capable of asking a vast number of questions to change how online learning is conducted.

Today, chatbots are the bridge between technology and education. Chatbots create an interactive learning experience, similar to a one-on-one training with a teacher. Chatbots now play a vital role in education and can be used in several areas of learning. The machine-learning chatbots are still in early days; in many cases, it is obvious that the learner is interacting with a chatbot.

Functional Requirements:

Our proposed Adaptive Learning Management System by using Chatbot (ALMSC) offers the learning environment for every user. Learning Management Systems (LMSs) are used in many (educational) institutes to manage the learning process. Adaptive Learning Environment with the help of chatbot offers support for the learning process through adaptive guidance and provisioned personalized learning material.

The goal of ALMSC is to perform following activities.

- Learner used the learnerID and password to access the Learning management system. Pop up window should be displayed at the bottom right of our Learning Management System by prompting the user for any kind of guidance.
- Chatbot also used an avatar or an animated character, ensure the chatbot's appearance that is sync with the audience it addresses.
- Chatbot correctly guess the most likely gender of a name Gender agreement is important for being able to bind the referent with a correct anaphor. i.e. binding "he" with "Ali".
- Conversation Flow -- When a human talks to a human, he or she rarely plans the entire dialog in advance. When a human talks to a bot, this conversation has to be guided. The thing is, conversation flow is a dialog tree. It visualizes expected user-bot interactions and makes sure every user request is covered by some part of the bot's logics. To make conversation flow smooth and efficient, it's important to apply the best practices and build chatbot. For this Machine learning algorithms be used by taking into account business objectives and learners' expectations.
- Chatbot should already be "taught" common questions so that it can Answering learner questions and respond immediately to learners' questions.
- Quizzing learners—chatbots can quiz learners on vocabulary or other fact-based learning to prepare for quizzes, ensure that learning sticks, or just for fun. An intelligent chatbot can even adapt, personalizing the questions asked or information reviewed to the individual learner, and adjusting to the learner's responses.
- Assessment—chatbots can administer quizzes or other assessments and collect responses.
- Enrollment—adaptive chatbot can perform the enrollment and course selection activities. Prerequisites and other requirements are already taught to the chatbots. By using the knowledge base chatbots can enroll eligible learners in the correct courses, saving human staff a lot of time.

- Programming language syntax--In case learner is interested in understanding programming language our chatbot can answer the proper syntax of programming language statements.
- For successful human-like interaction, chatbots need a perfect tone and dialect. To achieve coherence, a character is used to effectively communicate in audio synced with the text.
- Chatbot used a list of Frequently Asked Questions to generate a chatbot's list of pre-programmed queries and responses.
- In case user asks some specific topic or research question, chatbot provisioned the appropriate link and provide material to its intended user.

Tools: JSP, SQL server 2008, Dialogflow, IBM Watson, Microsoft Bot Framework, Wit.ai, Api.ai, Chatfuel.

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Car Rental Management System

Project Domain / Category

Web Application

Car rental companies serve people who need a temporary vehicle, for example, travelers, those who do not own their own car, or owners of damaged vehicles who are waiting for repair or insurance compensation.

Managing such a business using manual system is a very tiresome job and takes longer to generate different types of reports. To overcome this problem we will develop a website for this company to be able to move their business online and to increase the availability and efficiency of their business processes.

The system should have the following features:

- The system should have a user registration process in order to get login into the system.
- Authorize user will insert detail of different vehicles.
- User will enter detail of vehicle owner.
- Admin will set monthly, daily and hourly charges for different vehicles.
- Vehicle charges will be based on time duration and type of vehicle.
- Customer will be able to view detail of different vehicles.
- Vehicle owner detail should only be visible to company staff.
- Customer should be able to book a vehicle for a specific time.
- Customer will also provide guarantor details.
- System should be able to disable booked vehicle.
- **Reports:**
 - List of all vehicles (type wise, rent wise)
 - List of available vehicle.
 - List of booked vehicle.
 - Transaction Report.
 - Total vehicles rented per day and per month etc.

Tools & Technologies

Preferred tool and technology JAVA

Supervisor:

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Electronic Voting System

Project Domain / Category

Web Programming

Abstract / Introduction

Electronic voting system (EVS) is an online application that lets users vote through electronic devices and the data is processed at central location. EVS stores records of all of the pools and can be used later on for decision making. Furthermore, EVS is supported by powerful electronic devices like biometric machines, high performance servers etc.

In this project you are required to develop an online EVS with following Requirements:

Data Entry Module:

This module will let the department register the political parties, voters, constituencies, candidates contesting elections (both for national and provisional constituencies) etc.

Caste Vote Module:

This module will help voter to cast his vote on specified date in specified constituency. Note that the module will be active on specified date in specified time. A person can cast his vote only once. Due to limited scope an online web form can be used by the user to caste the vote.

Result Viewer Module:

This module will let the public see the live results. The results may include (but not limited to):

1. The overall lead of any party so far:
2. Overall turnout in any constituency so far.
3. Overall turnout countrywide
4. Prediction of winning candidate in any constituency lower to the Union-Council level.
5. Prediction of winning political party
6. Grey (where opponents won with double margin) and strong areas (where a party won by double votes) of political parties right from country level to Union-Council (UC) level.

Note: You have to develop this project in context of Pakistan and Results should be shown graphically where required.

Tools:

Microsoft Visual Studio, Java, PHP

Supervisor Information

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Health Tracker for Diabetic Patients

Project Domain / Category

Web Application

Abstract/Introduction

The aim of this project is to develop a website named as “Health Tracker for Diabetic Patients” to collect, store and process information for diabetic patients. The users of this website are diabetic patients, which store following information in system:

- Glucose Level (Fasting and Random) [Store the value along with time and way of checking level]
- Medication [Medication name / dose and time]
- Any sort of treatment that is carried out during the day
- Food details that would intake by patient during whole day
- Detail of exercises done by patient during whole day

There must be a mechanism to register a user. User is registered by System Admin. Only the registered users will be able to upload his/her details on the website. No user / admin would be able to look in the details of patients. Only admin has rights to see / alter some basic information of users e.g. in case of password lost, admin would help user to recover / reset system password.

Functional Requirements:

Following are the key functional requirements of proposed Project:

1. **Sign In and User Registration**

There will be two categories of Website users:

- Registered User
- Administrator (Admin) [There's may be more than one administrator but it's at-least one]

Registered user will have the privileges to upload his / her information on the website. Administrator will be the user of website having rights of user management. Admin will approve the registration requests from users and recover accounts for registered users. There will be Sign In interface for registered users and Sign Up interface for unregistered users to register on the website.

2. Information Uploading / Posting

There will be interactive interface(s) to upload information for registered users on the website. Information that is posted by user are of following types;

- Glucose Level (Fasting and Random) [Store the value along with time and way of checking level]
- Medication [Medication name / dose and time]
- Any sort of treatment that is carried out during the day
- Food details that would intake by patient during whole day
- Detail of exercises done by patient during whole day

3. Generating Reports through Website

Most important part of the application to generate reports of user's data of each type and one comprehensive report that compare all parameters / information of user.

Entities and their attributes are all on your choice but it would cover the system requirement as provided above. In case of any confusion you are able to get guidance from your project supervisor.

Tools:

HTML, PHP, MySQL, Xampp / wamp server, [PHP Report Maker](#) / [PHP Reports](#) / Any other supportive tool for Report generation

Supervisor:

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Financial Accounting Information System

Project Domain / Category

Web based Application

Abstract/Introduction

All the educational institutes are being computerized due to avoid human errors of manual work. The proposed Web based application is required for all educational institutions. The system will be used to access the overall information about the college students, staff, fee structure, expenses and income etc. Through the developed application, we will get the latest information about the different college perspectives. The user of the application will be able to get information anytime.

Functional Requirements:

- The said software will be used by the admin, students and visitors. Any visitor can view information displayed on the website including admission, Programs Detail, Faculty, and Contact Us etc.
- So users will be of two type i.e Admin and visitor who can access the complete information about the college.
- The said application will handle student information in detail i.e Batch, Class, Roll No, Name, Father Name, CNIC/B Form, Address, Contact No, and Monthly Fee.
- Staff information will also be part of the proposed software i.e id, Name, Father Name, CNIC/B Form, Address, Contact No, and Monthly Salary.
- This application will be able to handle student monthly fee detail i.e college fee, transport charges, fine etc.
- Admin should be able to insert daily expenses, monthly salaries and student fee.
- Application will generate reports i.e Student Fee Reports Class wise and Month wise, All Students Fee Reports Students, Not submitted Fee Report ,
- Month wise Expenses and Revenue Reports

Tools: [ASP.Net,C#, MS SQL Server](#)

Supervisor Name:

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"E-RETAIL": An Online Retail Management System

Project Domain / Category

Web Based

Abstract/Introduction

"E-RETAIL" is a web based Retail Management System for XYZ Shop. Details regarding the different users involved in the system and the functions which they can perform are given below

Functional Requirements:

Following are the users of this system. Each user has to log in first, to use the system.

- Purchaser
- Seller
- Auditor
- Admin

Responsibilities and functions of each user are given below:

Purchaser:

1. There is only one purchaser in the system which can purchase different product items from any wholesaler within the area. The purchaser can buy one or more product items from one wholesaler.
2. Purchaser can access and browse the system and buy product items from the list (shows in the system).
3. The information which a purchaser can access include 3 non-editable and 6 editable contents:
 - a. Non-Editable
 - Product ID
 - Product Name
 - Shelf No (Where it will be placed)
 - b. Editable
 - Purchase Product Quantity
 - Purchase Product Price
 - Purchase Total Price(Calculated automatically)
 - Wholesaler name
 - Wholesaler Phone no
 - Wholesaler Address

Seller:

1. Seller is responsible to manage the records of sold products. There may be many sellers in the systems. The seller can sell one or more products to one buyer.
2. The information a seller can access include 3 editable and 4 non-editable contents:
 - c. Editable
 - Product ID
 - Product Name
 - Shelf No (Where it was placed)
 - d. Non-Editable
 - Seller ID
 - Sale Product Quantity
 - Sale Product Price
 - Sale Product Total (Calculated automatically)

Auditor:

1. There is only one auditor.
2. The system which an auditor can access include 13 non-editable contents:
 - Product ID
 - Product Name
 - Shelf No (Where it will be placed)
 - Purchase Product Quantity
 - Purchase Product Price
 - Purchase Total Price(Calculated automatically)
 - Wholesaler name
 - Wholesaler Phone no
 - Wholesaler Address
 - Seller ID
 - Sale Product Quantity
 - Sale Product Price
 - Sale Product Total (Calculated automatically)

Admin:

1. Admin is the power user and has the rights of each user. He can add/remove the Purchaser, Seller and Auditor.

Proposed Tools: Java, Dotnet Framework, MySQL, SQL server etc

Supervisor:

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Enchanted Flora: Flower Decor Company

Project Domain / Category

Web Programming

Abstract / Introduction

Flowers are soul blossoming in nature. The art of using flowers and combining them with other beautiful elements enhance the décor. Enchanted Flora Company works for the decoration of every type of events with fresh flowers and artificial flowers. The florists' experts of the company arrange for floral decoration for events like wedding, Conferences and Seminars, corporate parties, birthday parties. We also provides the delivery of flowers bouquet as per client demands, like delivery of bouquets to hospital, to friends who have birthdays etc. User can place order for event decoration and order is processed after verification form user, for delivery of flowers to customers is sent through courier services.

Functional Requirements:

Flower decoration company website has following features:

1. The website of floral company must have following tabs:
 - a. Home
 - b. About Us
 - c. Packages
 - d. Events
 - e. Contact Us
 - f. Services
 - g. Gallery
 - h. Floral Experts
2. The website must have slider, which contains the pictures of some of the projects, important updates, important clients and services shortcuts.
3. In "About Us" page you have to describe the history and important features of the company; information about floral experts.
4. Package pages contains the lists of packages which can be
 - a. Silver
 - b. Gold
 - c. Platinum

d. Customized Package (In this user can select services of their choices)

i. Prices and services vary in every package.

5. Events can be

a. Wedding

b. Engagement

c. Birthday

d. Conference

e. Seminars

f. Corporate Party

6. There must be a feedback form for the clients who are taking services.

7. Company has multiple floral experts. Client can choose the team based on the ranking by the prior clients. Information about team and its members must be stored in the database.

8. When user clicks on the "Services", a new list should display containing the services and their types, the company is providing. When user click on any type of service, the detail about the service. The detail about services should contain the introduction of the service and information/ pictorial representation of different related services.

a. Sending of bouquet to anyone is one the service and user can schedule that services that on which date and time bouquet should be delivered.

9. When user clicks on the Floral Experts, the information about important the members along with their testimonials should be displayed. You can display testimonials of the team members on separate page. Information of different teams must be stored in database.

10. There should be search bar at home page.

11. Home page also display the register and login for customer.

12. After login user can place order for services or books floral experts for event.

13. Confirm Order by sending a message or email to user for processing of order. After confirmation form user the order will be processed.

14. After booking of event user have to pay 50% of payment in advance, and remaining at the time of event.

15. The mode of payment for order is by credit card.

16. User can also cancel the order within some time like within 24 hours.

Admin:

1. Admin process the order by verification of user details.
2. Admin must have all the records of orders which are placed, delivered orders as well.
3. Admin can update the website.
4. Admin must send or email to user regarding processing of order.

Tools:

PHP, MySQL

Supervisor:

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Generic Automation for University

Project Domain / Category

Web Application

Abstract/Introduction

The Generic Automation for university will be a web based computerization for any university. The system should be generically developed, taking name, pictures of any university, it should display accordingly. The different users involved in the system and the functions which they can perform are given below:

Functional Requirements:

Following are the users of this system. Each user has to log in first, to use the system.

- Registration Manager
- Fee Manager
- Course Instructor
- Exam Manager

Responsibilities and functions of each user are given below:

Registration Manager:

4. There is only one registration manager in the system which is responsible to add/update the student information such as name, Student Id, Degree Program, Date of birth, Age, Address, Courses enrolled.

Fee Manager:

3. Fee manager is responsible to manage the fee record of every student such as fee deposited, fee remaining, installments etc.

Course Instructor:

3. There are many course instructors in the system.
4. The system which an instructor can access include following attributes.
 - Student ID
 - Student Name
 - Student Degree Program

- Student Course (which he teaches)
- Assignment marks
- Midterm marks
- Final Marks
- Sessional Marks

Exam Manager:

2. Exam Manager is responsible to maintain the records of complete course results and print the final transcripts.

Proposed Tools:

Java, Dotnet Framework, MySQL, SQL server etc.

However you can also use any other tool which meets the requirements.

Supervisor:

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Exam & Result Management System (ERMS)

Project Domain / Category

Web Programming

Abstract / Introduction

In modern educational Institutions, there is a great need to have an online Exam and Result Management System since students' results are one of the most important articles of the business environment. In manual systems, teachers have to spend more time to input marks on tabulation sheet and to prepare students' result than the time they spend to examine exam papers. Besides authorities need various types of result related reports by which they can take policy level decisions. Preparing these reports is time consuming and troublesome. ERMS helps to prepare all these reports very easily.

Exam & Result Management System (ERMS) is an easy online application that automates and digitizes a lot of processes which involve student result processing. These processes range from students' registration, examination, papers marking, approval of results, producing of students result reports, summary and charts, result notification and publishing, transcript processing as well as customized result analysis to produce a performance analysis of courses, students, lecturers, departments or even faculties.

ERMS creates small but effective Profile data for both Student and Teacher. It has smart summary report within the Dashboard or Homepage. It easily assigns Department, Subject, Teacher and Semester in Registration process. It is user friendly and supports integrated multiple User accounts with Authorized Panel and Front end Admin authentication. In addition, ERMS encompasses a secure and monitored system that tracks and logs all the activities on the system.

Functional Requirements:

Some of the functional requirements are:

- Login process/ authentication for teachers, administrative staff and students (Sign up and Sign in/ Sign out) to avoid unauthorized access
- Students' registration in Courses (Class/section –wise)
- Course allocation to Teachers
- Subject-wise exams / tests Creation
- Class/subject –wise online marks entry facility
- Marks entry facility through Excel files
- To prepare Tabulation Sheet

- Marks editing facility
- Selection of Pass/Fail based on Institute's passing criteria
- Preparing Result Card and Merit List
- Preparing Class/Group-wise Result
- Download / Print student-wise report card with student's Photo
- Graphical view of students' performance

Tools:

Server side programming language: PHP

Scripting and styling languages: HTML and CSS

Client side scripting: JavaScript and JQuery

Database: MYSQL

IDE: PHP Storm or NetBeans or any one of your choice

Local host Server: WAMP or XAMPP

Supervisor:

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Damas Diamond jewelry Online Shopping System

Project Domain / Category

Web Programming

Abstract/Introduction

Damas diamond jewelry online shopping system is mainly used to build an application program which help customers to find and buy latest design of diamond jewelry. The main aim of this project is to develop an interactive and dynamic website that provides the customer with on the click functionality to search for their desired diamond jewellery over a wide range of diamond jewelry products such as necklace, earrings, bangles, rings and bracelets and then buy them easily and at any time according to the customers ease.

Functional Requirements:

1. A customer has to fill up the sign up form for registration.
2. After registering, a customer can view the categories of diamond jewelry such as necklaces, earrings, bangles, rings and bracelets.
3. Customer can add his desired diamond jewelry items into shopping cart.
4. Then customer then checkout the item in order to purchase the diamond jewelry.
5. Payment mode will be cash on delivery.

PHP Language and SQL Server Database for developing damas diamond jewelry online shopping system

Supervisor:

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Book Recommendation System using Collaborative Filtering

Project Domain / Category

Web Based

Abstract/Introduction

In this project, we are going to develop an intelligent web-based book store which helps the users (book readers) to not only search the books from the database but also allows the users to see the book recommendations based on their predicted interest. For this purpose, we will include a book recommender module which is based on collaborative filtering.

Background of Collaborative Filtering: In e-commerce systems, the recommendation systems are widely used to recommend products to the end users that are most appropriate based on their interest prediction. Such e-commerce systems, the features of collaborative filtering are used to produce efficient and effective recommendations. Collaborative recommendation is probably the most familiar, most widely implemented and most mature of the technologies. Collaborative recommender systems aggregate ratings of objects, recognize commonalities between users on the basis of their ratings, and generate new recommendations. Collaborative filtering is a method of making automatic predictions (filtering) about the interests of a user by collecting preferences from many users (collaborating). The underlying assumption of the collaborative filtering approach is that if a person *A* has the same opinion as a person *B* on an issue, *A* is more likely to have *B*'s opinion on a different issue than that of a randomly chosen person.

There will be two main users of the system:

- Book Buyer (User)
- Administration

Functional Requirements:

There will be three modules with following functional:

1. User Module

- A new user will be able to create a new account.
- During account creation, the user will be asked to select book genres (categories) of his/her interest so that he/she can view books based on the interest.
- A registered user can login to the system with valid username and password.
- The registration of the user will be completed through Email verification.
- After successful Login, the user can see all the available books based on some search criteria to buy online.
- There will be different search criterion such as Book Name, Book Genre, Author Name, Year Published etc.
- User will be able to view system generated recommendations for books.
- User will be able to give rating to any book which can be later used by our recommender module.
- User can buy to the book by doing online Payment.
- User will be able to change his/her profile.

2. Administrator Module

- The administrator will be able to login to the system with valid username and password.
- The admin will be able to add new book categories.
- The admin can add new books based on its title, category, author name, year published etc.
- The administrator will be able to see all the available books with its details.

3. Collaborative Filtering based Book Recommender Module

We want to include the intelligence in our system which recommends random books to the user based on his/her interest which will be predicted through collaborative filtering.

Following requirements should be part of this module.

- Aggregating the rating given by a book reader for each book
- Using collaborative filtering for making a prediction about the books, the book reader can be interested in reading, based on his selected book genres as well as the aggregated book ratings associated with those genres.
- Allowing the user to view the generated book recommendations.
- Displaying book recommendations as part of the book search criteria.

Important Note: This is not a simple book store which requires only adding records into database. This project requires having proper understanding of Collaborative Filtering techniques and its implementations as part of Recommender Module of your project and without this module, the project will be considered incomplete.

Important Reading Material:

You can learn more about collaborative filtering and its application from the below given links:

- https://en.wikipedia.org/wiki/Collaborative_filtering
- <https://ashokharnal.wordpress.com/2014/12/18/worked-out-example-item-based-collaborative-filtering-for-recommender-engine/>
- <http://homepages.abdn.ac.uk/advaith/pages/teaching/abdn.only/AIS/lectures/abdn.only/CollaborativeFiltering.pdf>

Tools and Languages:

Visual Studio (C# with ASP.NET), SQL Server Management Studio

Supervisor:

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Celebration with Cake (Online Cake Purchase System)

Project Domain / Category

Web based Application

Abstract / Introduction

The main aim of this project is to develop an interactive website that facilitates the user with an on-the-click functionality which is useful to find cakes for any occasion with different flavor/size/price like Wedding cakes, Birthday Cakes, Eid cakes, Christmas Cakes etc. and customer can buy them at any time. The aim of this application is to reduce the manual effort and time needed to manage transactions; the software will be helpful for the administrator for the maintenance of the cake purchase system also.

Using the proposed application user can check for various cake categories, sizes displayed with their prices, available at the online store and purchase online. If the user wants to buy a cake he/she may add it to his shopping cart. Once user wishes to checkout he/she must register on the website first. Payment mode will be cash on delivery. On the successful transaction a copy of the shopping receipt will be sent on the customer's email id. Moreover the customer can view/search the cake catalogue without logging into the system or getting him/her register while to buy cake, customer should follow the registration (login) process.

Functional Requirements

Here are following modules in Celebration with Cake (Online Cake Purchase System)

- **Cakes Catalogue Module:**
- **Customer Module**
- **Admin Module**

The Functionality of each module of **Celebration with Cake (Online Cake Purchase System)** is as follows:

1. **Cakes Catalogue Module:** In this module each and every operation related to the cake category and cake size such as adding new cake category/size, editing the existing cake category/size, delete cake category/size, gets the lists of cake category/size and reports of cake category/size will be managed.
2. **Customer Module:** This module helps the customer to Sign-in, Create an Account, Search cake category/size, Select cake category/size, Buy cake, Continue Shopping, View/Edit Cart, Checkout, Bill Information, Confirm order, and Delete Order.
3. **Admin Module:** In this module, add cake category/size, modify cake category/size, delete cake category/size, accept order, delete order, edit order, Sale Record, Database's data Report, transactions history, order Status, add/update/delete the product details in the catalogue are included.

Tools:

Software Requirements:

- Operating System: Window7and above
- HTML,CSS, Bootstrap (Front-end)
- MYSQL(Backend)
- PHP(Server side programming)
- WAMP — Web Application Server

Supervisor:

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Inteeria, Interior Designing Company

Project Domain / Category

Web Programming

Abstract/Introduction

Interior design is the art and science of enhancing the interior of a building to achieve a healthier and more aesthetically pleasing environment for the people using the space. An **interior designer** is someone who plans, researches, coordinates, and manages such projects. Interior design is a multifaceted profession that includes conceptual development, space planning, site inspections, programming and research, communicating with the stakeholders of a project, construction management, and execution of the design.

“Inteeria” is a newly developed interior designing company working in different cities of the country. Company wants to develop a web based application to display their details and take orders. Company deals in both residential interiors and commercial interiors. Residential interiors cover Bungalows, Villas and Penthouses. Commercial interior includes Offices, Restaurants and Hotels. Each sub service can also be sub divided into different services.

Functional Requirements:

1. Following tabs must be included on website.
 - a. Home
 - b. About Us
 - c. Services
 - d. Testimonials
 - e. Gallery
 - f. Team
2. “Home” should contain the introduction of the company, slider containing the pictures of some of the projects, important updates, important clients and services shortcuts. Arrange the demanded information aesthetically and logically.
3. In “About Us”, describe the history and important features of the company; information about teams, company groups, clients and careers.

4. Company has multiple teams in different cities to work on same service. Client can choose the team based on the ranking by the prior clients. Information about team and its members must be stored in the database.
5. When user clicks on the “Services”, a new list should display containing the services and their types, the company is providing. When user click on any type of service, the detail about the service and potential teams should display on page.
6. The detail about services should contain the introduction of the service and information/ pictorial representation of different related services. For example if a user click on Villas, then the page should display the some catching designs for different sections of villas.
7. Estimated rate for each service/related service must also be displayed along with the service. The application must calculate the estimated bill based on the demanded services.
8. There must be a “Book Now” button to take orders from clients with each service details.
9. When user click on the “Book Now” Button, a form should display to take order from the client.
10. Client must get registered before asking for the services.
11. Form should take all the necessary information about the order and stored it into database.
12. The information of the services and sub/related services must be stored in database.
13. After availing the services, client should rate the team and add feedback about the company. Ranking can be done by giving stars to the team. The ranking information must also be stored in database and must be displayed on portfolios of the teams.
14. Client can updated and cancel his/her order anytime.
15. In testimonials, display the feedback of the different peoples and companies who have availed the different services of the company. Feedback of the clients is obtained from the database.

16. Gallery should contain the project wise pictures of the interiors designed by the company. Pictures must be stored in the database project wise.
17. When user clicks on the Team tab, the information about important team members along with their testimonials should be displayed. You can display testimonials of the team members on separate page. Information of different teams must be stored in database.
18. Admin is responsible for managing all the information displayed on website and also approves/disapprove the request of the clients.
19. Admin has the details of all orders.

Note: Requirements can be Added/Updated as per need.

Tools:

Microsoft Visual Studio (C#.Net) and MS SQL Server

Supervisor:

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Designing and Development of Online Furniture Store

Project Domain / Category

Web Application

Abstract/Introduction

This project is an online furniture shop that allows users to check for different furniture(s) available at the online store and then purchase online. The project provides a list of furniture products displayed online in various models and designs. The user may browse through these products as per categories. If the user likes furniture, he / she may add it to his shopping cart. Keeping the features of an e-commerce site, online furniture store software project acts as a central database containing various furniture(s) in stock along with their price and design. It provides customers online furniture(s) shopping facility from their homes.

A customer can sign up for free, login to his / her account, can browse furniture of his / her own interest, and can view prices and other details of selected furniture, place furniture into shopping cart and can select from payment options. User needs to register on the site before checking out so that he / she can login using same ID Password next time. User can select any payment option that he / she wish to, like through credit / debit card or cash on delivery.

This website project will be developed using ASP.NET as the front end and SQL Server as a back-end. The SQL database will store information about the furniture(s) and other details.

At checkout time, the items in the shopping cart will be presented as an order to the customer. At that time, more information will be needed to complete the transaction. Usually, the customer will be asked to fill a form containing information about shipping address and other details, and payment information such as credit card number etc. An e-mail notification will also be sent to the customer as soon as the order is placed.

Functional Requirements:

1. The system shall provide convenient interface for User Registration, Furniture Search and Payment.

2. A guest user can only view furniture. For any kind of shopping he / she must have to register.
3. The system shall be capable to generate invoice bill and Customer shall be able to pay it online.
4. The system shall provide Password Recovery facility through customer email id.
5. The system shall provide different options for sales (10%, 15% and 20%) on various furniture items.
6. If an item is not available (out of stock), and a customer selects it, he / she should be shown a message that this item is out of stock. Managing your database efficiently is required for this task.
7. The customer shall be able to trace his / her order later on. Administrator shall also be able to trace any order easily.
8. The search interface shall be convenient to search any furniture item.
9. Every order shall be allocated a unique identifier (ORDER_ID) which the user shall be able to copy to the account's permanent storage area.
10. Both admin and customer shall have different views. i.e. Administrator View and User View.
11. Customer shall be able to get notifications on his / her email id.

Tools: .NET Technologies, C#, SQL Server, CSS, IIS

Supervisor:

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Real Estate Management System

Project Domain / Category

Web Programming

Abstract/Introduction

Real Estate Management System (REMS) is a web application that will allow its users to view, compare, bid and make advance payments for the properties listed over the web site.

The application will also provide its users with the facility of searching for different properties on the basis of:

- Area covered by property
- Location (by province or city)
- Price range
- Number of bedrooms
- Number of Stories

This web application will consist of 3 main modules:

Admin should be able to add/remove/modify any property details entered by the owner of the property for the correctness purpose.

Owners of the properties will have an option to get registered on the website and then post their properties for users to view and buy.

User should be able to search, bid, compare and make advance payment for the property once the owner of the property has accepted the bid.

Detailed Description of Roles:

Admin:

- Admin should be able to create/remove/modify registered owners
- Admin should be able to accept or reject any registration request submitted by the property owners

Owner:

- The registered Owner should be able to add properties through their account and those properties should be visible to the users after the admin's approval.
- The property details should include
 - Property Title
 - Area Covered
 - Location
 - Bedrooms
 - StoriesYou can add any other parameters suitable for describing property specifications
- The registered owner should be able to accept or reject bids made by the users and should be able to ask for the down payment from the user to secure the bid.

User:

- User should be able to view all the information available on the website
- User should be able to search the for the properties different parameters (already mentioned above)
- User should be provided with the facility to compare different properties in the tabular form.
- User should be able to bid and if the bid is accepted by the property owner, user should be able to make the advance payment online as well. Bid and payment option should be available to the registered users only
- You can use any payment method Credit card/ PayPal etc

Tools and Languages:

You can use any combination of the tools and languages from the following:

HTML, CSS, JavaScript, PHP, Wordpress, WAMP server, SQL, Dreamviewer, Notepad++ etc

Supervisor:

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Enquiry the Student Knowledge Level through Fuzzy Control System

Project Domain / Category

Web Programming, Expert system

Abstract/Introduction

Expert system is a fuzzy logic based web application in which expert system will be built to analyze the student knowledge level automatically. In this system, it will be considered bloom taxonomy wise assessment to measure the performance of student knowledge. The fuzzy rules will be generated according to bloom taxonomy wise to evaluate overall and individual assessment performance of students. The bloom taxonomy is divided in to six cognitive processes such as Knowledge, Comprehension, Application, Analysis, Synthesis and Evaluation. These processes can be supposed of as degrees of difficulties.

Functional Requirements:

- The application should have graphical user interface which have admin, teacher and student interface.
- The Admin should be login with valid username and password.
- Admin and teacher should be able to insert proper details of registered students.
- The teacher should be managed the assessment bank according to bloom taxonomy wise.
- The student should be registered with basic details for student account
- The student should be Login with valid university ID and password
- Student should be able to view his/her academic performance based on bloom taxonomy assessment with the passage of time.
- The admin/teacher should be used fuzzy knowledge based to generate report efficiently.
- The admin should manage and view all student assessment records.
- The admin should view the performance of e-learning student and update knowledge based on requirement.

Note: Skype session must be attended to communicate with the supervisor about fuzzy algorithms otherwise project will not be accepted.

Tools: Microsoft .net Framework and SQL Server

Supervisor:

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Online Agriculture Products Store

Project Domain / Category

Web Application

Abstract / Introduction

To facilitate remote area farmers to buy agriculture products, there is a need to build an online agriculture product store .Through Internet, customer and business owner can communicate with each other, share different type of information and resources. In the today's ecommerce world, different types of organizations are going to build their businesses through Internet. For this purpose, different types of ecommerce websites are developed to sell their products and services etc.

In this project, we will build user friendly website in order to buy and sell an agriculture products online. The main purpose to build this store is to facilitate farmer to buy seeds, pesticides and fertilizers from anywhere through internet connectivity.

Administrator:

- Login process to allow authentic user to access the admin panel.
- Admin will be able add the list of categories such as seeds, pesticides, fertilizers, and so on. Admin will then add the list of items for each category. Items can be added based on their name, prices, company name, pictures of products. , admin will have to add manufacturing and expiry date. Admin can also update and delete the categories and items.
- Admin will be able to add/update/delete information about promotions and sales.
- Admin can send SMS to regular customers on any promotion and Sale.
- Admin will be able to view customer's profile, feedback and reviews.
- Admin will be able to generate Sales Report and profit on monthly basis.
- SMS will be sent to regular customers on any promotion and Sale.
- Admin will confirm the order through SMS.
- Payment receipt is also generated for customer record as well as for admin.

Customers:

- Customers will get them registered in this application and then will be able to access the web site by logging into system.
- Customer can view/search the list of items based on their categories.
- Customer can add the items in their Wish List., also able to edit it as per need.
- Customer can view the feedbacks and reviews of other customers regarding any product.
- Customers can add the product/item in the Cart and select any of three payment options Cash on delivery, Payment via Credit Card or online transfer.
- Customer can update and conceal the order.
- Customer can view the Sales and promotions on web site as well as via SMS.

Tools and Languages:

Visual Studio, .NET Framework, C#/Java, SQL Server

Supervisor:

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Online Patient-Doctor Portal

Project Domain / Category

Web-based Application

Abstract/Introduction

The application will provide an interface through which doctors can post detail of their available free time. This information will then be visible on the website. Unregistered users can search doctor and see details of available appointment time. In order to book an appointment with doctor, user first registers as patient. One patient cannot book two or more appointments with same doctor on a particular date. Two or more patients cannot reserve same appointment time with a particular doctor on a particular date. Patients and doctors can view the upcoming and previous appointment details.

Functional Requirements:

Four types of users will be using this application.

Admin:

- The application will provide Login interface.
- Admin can add/update/delete Doctor and Patient information.
- Admin can view the details of all booked appointments.

Doctor:

- The application will provide Login interface.
- Doctor can post detail of available free time.
- Doctor can view upcoming and previous appointment details.

Patient:

- The application will provide registration interface.
- Patient can login to the system after providing registration details.
- Patient can search doctors and see details of available appointment time.
- Patient can book an appointment with doctor. One patient cannot book two or more appointments with same doctor on a particular date. Two or more patients cannot reserve same appointment time with a particular doctor on a particular date.
- Patient can view upcoming and previous appointment details booked by him/her.

Unregistered User:

- Unregistered user can search doctors and see details of available appointment time.
- In order to book an appointment with doctor, user first registers as patient.

Tools: PHP, HTML, JavaScript, CSS, MySQL

Supervisor:

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Online Customized T-shirts Designing

Project Domain / Category

Web based application

Abstract / Introduction

Online customized T-shirt designing is a web site where a registered user can design his\her own T-shirts based on different provided templates. A user after registration can select a t-shirt color, t-shirt type and size. After that user can start designing the t-shirt. For T-shirt designing a stage is available to users. In designing interface different sticker sizes, templates, fonts, shapes etc. are available to user using which a user can design a T-shirt.

Functional Requirements:

Provide a bulleted list of functional requirements

1. User should be registered on web site
2. On designing interface a stage and different designing options should be available
3. Different types of T-shirt (With Collar, without collar, round necked, V-neck, full sleeves, half sleeves, sleeveless etc.) samples\templates should be available on designing interface of web site
4. Upon selection of T-shirt from template T-shirt must be appeared on stage for designing
5. Colour ranges can be selected from a drop down box.
6. On change of colour the t-shirt colour should also be changed on stage
7. User can design on a specific rectangle area of specific size
8. Different design area sizes must be available in this interface
9. Different shapes (cartoon characters, flowers, stars, etc.) must be available in this interface.
10. Different font styles and effect should be in this interface
11. User can select drag drop the shapes and text on the stage
12. User can change text on stage
13. User can also upload a customize image for t-shirt.
14. After designing task is completed user must submit finish button.
15. Upon click of finish button, the designed T-Shirt image along with T-Shirt information should be stored.

Tools:

PHP\Asp.net or any server side scripting language

SQL\MY SQL\Oracle\ or any other database management system

Supervisor:

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Online Fast food ordering system

Project Domain / Category

Web Programming-B2C

Abstract / Introduction

Home delivery of fast food via phone call is popular. The process seems easy to use but at times there is miscommunication sometimes. The main drawback of placing order via phone call is that there is no visual menu shown, the employees have to repeat a lot of things again and again to the customers. It's a time consuming process which at times irritates customers. It would be much more comfortable for the customers to have an online ordering system. It would be hassle free for users as they can select the food item they want and make payment for it. Also it will reduce the purchasing time for customers. Let us look at another benefit of using this system. Suppose I go to a fast food point and make order. Even after ordering fast food from their outlet, I have to wait at least 15 minutes for my order to be ready. Wouldn't it be much more convenient if I ordered my fast food before using an online system and then it will tell me the time by which I have to pick my order from their counter!! It would be great for me as I don't need to wait for my order. I need to reach there only when my order is ready. In a nutshell, we can say that improved and efficient services are provided to the customers by the inclusion of internet in your business. As a business point of view it gives you an edge over your competitors.

Functional Requirements:

1. Create accounts user and admin for order booking and viewing.
2. Admin can view the placed order and delivered orders.
3. Admin can insert, update and delete the food items from the menu list.
4. Customer can select food items from menu and can add the desired food items to the cart.
5. Customer can place the order and gets the confirmation against that order in the form of order no.
6. Customer can check the status of his/her placed order.

Tools:

Visual Studio, C#, Java, HTML, XML, MySql.

Supervisor:

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Online application system for Natural Gas Connection

Project Domain / Category

Web Programming

Abstract/Introduction

In this project, we will build a web-based application named as “Online application system for Natural Gas Connection”, in which different type of users applies online for getting the natural gas connection.

The user must first register on the website. Based on the information provided in the registration process the user can login and logout from the website. Once the user is registered then the user can apply for the natural gas connection. The user will fill the form and his/her request will be sent to the administrator.

The administrator user will be responsible for managing different administrative tasks such as connection type, available dates, charges, etc.

The main purpose of this project is to allow users to allocate natural gas connection online and administrator can manage them online.

Procedure for natural gas connection:

1. First user must register him/her on the webpage.
2. Once the users apply for a new connection, then a receipt will be produced and the user will pay the dues in any bank.
3. After the fee depositing, the user will upload the fee voucher on the website. Then the admin will provide a survey date, which the user will see on the webpage once he/she login.
4. On the specified date, the survey team will visit the user place.
5. After the survey, the team will report to the admin and then admin will generate the demand draft for the user.
6. Then the user will print the demand draft from the webpage and pay the required fee in the bank.
7. And then upload the paid demand draft on the webpage then admin will give a date for connection.
8. At that specified date, the connection team will visit the place and make a connection.
9. Then the admin will provide the date for a meter.
10. At that specified date, a gas meter will be fixed by the meter team.

Functional Requirements:

Admin panel:

1. The administrator user can login and logout.
2. The administrator user can add survey dates and can create demand drafts for different users.
3. The administrator user can view the fee voucher and demand drafts that were be uploaded by different users.
4. The administrator can add and edit the survey dates, meter dates etc.
5. The administrator can manage the account/billing information.
6. The administrator can create a monthly record of issued gas connection.
7. The administrator can supply the required gas meter to the registered user.
8. The administrator can generate the income reports and expenses reports on monthly/yearly/when required based.

User panel:

1. The user first creates a new account by clicking on the signup button. And fill the registration form by providing different information like cnic no, name, picture, address, telephone number etc.
2. The registered user can login and logout.
3. When the registered user login, he/she can apply for new connection by filling the required form. After that, a fee voucher will be generated for the user.
4. The user will pay the fee to the bank and upload the scanned copy of the fee voucher on his/her account.
5. The user can view the survey date on his/her account.
6. The registered user can download the demand draft from the webpage against his/her request.
7. Once the user pays the fee of demand draft in the bank, he/she will upload the scanned copy of fee voucher on his/her account.
8. The user can view the connection date on his/her account. Similarly, the user can also view the issue date of a meter on his/her account.
9. The user can also give feedback to the admin.

Tools:

PHP, MySQL, Xampp

Supervisor:

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“mytoystore” - Online Store for Toys Shopping

Project Domain / Category:

Web Programming

Abstract/Introduction:

“mytoystore - Online Store for Toys Shopping” is a website that offers purchase service to the webpage visitors. It offers different variants of a single toy. Main categories should include Electronic Toys, Mechanical Toys and Stuffed Toys [-you can add more categories as per needed-] . Toys will be delivered to the address provided by user/buyers during prescribed delivery hours.

Payment will be made by cash on delivery.

Stakeholder:

1. Administrator
2. Visitor
3. User (Buyer)

Functional Requirements:

GUI interface:

1. Main page will show different toys, categories list etc.
2. Sing Up/ Login Page: Signup page will be used to register a visitor of website.
3. Preview Page: When user/visitor clicks on any item, a new page for the details of the item should be shown to user/visitor.
4. Video preview: There must be a video preview available to user/visitor on Preview page. A short video for the selected item should be played for user/visitor.

Visitor:

1. A visitor is a non-registered user of the website.

2. Can view different toys and can explore different categories
3. Can register to the website using Signup page in order to make a purchase.

User (Buyer):

1. User can view the information about toys.
2. Add different toys to the shopping cart.
3. Buyer will have to fill a form for required details needed to confirm the order.
4. A buyer can cancel an order before confirmation or can check-out from the main page.
5. After collecting toys, a buyer can write feedback on webpage.

Administrator:

1. Updates toys information
2. Manages toys repository
3. Generates reports from system
4. Manages categories of toys

Others:

- Online payments e.g credit/debit card, online vouchers can be implemented later.
- Return policies might be defined as per needed.

[NOTE: Student can add/enhance requirements as per needed.]

Tools:

WAMP server, PHP, MySQL, HTML editors (Dreamviewer, Notepad++).

Supervisor:

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Online Cake Ordering System

Project Domain / Category

Web Programming

Abstract / Introduction

Online Cake Ordering system will facilitate customers to order cake online and get it at door steps or collect it from shop. The customers can view different categories of cakes such as Wedding Cakes, Birthday cakes, Cartoon Character cakes for kids, Festival Cakes etc. The customers can view all details about a particular cake such as its name, type, flavour, weight, and price etc. To place an order, customer first needs to register on website by providing personal details. After successful registration, login details will be provided to customer. In order to place order, customer has to first login and then he/she will have to perform two steps. In first step, he/she has to select basic details like cake type, flavour, weight, delivery date, time and place. In second step, he/she has to select payment mode. Two payment modes “Cash on Delivery” and “Payment via Credit Card” will be provided to customers so that they select any payment mode as per their convenience. After performing these two steps customer will be asked to confirm the order. After order confirmation, a summary report of customer order along with billing information will be provided to customer. The system will allow customer to cancel the order but within defined time period. Previous sales of each customer will also be maintained by the system. Some discounts and promotion offers will also be offered.

Functional Requirements:

Customer's Requirements:

- FR1.** View different categories of cakes.
- FR2.** View details (cake name, type, material used, flavour, weight, price etc.) of each cake.
- FR3.** Customer registration
- FR4.** Select cake options and place order
- FR5.** View summary report of their order.

- FR6.** View and pay the bill
- FR7.** Cancel order within defined time period.
- FR8.** Record customer feedback about the quality of cakes etc.
- FR9.** Contact with the cake shop to give suggestions and ask queries.

Admin's Requirements:

- FR10.** Add, update and delete different categories of cakes
- FR11.** Add, update and delete details of a particular cake.
- FR12.** Assign unique id to each customer
- FR13.** Generate summary report of each order
- FR14.** Generate bill of each order.
- FR15.** Handling payments
- FR16.** Maintaining sales information
- FR17.** Keep records of registered customers, their suggestions, feedback, and queries etc.
- FR18.** Provide discount offers

Note: Requirements can be Added/Updated as per need.

Tools:

Microsoft Visual Studio (C#.Net) and SQL Server

Supervisor:

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Online Blood Bank Management System

Project Domain / Category

Web programming

Abstract/Introduction

The software system is an online blood bank management system that helps in managing various blood bank operations effectively. The project consists of a central repository containing various blood deposits available along with associated details. These details include blood type, storage area and date of storage. These details help in maintaining and monitoring the blood deposits. The project is an online system that allows to check whether required blood deposits of a particular group are available in the blood bank. Moreover the system also has added features such as patient name and contacts, blood booking and even need for certain blood group is posted on the website to find available donors for a blood emergency. This online system will be developed using the .NET platform and supported by an MS SQL Server database. The main objectives of the system are:

- To reduce the extra paper work.
- To retrieve the desired information quickly.
- To reduce the number of documents and registers.
- To convert the manual processing into the computerized processing.

Functional Requirements:

- **Online Registration/Login:** The users that are in need of blood can register online and find their suitable donors online.
- **Donor registration:** Donors can also register in the system to post their donation information.
- **Blood requirement posting:** Already registered users can also post their requirements for blood.

- **Donated blood storage data and availability check:** The system automatically stores the information as soon as there is any updating mode.
- **Donor Finder:** The system automatically finds the donor information when there is a rise of any requirement.
- **Blood donor Age Limit:** Donor age must be between 18 to 50 years.
- **How often someone donates Blood:** A donor can be donated blood after 4 months of first donation

Further More:

- Customers can get all blood donation information in this system instead of going and searching around for it.
- The system provides immediate details of blood available in the bank.
- The system is very useful as it immediately provides users about the availability of blood.
- The system also contains donor's details and information so that users don't have problem in searching for them.
- The system is very effective during emergency conditions.
- It saves their time and efforts.

Tools:

ASP.NET Or C#, HTML, CSS, JavaScript, Crystal report, MS SQL Server,

Supervisor:

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METEOROLOGICAL Information System

Project Domain / Category

Web Programming

Abstract / Introduction

The Meteorological Information System (MIS) is a system to gather, store and manipulate latest weather information and to provide access to historical data. Main purpose is to provide timely access to weather information, efficient data manipulation, and graphical information.

Aim of MIS is to provide Better information for better decisions by weather observations and forecasts. It will facilitate visual inspection by weather icons, comparisons graphs and Maps. It will alert users of hazardous climate changes to keep them safe and to minimize risk elements. It will highlight informed planning for climate variability and long term climate changes which will be helpful in planning of travelling, farming, tourism, sports etc.

Functional Requirements:

1. The user will be able to check latest Tropical Weather Maps and Satellite images of country
2. The user will be able to see Daily detailed temperature of Pakistan 20 main cities
3. The user will be able to see Daily detailed temperature of capitals of South Asian Countries
4. The user will be able to check Important global and local weather news
5. The user will be able to get Location based Notifications
6. The users will be able to get road travelling and flights information alerts
7. The system shall provide Weekly Farming forecast details (Soil Moisture, humidity, precipitation and temperature in numerical and graphical form)
8. The system shall provide Hurricane and storms headlines
9. The system shall maintain weather info graphics

Tools:

PHP, JavaScript

Supervisor:

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Project Domain / Category

Web Application

Abstract / Introduction

A healthy diet is incomplete if you do not include fruits and vegetables in it. They provide our body with essential nutrients that boosts our immunity and protects us against chronic diseases. Fruits and vegetables are rich in minerals, vitamins, antioxidants and fiber, they are also low on calories, which is perfect for your waistline. They make any dish delicious with their vibrant colors, appetizing fragrances and fresh flavors. Juices, smoothies, salads, and sabzi are ideal diet choices for all people. However, in our daily hectic schedule of demanding working hours and grueling traffic snarls we don't find any time to go out grocery shopping. This results in consumption of unhealthy and greasy foods that is detrimental to our health. When our body is deprived of healthy foods our immunity weakens and this leads to we becoming susceptible to dangerous diseases.

To facilitate people in home there is a need to build an online zabzi phal store. It is an easy and affordable option to enjoy fruits and vegetables delivered right at your doorstep. This portal is designed specially catering to working people who find it difficult to commute after long hours and shop in crowded markets.

Through Internet, customer and business owner can communicate with each other; give suggestions, orders and place complaints. In this project, we will build user friendly website in order to buy products online.

Administrator:

- Login process to allow authentic user to access the admin panel.
- Admin will be able add the list of categories such as fresh fruits, vegetables and salads. Admin will then add the list of items for each category. Items can be added based on their name, prices, and pictures of products. Admin can also update and delete the categories and items.
- Admin will be able to add/update/delete information about promotions and sales.
- Admin can send SMS to regular customers on any promotion and Sale.
- Admin will be able to view customer's profile, feedback and reviews.
- Admin will be able to generate Sales Report and profit on monthly basis.
- Admin will confirm the order through SMS.
- Payment receipt is also generated for customer record as well as for admin.

Customers:

- Customers will get them registered in this application and then will be able to access the web site by logging into system.
- Customer can view/search the list of items based on their categories.
- Customer can add the items in their Wish List, also able to edit it as per need.
- Customer can view the feedbacks and reviews of other customers regarding any product.
- Customers can add the product/item in the Cart and select any of three payment options Cash on delivery, Payment via Credit Card or online transfer.
- Customer can update and conceal the order.
- Customer can view the Sales and promotions on web site as well as via SMS.

Tools and Languages:

Visual Studio, .NET Framework, C#/Java, SQL Server

Supervisor:

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Online Bakery Shop

Project Domain / Category

Web Application

Abstract / Introduction

This online Bakery shop will allow users to check and purchase different kind of bakery items available online. This project will contain complete list of bakery items displayed in several categories and the user can browse through that items. User can add the selected items into his shopping cart. User needs to register on the site before checking out. He can then login using same user name and password next time. User may pay through a credit card or cash on delivery. The user will receive a copy of the shopping receipt on his/her email id after the successful transaction. This project will bring an entire bakery shop online and will make it easy for both buyer and seller.

Functional Requirements:

- **User Registration:** User can register on the system and get his online account on site.
- **User Login:** User can login to system and check several bakery items.
- **Product Categories:** The different kinds of bakery items will be arranged and can be viewed in categories.
- **Add to cart:** Users can add new items to cart.
- **Custom Cake:** User can order a custom cake as per his needed flavour, size, and shape on site.
- **Payment:** After total bill is calculated user can pay via credit/Debit card online.
- **Email confirmation:** On successful payment a thank you message will be sent to user email id.

Tools:

ASP.Net, SQL Server, PHP, MySQL Server

Supervisor:

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Online Grocery Store

Project Domain / Category

Web Application

Abstract / Introduction

It is a web based application which will assist end users to do online grocery from their home without going to store thus saving the time of customers. The purpose of this web application is to provide an online shopping experience to consumers for their daily grocery needs and planned purchases of housewares, electronics, furniture, toys, gifts, etc. A facility of feedback form and customer reviews has been provided in this application in order to maintain customer trust and satisfaction. It will keep the updated list of items/products based on their categories, item name, company name, manufacturing date, expired date, warranty etc. SMS will be sent to regular customers on any promotion and sale. Customers will have rating based on shopping. Customers will have three categories basic, silver and gold based on these categories different discounts will be offered to the customers.

Functional Requirements

There will be following two panels in this application:

- Administrator
- Customer

The functional requirements of these panels are as follows:

Administrator:

- Login process to allow authentic user to access the admin panel.
- Admin will be able add the list of categories such as Food, Clothes, Electronics, Furniture, Toys, Gifts, and Kitchen Accessories and so on. Admin will then add the list of items for each category. Items can be added based on their name, prices, company name, pictures of products. For food items, admin will have to add manufacturing and expiry date. For the list of electronics, admin will add information regarding warranty.
- Admin can also update and delete the categories and items.

- Admin will be able to add/update/delete information about promotions and sales.
- Admin can send SMS to regular customers on any promotion and Sale.
- Admin will be able to view customer's profile, feedback and reviews.
- Admin will be able to generate Sales Report and profit on monthly basis.
- SMS will be sent to regular customers on any promotion and Sale.

Customers:

- Customers will get them registered in this application and then will be able to access the web site by logging into system.
- Customer can update his/her profile.
- Customer can view/search the list of items based on their categories.
- Customer can add the items in their Wish List.
- Customer can view the feedbacks and reviews of other customers regarding any product.
- Customers can add the product/item in the Cart and select any of three payment options Cash on delivery, Payment via Credit Card or online transfer.
- Customer can update and conceal the order.
- Customer can view the Sales and promotions on web site as well as via SMS.

Tools and Languages:

Visual Studio, .NET Framework, C#/Java, SQL Server

Supervisor:

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PhotoGallery

Project Domain / Category

Web Application

Abstract/Introduction

The aim of this project is to develop a website named as “PhotoGallery” to store and share collection of photos. The users of PhotoGallery will be able to upload and share their favorite photos with their friends on PhotoGallery and visitors of this website. Only the registered users will be able to upload photos on the website. The user’s registration as well as the posts (photos) for publishing will be approved by the Administrator of the website. There will be four options to share the Photo(s) on the website:

1. Sharing with Specific Friend
2. Sharing with Everyone
3. Sharing with all Friends
4. Sharing with None (Just to save the photo on the website for personal use only)

The registered user will be able to upload the photos in different categories such as My Favorite, Flowers, Selfies, Friends and Nature etc. The Registered user will have the facility on website to send Add Friend Request to any other registered users. There will be proper interface(s) for registered users to manage add friend requests from different users. The administrator of the website will have a proper Admin Panel through which he / she will be able to manage the whole website (approving or rejecting user registration requests, searching uploaded Photos by different filters, uploading and deleting any photo). There must be user friendly interfaces and effective navigation scheme in the website.

Functional Requirements:

Following are the key functional requirements of proposed Project:

Sign In and User Registration

There will be three categories of Website users:

- Visitor (Unregistered User)
- Registered User
- Administrator (Admin)

Visitor will be able to just see the Photos uploaded by registered users.

Registered user will have the privileges to upload Photos on the website.

Administrator will be the user of website having all the rights of Photo management as well as user management. Admin will approve the registration requests from users and posts from registered users for publishing on the website.

There will be Sign In interface for registered users and Sign Up interface for unregistered users to register on the website.

4. Email Notification and Verification

An unregistered user will register him/her on the website. On submitting the registration information an email notification will be sent with a confirmation link to the user's given email ID. On confirmation through link, the Admin will approve the registration requests from users.

5. Photos Uploading / Posting

There will be interactive interface(s) to upload Photos on the website. Photos posted by the registered users will be verified /approved by the Admin for publishing on the website.

6. Making Friends through Website

The website will allow the registered users to make other registered users their friends. For this, a user will send request through proper interface, available on the website. The user receiving the friend request will have the rights to approve or reject the friend request.

7. Search System on Website

Searching Photos:

Admin and registered users will be able to search Photos by different filters such as:

- Date of Posting
- Friend Name
- Photo Title
- Photo Category

Admin will also be able to search Photos by user ID.

Visitor user will also be able to search the photos (shared with every one) through following filters:

- Photo Title
- Photo Category

Searching Registered Users:

Administrator and Registered users will be able to search other registered users by different filters such as:

- User Names
- Cities
- Educational Institute

Admin will also be able to search registered user by user ID.

8. Photo's View

The Photos published on the website should be displayed in grid view. There should be maximum 5 Photos in one row of grid. On click, the photo should be opened in full view.

9. Likes / Dislikes against a Photo

Administrator and the registered users (friends) will have the facility of liking and disliking any photo by clicking the suitable related icon given on the interface. The website will count and display the number of likes and dislikes against each photo.

Tools:

Java, HTML, PHP, ASP.Net, SQL Server, MySQL

Supervisor:

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Stolen Cars Repository

Project Domain / Category

Web-Based Development

Abstract/Introduction

In Pakistan, cars are theft on daily basis which needs to be recorded and maintained. The law enforcement agencies will take benefit from it by checking cars online. Moreover, before buying any car, it would be a good idea to check it in a database and then decide accordingly. We will manage the record of stolen cars in any city and district.

Functional Requirements:

Following are the functional requirements:

1. There will be two types of users; police and general public.
2. Login procedure for both types of users.
3. Login for public will be created based on mobile no.
4. Both public and police will be able to enter the record of a stolen car
5. The retrieval of stolen car information by all users
6. An announcement should be made upon a new entry in the list of stolen cars
7. Updating any record upon recovery of a car by police only
8. Generation of reports regarding stolen cars on daily and monthly basis
9. Graphical representation of data for the past 1 year
10. Cars could be searched by all types of users on the basis of model, Registration No, Chassis No, Engine No or color.

Tools:

PHP

SQL Server

Supervisor:

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Online Tourist Guide

Project Domain / Category

Web Programming

Abstract / Introduction

Now a day's people use mobile devices and mobile phones. People use these gadgets for calling, as a calendar, planner and organizer. Mobile phones with GPS facility are also used to find paths in navigation. The main idea of this project is to design the system that will run on mobile phones, which will be helpful when visiting some new places. The proposed mobile tourist guide design consists of two steps, the first step is designing a web site that allows the user to navigate a web site, discover the locations and the interesting points before the real visit. The second step is designing the mobile applications. When the user visits the web site, selects the points that he wants to visit and specifies some preferences such as the visit duration, the mobile model, and the language, then the information about these locations are kept over the user space and an application is being built. The application must be now installed in his mobile phone. The user runs the application while visiting. Tourist can access the information from a simple interface or the information about any location is displayed without the user intervention according the GPS positioning system, where the matching is done between the GPS coordination and the GPS dimensions stored for each location over the device. If so, the information about this location is displayed. The system is designed to allow tourist to work in on-line from the web site or off-line mode from the installed application over the mobile device.

Functional Requirements:

Provide a bulleted list of functional requirements

1. The web site allows the user to register and provide his preferences.
2. The user can also access the information without registering [as visitor]
3. The database contains all the desired information about locations and users.
4. Admin rights allow users to add new data or update existing data in the database.
5. The web service is built to provide services for users who install the application over their mobile device. The user can access the information from the local storage in case of offline or update the local storage with information from the server on online case. This component helps the user to build an application in his mobile device to be used in case of disconnection or under the user demand.

Tools:

Php, C#, Java, XML My SQL

Supervisor:

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Web Based Sales Automation System (For Garments)

Project Domain / Category

Web Programming

Abstract / Introduction

This is a Web Based Application for automation of inventory control and sales management processes. This application is developed to construct a public or semi-public friendly automation system. It facilitates the administration of a sale point including managers, owners, salespersons as well as customers. Owners and managers can check the status of inventory and get reports about sales and purchases.

Functional Requirements:

1. User Authentication:
 - a. System asks for User ID and password.
 - b. System should ask for user level.
 - c. System authenticate and response as per input.
2. Sales Management:
 - a. System registers the customer first.
 - b. System authenticates the customer information, to check validity.
 - c. System enables the selection of customer.
 - d. System shall set rate according to the purchase of customer
3. Purchase Management:
 - a. System registers the dealer.
 - b. System authenticates the dealer information, to check validity.
 - c. System enables the selection of dealer.
4. View Purchases and Sales:
 - a. System show daily transitional detail.
 - b. System provide detail according to specify dates (From date to date).
 - c. System show summery detail at the end of report

Tools:

PHP, MYSQL, NetBeans, PHPStrom, UML, MS VISIO etc

Supervisor:

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Virtual Diamond Palace

Project Domain / Category

Web based Project

Abstract / Introduction

The main aim of this project is to develop an interactive and dynamic website that provides the customer with an on-the-click functionality which helps to find latest design of Diamond jewellery with different categories like Men jewellery, Women jewellery, Occasion, offers products like Rings, Bangles, Bracelet, Earrings, Necklaces, Pendants, nose pins, Wedding sets etc. and buy them easily at any time according to the user's convenience. The website is designed in such a way that anyone can view the updates of the diamond products being offered on the website at any time easily. The aim of this web application is to reduce the manual effort needed to manage transactions and also will help in easy maintaining and updating jewelry products in the website for the administrator.

Existing System

In Jewellery shops all the orders are taken manually. All Jewellery brushers have price list but it's have limited designs of Jewelry. The stock is maintained on paper. Paper work takes more time and may be lost the data. It takes more man power and time.

Proposed System

- Virtual Diamond Jewellery shop that allows users to check for various categories and Diamond Jewellery products available at the website and purchase online.
- The website consists of list of Diamond Jewelry products displayed in various designs with prices against each category.
- The user may browse through these Diamond Jewellery products without login/registration.
- If the user likes a product and wants to buy than may add it to the shopping cart.
- Once user wishes to checkout she/he must register on the website first. User can then login using same id password anytime.
- User may pay through a credit card or cash on delivery.
- Once the user makes a successful transaction she/he gets a copy of the shopping receipt on his/her email id.
- The system will also reduce the manual operation associated with the maintenance of the records consisting of the product, product order details, and customer details.

NUMBER OF MODULES

1. **Login/Registration Module:** In this module, the Data Base Administrator (DBA) or the customer will have to authorize his access to the modules of the online software system.
2. **Diamond Jewellery Module:** In this module all categories and all diamond jewellery products must be displayed and each and every operation related to the Diamond jewellery category and product such as adding new item, editing the existing item, delete item, gets the lists of item and reports of item will be managed.
3. **Customer Module:** This module helps the customer to Sign-in, Creating an Account, Search product, Select product, Buy Items, Continue Shopping, View/Edit Cart, Checkout, Bill/Ship Information, Confirm order, and Delete Order.
4. **Data Base Administrator (DBA) Module:** In this module, Creating Username & Password, Input product/category, Modify product/category, delete product/category, Query Sale Data, Query Database's data, maintains the historical records on all transactions and Logout.

Functional Requirements

1. A Login and registration facility for enabling access to the system both for customers and Data Base Administrator (DBA).
2. The customer can view/search the product catalogue without logging into the system or getting him/her registered.
3. For making a purchase will have to follow the registration (login) process.
4. DBA will maintain the system by order bills, order Status add/update/delete the product details in the catalogue.

Tools:

SOFTWARE REQUIREMENTS:

- Operating System: Window7and above
- HTML,CSS, Bootstrap (Front-end)
- MYSQL(Backend)
- PHP(Server side programming)
- WAMP — Web Application Server

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