جامعة الإمام عبدالرحمن بن فيصل

IMAM ABDULRAHMAN BIN FAISAL UNIVERSITY

PROJECTS SHOWCASE

CCSIT 2017

College of Computer Science & Information Technology

Introduction

The College of Computer Science and Information Technology(CCSIT) at Imam Abdulrahman bin Faisal University (IAU) is one of the largest colleges in the University. Since its establishment in 2010, the College has been committed to provide its students with an innovative and state-of- the-art computer science curriculum that will enrich their knowledge and give them the experience they need to effectively contribute to the advancement of technology. Whereas the college aims and puts great importance to provide outstanding graduation projects for the level 10 students, and it is keen to be in applied areas or community service as technology now is part of different areas applied, life and medical fields. Based on this principle exhibition is held annually for these projects. This booklet provides a brief introduction for such projects at the College . It includes 16 projects for computer information systems department (CIS) and 13 projects for computer science department(CS) for both male and female sections .

Vision

To achieve excellence in computing education at national and global levels.

Mission

Provide quality education in computing through innovative curricula, services and partnerships for the benefit of the community and discipline.

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Computer Science Department

(CS)

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SAFS

One of the biggest challenges for small and starting factories is the size of their budgets; having a small budget can be challenging to small factories as they require professional tools (software and hardware tools) suited to their scope, and to some that might be more difficult as those tools need to be custom-made specifically for the factory, thus increasing the strain on the budget. With the upcoming Saudi 2030 Vision that plans to increase support and reliance on local small and starting factories, we decided to provide them with a way of managing their factory as well as improving their customer relations through SAFS (Semi-Automated Factory System). SAFS is composed of three parts, the CRM (Customer Relationship Management), the EMS (Environment Management System) and the ES (Expert System). The ES is the source of the semi-automated nature of the system, as it takes the place of time consuming paperwork, thus improving the productivity of the factory. We strongly believe this project will be beneficial to both the factories and the country as a whole.

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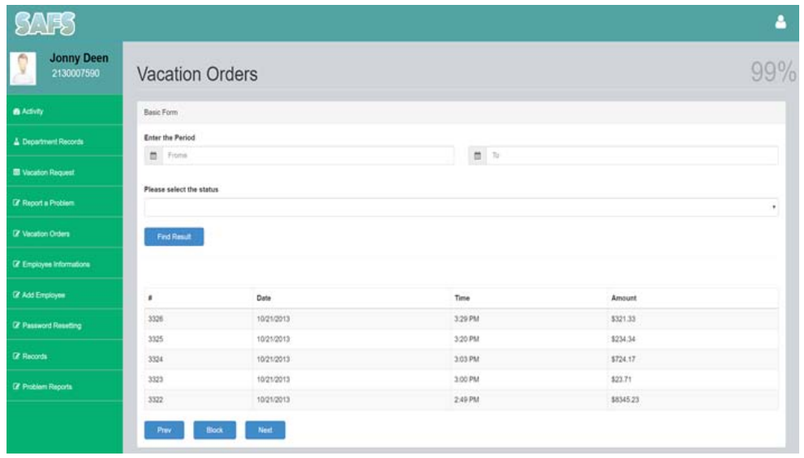
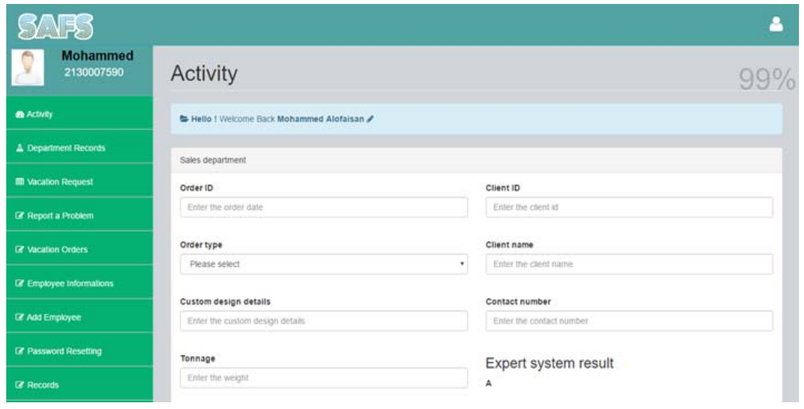


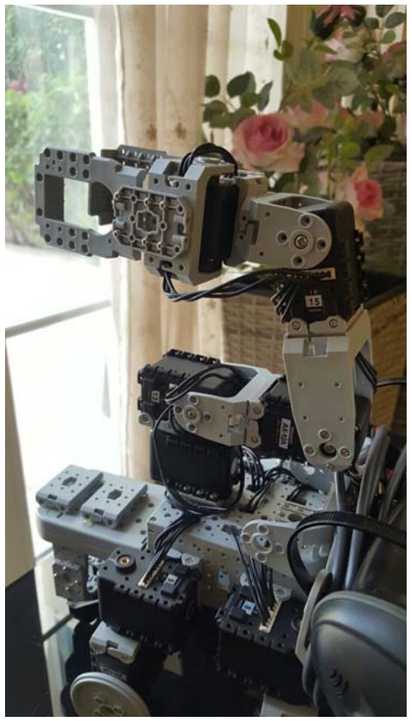


Sa’ed robot

Sa’ed Robot

Technologies are improving soofast and large companies are investing a considerable amount to adapt them in their workplace. Datacenter automation is a new approach to handle basic physical tasks in which robotics technology will be used to make a fully functional robot that deals with repetitive tasks instead of wasting the human operator’s time. Sa’ed Robot is an automated solution for Aramco’s datacenter in which (”ساعد“(this robot will help in delivering and organizing tapes inside the datacenter. The name Sa’ed has been chosen because it carries two distinct meanings in Arabic; an arm, and an order to help others. Inspired by these meanings we have decided to name the robot with this meaningful word.

Sa’ed robot is programmed in python using UDOO microcontroller and embedded C using C530 microcontroller, operates in Linux operating system and uses an SQLite database as our client requested.



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زاد - ZAD

Commercial date farms span hundreds of acres with date palm trees typically reaching a height of 21-23 meters. In such farms, manual inspection of diseases is a tedious task. If diseases occurring in date fruit farms are not detected at an early stage, crop yield is significantly reduced. As a result, ZAD is proposed to automate the process of disease detection and identification. The Arabic word ZAD has been chosen as the name for our system, which means nourishment, growth 4. We chose ZAD because we believe that our system will contribute to the increase of date crop production. ZAD is a desktop application that aims to detect, classify, and analyze diseases pertaining date farms. A pre-built camera drone will be flown over a date farm to collect images of date fruits and date palm trees. These images will then be classified to detect diseases of date fruits and date palm trees by utilizing image processing and machine learning techniques. The proposed system will be trained to identify the most common diseases. As a result, the cost, time and effort needed to manually inspect date farms can be greatly reduced. ZAD uses a database server at the backend to store and retrieve data and is intended for date farm owners, farmers, and researchers that share an interest in detecting infections in date fruit farms. In a nutshell, ZAD allows you to detect and analyze diseases pertaining your date farms.

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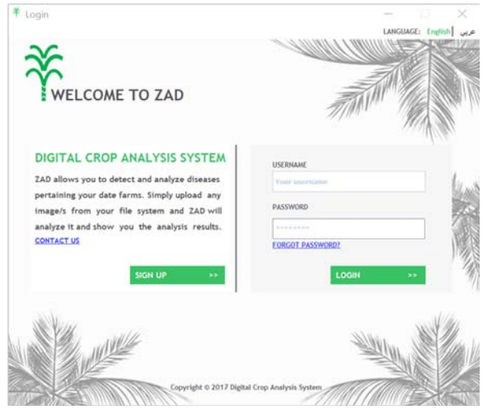

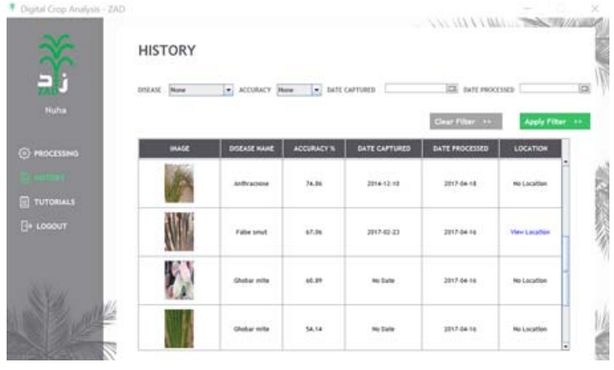

UVA: Dynamic Provisioning of Resources in High Performance Computing (HPC) Environments

The project aims to develop a solution that achieves dynamic provisioning in a heterogeneous Linux-based High Performance Computing (HPC) environment. Dynamic provisioning is a technique that allows resources to be configured on demand. In a typical HPC environment several applications run with various conflicting requirements, including custom software packages, mount points, and user access groups. When a job scheduler (resource manager), assigns a job to a set of nodes (servers) to run an application, the assigned nodes must be “dynamically provisioned” to meet the demands of the application. Later, if the job scheduler assigns the same set of nodes a job to run another application, the nodes must again be dynamically provisioned to meet the demands of the new application.

Objectives of the project include:

(i) Developing an API (Application Programming Interface) that allows the integration with the job scheduler (SLURM) and the resources manager (XCAT)

(ii) Handling the following configurations:

- Operating System version (reinstall, upgrade),
- system configuration files (edit, remove, or add),
- software packages (install, update, or remove), and
- file system mount points.

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Health for the Future

Smart Massage Development Framework

These days, with this evolution in technology; new devices are invented each day and many devices are evolving rapidly; scientists always try to develop the traditional technology to become more helpful and easier to use. The idea is to improve foot massage devices by creating a framework that allows to define a foot massage sequence. This project focuses on improvement the normal foot massage device to smart one. Project idea is to do a massage framework using a smart phone to apply massage sequences on hardware. The Android application connects with the hardware to make foot massage treatments. The hardware consists of a micro-controller associated with a circuit of Bluetooth and solenoid pins. Furthermore, users can define their own treatment sequences using the application. Then, the solenoids will perform the treatment as the user wants. Technically, solenoids are connected with Arduino microcontroller which receives Android's commands and controls the solenoids based on them. Also, Arduino communicates with the mobile application through Bluetooth. Using the application, the user has the option either to apply customized (where the user can create his own treatment sequences) or to apply predefined treatment (predefined treatments are the treatments that are already stored in the application's database).

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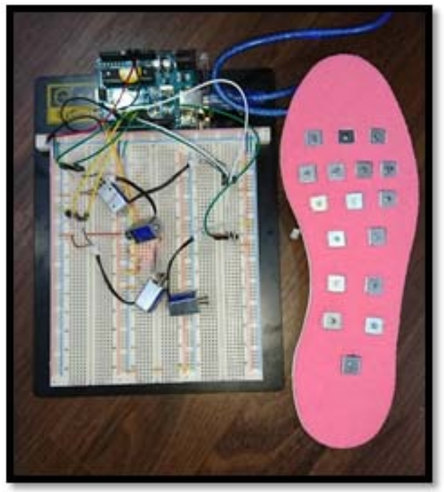

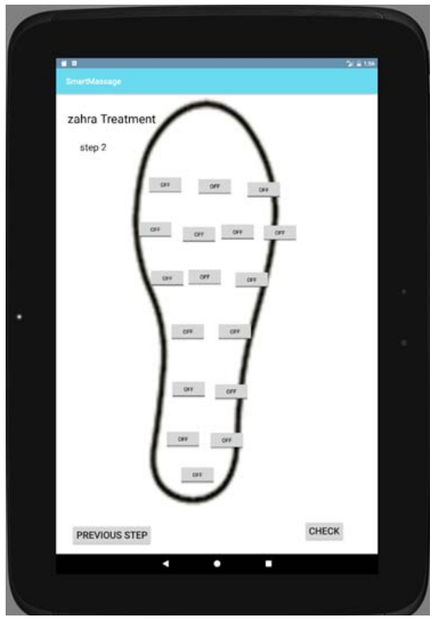

CleanBot: Climbing Cleaning Robot

The purpose of the project is to automate the process of cleaning windows of skyscrapers buildings in an effort to spear human operators from being at high risk during the process of cleaning the outer cover of the building. The project automates the process of cleanliness that the building owners strive for their buildings.

The project is about developing a semi-autonomous mobile robot called “CleanBot” that helps in cleaning large and high area of glassy surfaces. It works by climbing and sticking on surface to do its job. The robot consists of two parts, the body and the legs. By using sensors, the robot is able to sense its environment, detect and avoid obstacles. Also, there are motors which are attached to each leg responsible of the movements of the legs. The movement of the robot can also be controlled by a user through the remote controller. The commutation between the robot and the remote controller is achieved by using Wi-Fi module. The implementation is done by using “Sketch”, which is an Arduino IDE based on C/ C++ language.

Objectives of the project include:

1.Build limbed robot that can navigate on glass.

2.Clean the areas of interest with suitable technology.

3.Avoid obstacle.

4.Give a demo on one of the university buildings to demonstrate the functionality of the robot.

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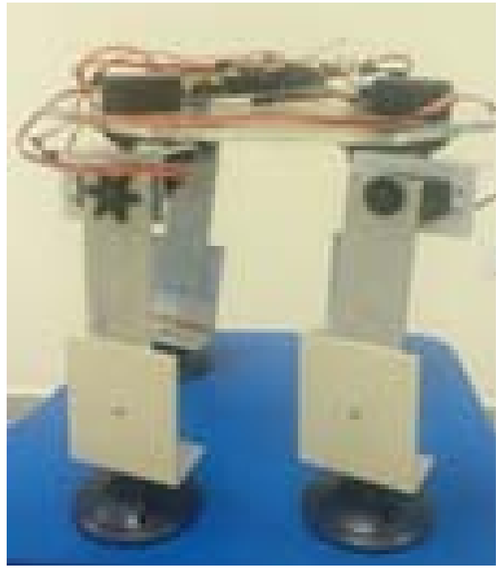
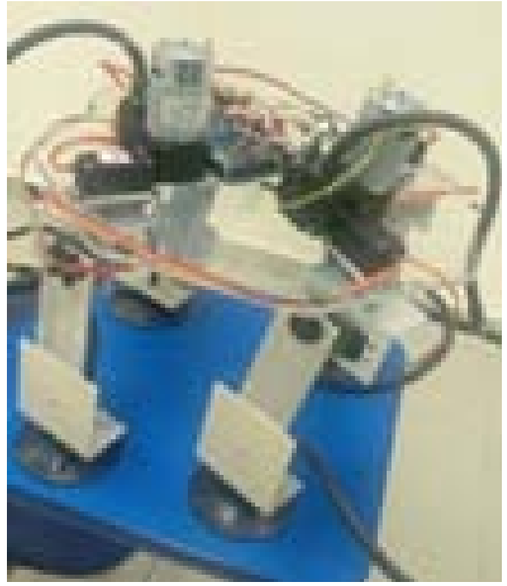
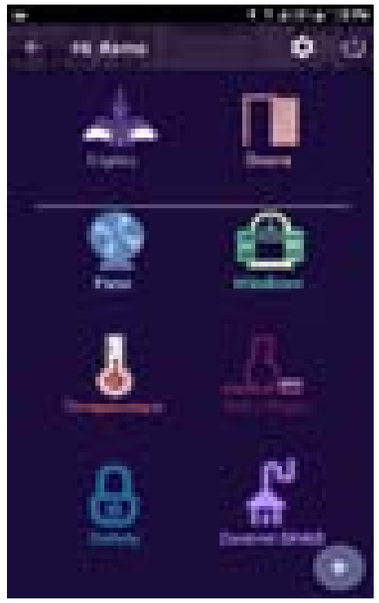


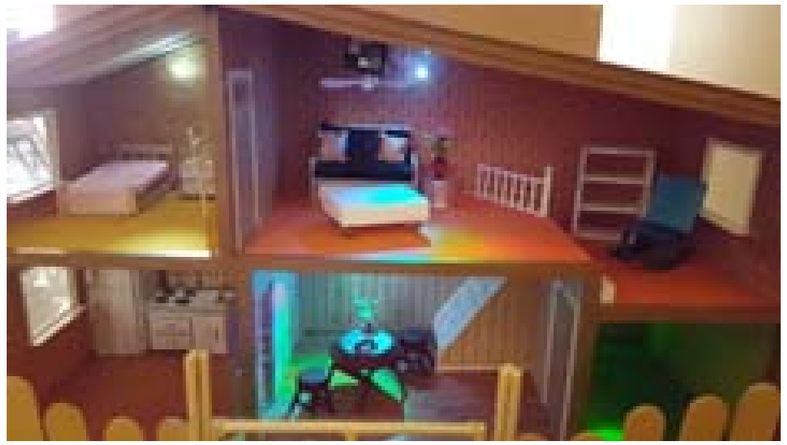


SHAS

With the evolution of new technologies, the need for an easy lifestyle has been in demand. Our daily lives are filled with hard work and different actions that tiers our bodies. It is a normal thing, when we want to relax after a heavy day at home. Nowadays people with special needs and those who suffer from severe injuries need to rely on themselves because they wouldn't want to be a burden on those surrounding them. To help all these people we have developed an android mobile application, called Smart Home Automation System (SHAS), that enables users to control their home remotely through Bluetooth. The proposed solution saves time and effort of users by allowing them controlling their devices remotely using their smartphones. SHAS makes the home owners feel safe and offers a secure home environment for all family members. Moreover, the system can be very beneficial to elderly people and pregnant women.

With just one click, the user can control his appliances remotely, such as switching lights on/off, opening/closing doors and controlling fans. The system provides a special functionality for deaf users where a blinking light indicates that the doorbell is ringing or that a fire alarm has been fired. This function will also help non-deaf users by catching their attention if they didn't hear the alarm. SHAS allows user to change his room's light color by picking his favorite color from the system. It also provides other functionalities such as self-cleaning function for the windows, checking house's temperature and keep track of pets' drinking water to provide them with their needs all the time. SHAS provides an easier lifestyle with just one click.





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Quick sign

Quick sign is an android application to translate sign language to written text and vice versa. The application serves the society particularly deaf people who cannot talk (and some of them cannot hear also).

In daily life, people communicate with others to do a lot of duties. Also, deaf people have their own life. They need to communicate with others and others also need to communicate with them while carrying out day to day activities. The quick sign application helps deaf people to communicate with the others and do their duties in the easiest way, especially in an emergency case which needs quick actions like in the case of accidents or in the hospitals.

The application translates the sign language to text on the screen of mobile. Also, it translates entered text to sign language. Users can put any translated words or sentence they like in the favorite list to facilitate quick access to such favorite lists at any time later. Quick sign runs without the internet. Therefore, users can translate at any time without the need to connect to the internet.

The application supports Arabic and English languages. The design of the application is made to be simple and useful for deaf "who cannot read normal text" and non-deaf people. Especially in case the two users use the application at the same time and on the same device, one of them being a deaf person and the other normal person. Both users can quickly know how to use the application and understand the actions because all the interfaces were designed having sign language and written language to ensure ease of use. In addition, the quick sign application gives a chance for people who are interested in sign language to learn while practicing.

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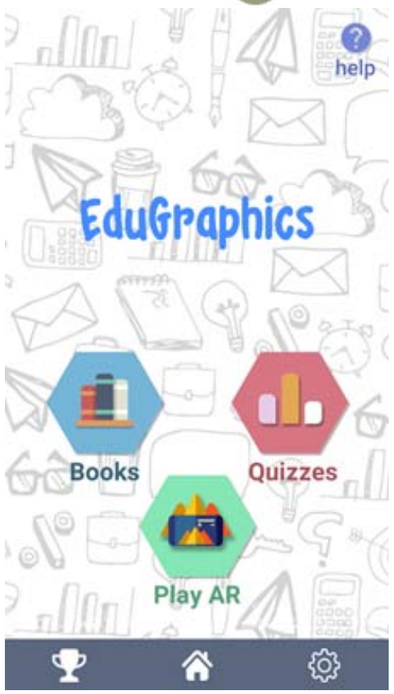
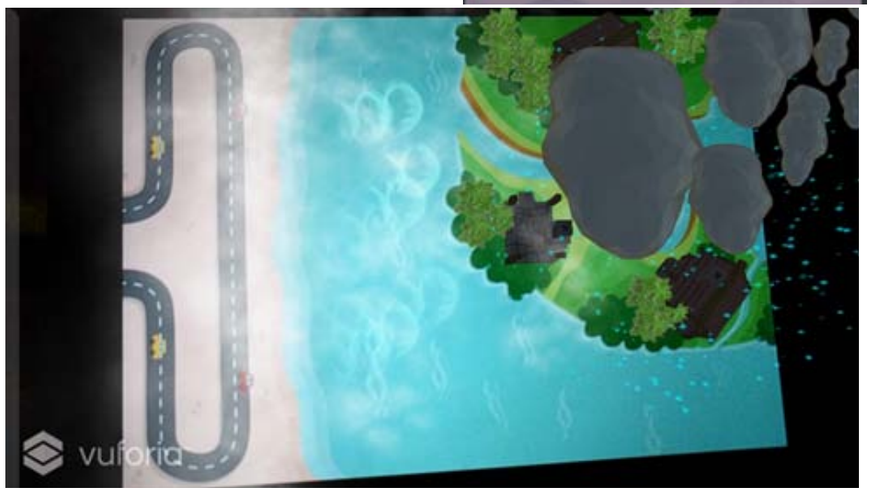
EduGraphic

From educational quality perspective, Saudi Arabia is ranked 54 among 140 countries in a recent survey. One of the issue highlighted is the lack of understanding of complex topics and concepts at school level. To introduce scientific concepts in an interactive way, Augmented Reality (AR) helps students to learn faster and have a better understanding of the subject. Augmented reality is the integration of digital information with the user's environment in real time, it uses the existing environment and overlays new information on top of it. Our project is an AR application that creates 3D (three-dimensional) objects to visualize a figure or picture. We build a system that is integrated with the student's book to visualize the objects that are hard to understand on papers as a typical school book consist figures and pictures of two-dimensions. Our system helps the students to see the three-dimensions version of the same figure or picture. The student opens the application, use the phone camera on top of the paper, and three-dimensions object appears through the device screen. In addition, the application provides an opportunity to students to practice after each section or chapter with a brief quiz to measure their understanding of the subject. We believe the system would help the students to learn faster and improve their understating of complex topics in any subject in an entertaining way rather than the typical way of teaching at any school.





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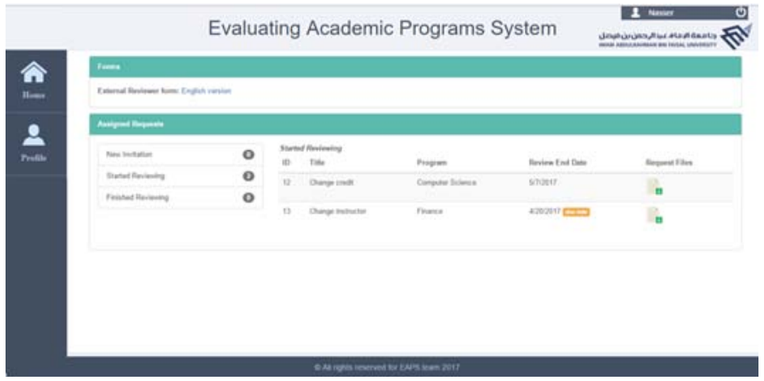
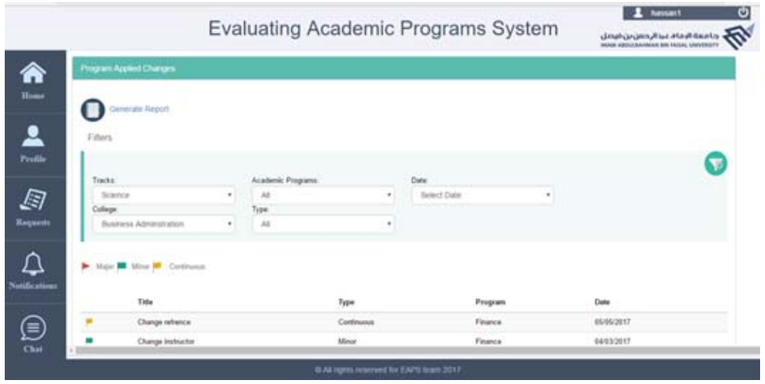
Evaluating Academic Programs System (EAPS)

One of the main goals of Imam Abdulrahman Bin Faisal University (IAU) is to maintain high quality of education. Every 3-5 years, Colleges of IAU are required to review and update their academic programs to keep abreast with the development of science in all fields. Consequently, the process of managing academic program plans and reviews needs huge efforts and time to be done.

As IAU offers more than 70 programs, it requires to track changes in these programs continuously. Therefore, the need arises for a system that helps Department of Curriculum and Academic Programs (DCAP) to achieve its goals in more convenient and faster way, and improve the level of performance and quality to manage IAU academic programs.

In order to meet IAU needs, Evaluating Academic Programs System (EAPS) has been proposed. EAPS acts as a connection point between IAU Colleges and DCAP to manage the process of IAU academic programs development. The system will facilitate the process of reviewing and updating academic programs by replacing the paper-based transactions into an efficient automated process. EAPS is seeking to save the environment, as well as helping the different parties in saving time, cost and effort.





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Bramorsis

Brain tumor is the most commonly occurring malignancy among human beings. The incidence of brain tumors is increasing rapidly, particularly in the older population than compared with younger population. Brain tumor is a group of abnormal cells that grows inside of the brain or around the brain. Magnetic Resonance Images (MRI) are used to detect presence of any brain tumor but it is very time consuming and difficult. Our project presents an automated system to detect brain tumors using Image Processing and Machine Learning. The project consists of four stages i.e. Preprocessing stage, image preprocessing techniques is applied to remove any noise and enhance the image for further processing. In second feature extraction stage, features are extracted for training the machine to classify the MRI. In the third classification stage, K-nearest neighbor machine learning method is used to train the system and classify whether the MRI is considered as a normal or abnormal case. Finally, several post-processing operations are used to segment the tumor from the whole image to automatically detect the size and location of tumor in any part of the brain. To provide neurologists with an informative status of the tumor before a biopsy or surgery, and aid early diagnosis, surgical planning, and follow-up assessment.

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Computer Information System Department

(CIS)

PROJECTS SHOWCASE

Family Drugs Application

The Family Drugs Application project addresses the overall problem of using medicines at home. It happens that most people lose prescriptions that contain important information including: the right dosage, time of the drugs, Number of doses per day, and side effects. This is issue is more common with mothers who have to take care of their children among other tasks. Taking medications by guessing and estimating the dosage after losing prescription may lead to severe issues. This project will offer a software solution that will be implemented as an Android mobile application. It will contain beneficial features like searching for drugs by name, by scanning its bar-code, by index search which mean all the drugs in the database are categories based on the parts of the body. It is also enabled with a reminder facility that can be set for different drugs and users. The app is also keen of the validity of information saved into its database by applying the concept of “wisdom of the crowd”. Since the database does not contain all the drugs that available on the world, the user can add new drugs with all its information and if five different users add same drug information, then it will be saved in the database and available to all.

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E-Forms for Academic Affairs Unit

The proposed web application's main client is the Academic Affairs Unit (AAU) at Imam Abdulrahman Bin Faisal University. It is a workflow system that will digitalize all the manual process done at AAU. The system will convert the paper forms into e-forms, and the manual processes into a workflow system. The system will add value to AAU by saving employees' time and effort, reduce redundancy in term of tasks and documents, and reach "green environment" by eliminating papers. In addition, it will increase work efficiency and employees' productivity.

Our proposed workflow application will provide various helpful functionalities; first, the system enables students to fill any form electronically and submit his request to AAU. Also, the system enables employees to receive the request, then approve it or reject it. In addition, it gives the ability to all system users to track each request status, which will be beneficial for both faculty and students. This feature will ensure that no request has been ignored or forgotten. Furthermore, system users can see all the comments written on specific request. Also, the system will provide notification feature that will be helpful for the faculty members to notify them about pending requests and late requests. In addition, the system will automatically notify the students about the status of their requests. Another helpful feature for the employee is the ability to assign his task to another employee in case he is not available at the university. Furthermore, the proposed application will provide features that restrict access to/delete the requests, which will prevent unauthorized access and make sure that no request is intentionally ignored or forgotten. Lastly, the system will provide a dashboard for administrators that help them to manage system's users, which will eventually lead to better decisions.

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Smart Hajj Companion

Smart Hajj Companion (SHC) is a system that acts as an electronic focal point for pilgrims, volunteers and campaigns. It offers barcode reader with interactive functions to the users to help finding solutions to multiple common problems.

In the last year, Hajj bracelets were implemented but it only includes basic textual information. This textual information is not personalized for each pilgrim; it includes information only about the campaign name and location and it is not offered by every campaign.

Team members decided to improve the idea of regular barcode bracelet with textual information to be a barcode bracelet that can be scanned with additional interactive features and functionalities. For example; there would be an interactive map to direct the pilgrims and provide them with navigation capabilities to major places in Mecca like Mina, Arafat and Muzdalifah, or even to their campaign's locations.

Another interactive functionality in the system is the "Volunteers", this functionality will allow pilgrims to ask for help if they have any problem, such as translation or in case of needing help in Hajj instructions or directions. Volunteers could be Security guards, Paramedics, Guides person or a Mufti person to offer a wider range of help and assistant when needed by pilgrims.

Project objectives include developing an easy to use mobile application that serves a wide range of pilgrim performers. Another objective of this project is to develop a user-friendly web application that serves administrators and Hajj campaigns.

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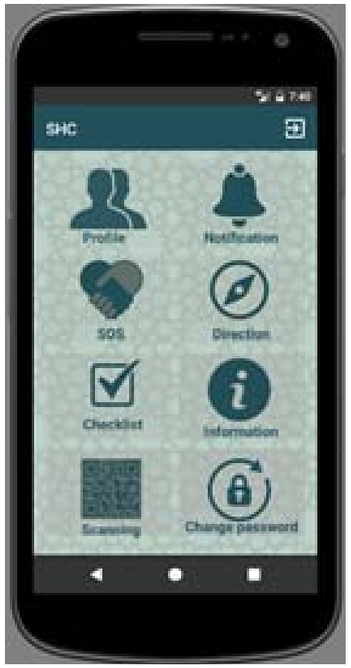

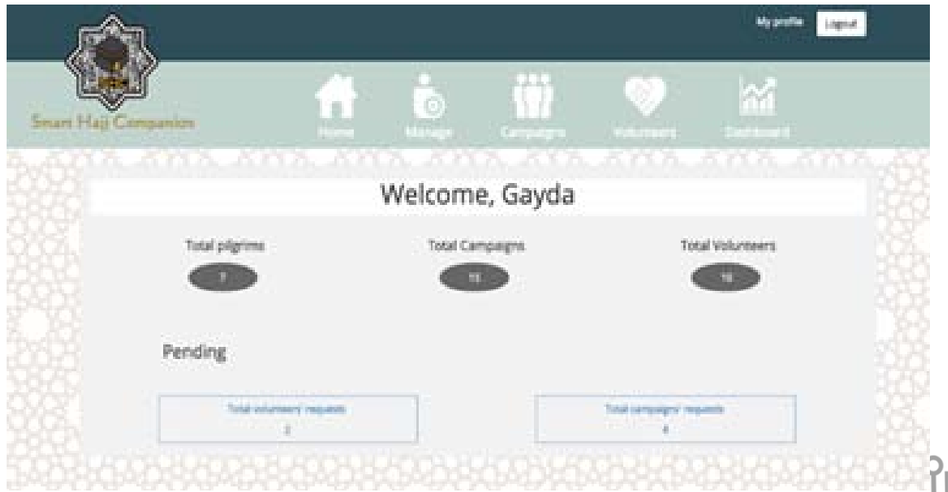

Retail Management System Utilizing RFID Technology

Shopping is an everyday activity carried out daily around the globe. In order to improve the shopping experience of customers, shopping stores have been continuously striving to improve their services by adopting modern technologies. In-store retailing is a time-consuming process where the customers go through the agony of waiting due to long queues at checkout counters especially during peak times. In this project “Retail Management System Utilizing RFID Technology” we target to solve this issue by designing a prototype to optimize the checkout process in retail stores. Thus, we intend to revolutionize checkout process through the adoption of radio frequency identification (RFID) technology that will reduce waiting time and increase productivity. Radio frequency identification is employed in this project because it is more beneficial as compared to other identification systems, such as barcode and magnetic inks. The content of RFID tags can be rewritten multiple times, the content can also be encrypted making it more secure when compared with barcodes; in addition, RFID tags are durable and could work in harsh conditions. Lastly, and most importantly RFID reader can read multiple tags at a time, while barcodes are read individually. In our system, we have an iCart application, which is installed on tablets mounted on the shopping carts in the shopping store, and a POS system, which will manage the store’s inventory as well as display statistical information about sales, invoices, and stock through charts and reports. The customers can shop in the store and the products are going to be scanned as soon as they are placed in the shopping cart. After shopping the customer goes to the checkout counter and rather than scanning each item at checkout counter only the shopping data from iCart application is transferred to a checkout counter, thus reducing the time at the checkout counter for each shopping transaction. As a result, the queues at the checkout counters are avoided.

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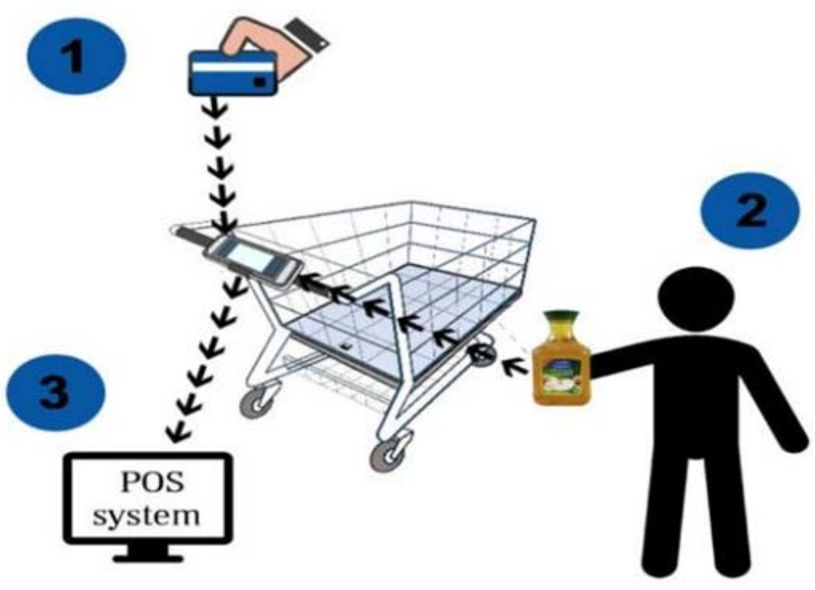

Pregnancy Assistant System

Pregnant women need to track their health during their pregnancy period and the growth of their babies. To do so, they need to go to the hospital frequently. Tracking pregnancy in a traditional way is not easy and is not sufficient neither efficient way for the pregnant women to track 9-month period without being in touch with the hospital electronically. The problem relies in the lack of electronic communication between pregnant women and their doctors. We tried to solve this problem and improve the current way of tracking pregnancy by proposing a system called “Pregnancy Assistant System”.

PAS is a system consists of a mobile application developed only for devices with an android operating system and a web-based system that is connected to the mobile. The system primarily helps pregnant women in tracking their health and baby’s growth during the pregnancy period. Pregnant woman can use the mobile application to be in touch with the hospital and to communicate with her doctor. Also, the mobile application enables pregnant woman to make benefit of many helpful functions that will help her in tracking her pregnancy without any difficulties. On the other hand, web-based system is intended for other users of the system; admin, doctors, nutritionists and receptionists. The main functions of the mobile application are counting the baby’s kicks, viewing the kicks history, taking appointment, viewing the timeline of the pregnancy, providing an emergency call, changing the application’s theme based on the baby’s gender, viewing the profiles of the pregnant woman and her baby, communicating with the doctor and nutritionist, favorite the questions/answers, viewing fetal development images, viewing vaccines schedule, setting a reminder of medicines and finally viewing the diet written by the nutritionist.

The main functions of the web based system are setting the diet, communicating with the pregnant women, uploading fetal development images, tracking the pregnant women profile and her baby’s profile, creating and arranging appointments and managing all users accounts by the admin of the system.

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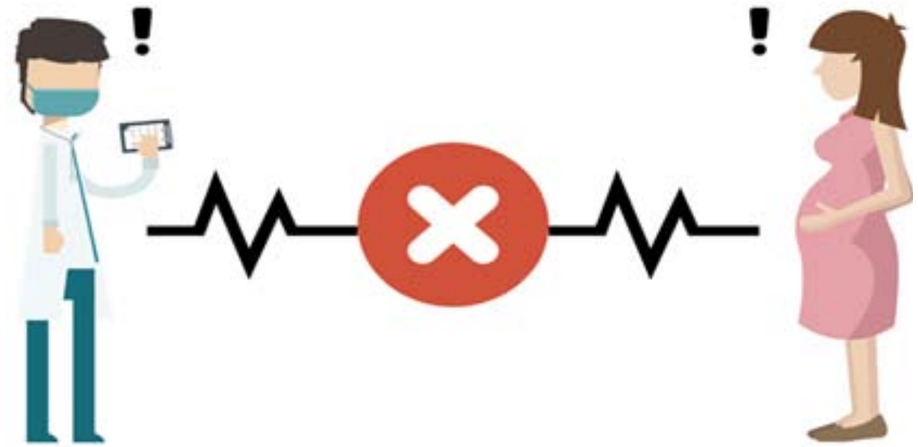
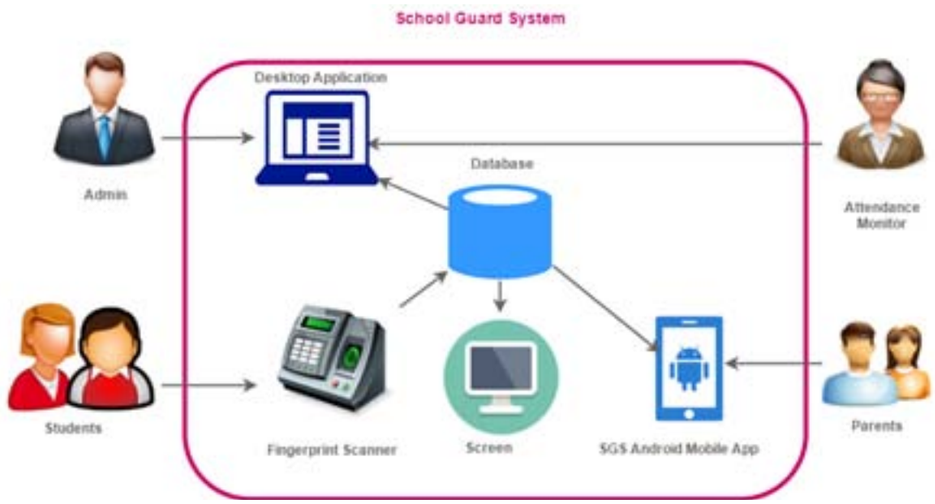


SGS Team

Providing the best guard and security to students is one of the main goals of any school. Therefore, school administration takes a lot of time and effort to manage the attendance of the students. Also, regarding the attendance of the students, parents nowadays are so busy and have no time to drive their children to school, instead they hire drivers. However, most of the time parents are worried about their children security, and if they arrive to school on time? Did the driver pick them up from school on time?

The School Guard System (SGS) will solve these three issues by providing a Desktop Application for school admin and attendance monitors, and an Android Application for parents. SGS aims to assist schools in guarding the students and tracking their attendance by using the fingerprint technique, and notifying the parents about the students' attendance.

SGS Desktop Application is used by attendance monitors to help analyzing students' attendance by showing real time information about students who came late and students who are absent. SGS admin can also use the SGS Desktop Application to manage students, parents, buses, and drivers. On the other hand, parents will use the SGS Android Application to receive notifications that include the leaving time of the student and the name of the person who picked up him/her from school.



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BookMyHelp

In Saudi Arabia, the smartphones have become an inseparable part of society and are used by all age groups. People use smartphone apps for communication and for booking different types of services. Also, the availability of location tracking services on laptops and smartphones has made it very easy to provide location-specific services.

For that, we came with BookMyHelp, which is a mobile application for Android operating system devices and website. The system helps the Saudi people to book any service that provided from the application. The system helps both the service provider and the customer. Customers can book any kind of available services by a service provider in a minute and that will save much time, and the service provider will get a job. The system allows the customer to communicate with the service provider. Also, the employees will be managed by the admin throw the website, the admin can manage and fix any problem that users may face in their accounts, managing the database records and do some changes on it if needed.

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BookMyHelp

SAHDSMS's Team

SAUDI AFTER HOURS DOCTOR

Usually, in Saudi Arabia people are having some medical issues at night whether it's severe or minor issue, while hospitals PHC centers at night have only the emergency room. Therefore, the patients will for the medical care regardless of severity or the simplicity of the situation. As a result of that, the emergency room will be crowded of patients of non-severe situations waiting in queue lines that serves the first, it will make a critical problem for patients with severe situations and it will decrease the efficiency of the hospitals' or primary healthcare center's emergency rooms.

both patients and emergency rooms will be suffering from this complicated problem and it needs a flexible and ideal solution that can make the emergency rooms handle the pressure and make patients to be served anytime anywhere. So we created a solution for this critical problem by creating a system that can offer a home visiting doctor service. This system will provide a service that will help the patients to be taking care of in their homes by letting the doctor to visit the patient in home after the doctor's official work hours and doing the medical care for the patient. This system will be an intermediary between the doctors and the patients before the home visiting.

This system will reduce the huge number of patients in the hospitals' and primary healthcare centers' emergency rooms to the minimum number. Hence, it will make it easy for the emergency room to handle the patients at risk and patients who are having severe situations immediately and with the least amount of pressure. Also, it will save time for patients who are far away from the hospitals and patients who are having difficulty going to hospitals.

PROJECTS SHOWCASE
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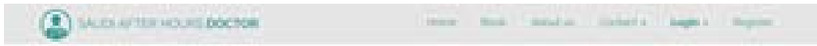
Saudi After Hours **Doctor**

The Saudi After Hours Doctor Service Management System was founded in 2018. SAFHDSMS reflects the highset medical care from a coordinated and collaborative relationship built on trus between the after hours doctor, the GP and the patient.



Create your Saudi after hours doctors account

Sparkle

Sparkle system is a web system created for Riad Al-Qatif Alraedah, which is part of Qatif Charity that is located in Al-Qatif city. It is a management system that concentrate on three different kind of users: Administrator, employees, and parent. The system will serve administrator to manage employees and children information from adding, deleting, and modifying. In addition, the admin can use the system to take employees attendance, evaluate employees, and adding new items for workshop, add new events and create schedules. Moreover, administrator can generate statistical report that will improve the performance. Employees who will use the system are teachers and art worker. Teachers will use the system to communicate with the parent by posting children photo, post daily report, and answer their questions. In addition, teachers can take children's attendance, evaluate children, and request products from art workshop. Art worker will be responsible for receiving the orders come from teachers. The last user of the system is the parent, where they will use the system to take an appointment with Riad Al-Qatif Alraedah psychologist to examine their children, and then they can register their child from the system. After the registration, they will receive their child's daily reports, bi-weekly activities schedule, and announcement. In addition, they can post questions to teachers through ask question interface.

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Let's Unite for Them

With the evolution of technology and increased reliance on it and the importance of storing data to facilitate access and retrieve data quickly, we need to find alternatives for writing and saving the data on papers. In Dhahran management Austism Center, the staff and educators are relying on papers for performing very important and sensitive tasks like measuring the autism degree for the kids in which human mistake would be very harmful. The proposed solution is a management system that automates an important portion of the paper work in the center; they can register new kids, fill their information faster, fill and communicate different types of reports and most importantly conduct C.A.R.S TEST automatically and monitor the improvements of children's cases to measure the effectiveness of treatment. The system mainly considers the existence of a variety of users in the center and the access to the database, in which sensitive information on the children are stored, is given accordingly and strictly.

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Smart Mirror Senior Project

It is commonly believed that time is precious but the truth is, that we don't manage the smallest tasks, thinking that it will not waste our times. These tasks could be like searching for daily news using multiple resources or using different devices to manage daily routine. Eventually, all of this will put a huge load and stress on people. Smart mirror is the proposed solution to mitigate these challenges by connecting with real-time data. It is a combination of speech and visual assistant that shows the weather, which is very helpful in choosing the outfit of the day, and the breaking news from social media. Additionally, Smart Mirror shows the traffic congestion in the city so one can select the best and the fastest road to his destination. All these functions and others are implemented by fetching the data from multiple Application Programming Interfaces (APIs). The mirror will visualize the data in a way that it will help the user in planning a steady schedule to better achieve daily goals. The traditional mirrors will be transformed into a smart one that can do a lot of things. The Smart Mirror provides one integrated system via speech recognition system that requires minimum user interaction, to quickly scan information that is essential to know at the beginning of the day. Also, Smart Mirror is a substitute that improves the way of getting the information, instead of using your mobile or opening your television to see the news, you can just look at the Smart Mirror and you will see more than just a reflection of yourself. It completely changes the reason of mirror existence in a way that keeps you surrounded by smart things. It is a piece of art that fits in the modern world.

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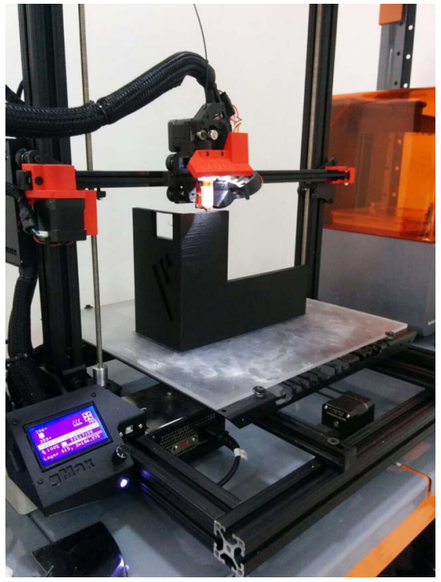

Medicare developers

The project name is Medicare because it acts as a medium of interaction between the medical experts and their patients who went to Hajj or Umrah in Saudi Arabia. Medicare is providing public and private benefits since it will improve the quality of the health care and reduce medical costs. This project scope is the Hajj and Umrah patients because there are major difficulties for the Hajj and Umrah pilgrims to introduce themselves to a medical expert in the health care places in Makkah. They will go and search for a clinic between the crowds and then introduce all the medical history to take a treatment, what if it was a small issue and can be eliminated without the need of physical medical intervention.

Also, Medicare is helping people to keep track of their medical status by storing all their medical history so they can access it anytime and anywhere in the world and that will save time and effort for both patients and their doctors.

The Final outcomes of this project are Telemedicine mobile Android application and website that offers in time remote health consultation with medical experts and health advice for Hajj and Umrah pilgrims. The project has been designed and developed by following the waterfall software development approach and documented according to IEEE software engineering standards. Medicare system is developed using the Android Studio for the mobile application and PHP language for the website. Medicare system comes along with a user-friendly user manual to help the users in using the system.

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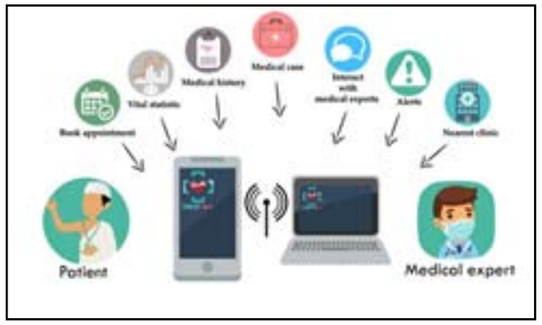
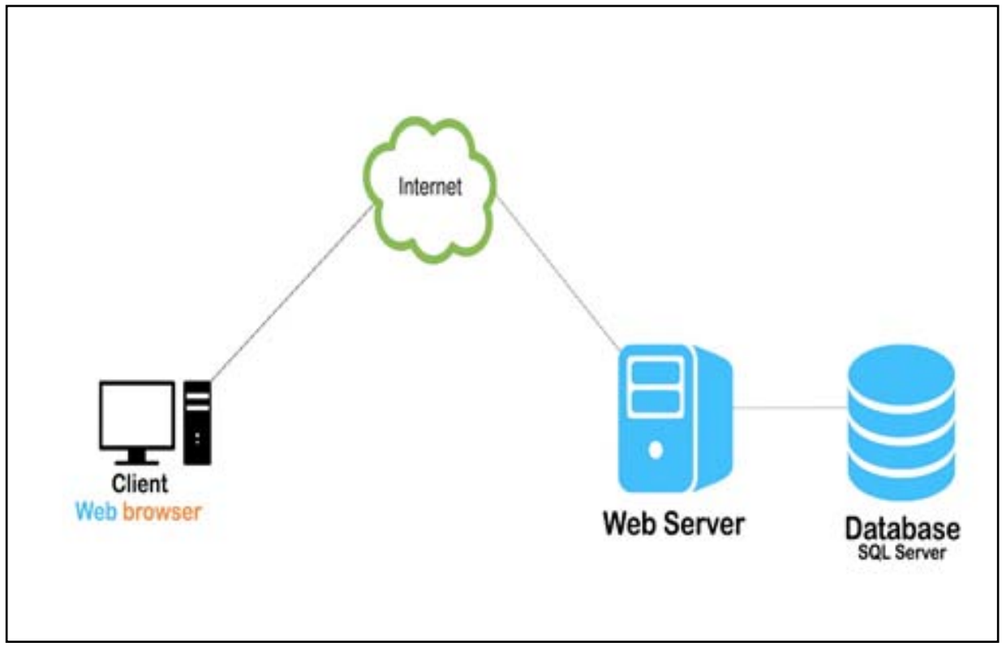


Social networking System

Currently, the world is embraced with knowledge revolution which transformed our way of living, working and socialization. Now, people are looking for more information resources to enhance their knowledge as information has become a critical resource. Although there are many social web applications which are providing a platform for many users, however accessing minimal information of your interest is still a major issue due to information overload on these social websites. Similarly, in case of Saudi Arabia it becomes difficult to find connections having similar interests or information about events which can be interesting for a specific community. As a result, a need for a focused social web application was felt which can provide networking opportunity to the people sharing similar interests. Our project “Social Networking System” aims to solve this issue by developing a prototype which can serve the people sharing common interests. The project is a web-based application that gives the opportunity for everyone to register and create profiles and join different interest groups. The users can interact with group members having similar interests. This application can help work migrants coming to Saudi Arabia, to familiarize with the environment and establish social contacts before coming.



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Muslim community service

Muslims in the western countries and generally non-Islamic countries have many problems with mutual communication. For instance, Muslims find many problematic difficulties with finding Halal food. Sometimes, they have to go over distant regions to get halal products. In addition, also finding other Muslim companions for the purposes of acquaintance and making friendship. Furthermore, it is always hard to locate Muslim gatherings especially in times of meetings and celebrations of Muslim feasts. Sometimes two separated groups end up organizing an Islamic festival or an event, as part of celebration or meeting at the same time but in different places. Surely, People will get confused where to go and how to decide. Hence, for all aforementioned reasons, there is an immense need to have a common platform web application that organizes and covers the Muslims' needs, which are necessary in the western world. In addition, it helps organizers to have more perfect organization of locations and times, which used to be difficult because of lack of communication network tools tailored for the Muslims by the Muslims. Hence, we aim to develop this project as part of providing common communication platform which will positively affect coordination for meetings, events, finding local Muslim needs such as schools, food stores etc. As well as bridging a strong and healthy Muslim community.

First, we did a project study, which is building a website. This study included the services that we will provide in the site. In addition, the project work plan was studied and was carried out during the project work. A prototype of the site is made to the customers before the site is developed. A running website is being developed and this website contains five services (Advertisement, Volunteers, Fundraising and charity, Funeral Services, Events). After completion of the design and programming of the site the web site will be tested to make sure that the system has been developed and tested during and after the development. Then a user manual will also be designed that will give users an idea of how to properly use the site and things to consider while browsing the site.

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Esteraha (Recreation place) booking system

Nowadays, people is facing difficulties to find and book Esterahas (Recreation place) that meet their requirements. Esteraha is an Arabic word for a place to relax and enjoy your time with your family or with your friends, the place include a living room, playground, swimming pool…etc. The current situation to book an Esteraha is that users have to go and search by themselves for Esterahas because there is no online system in Saudi Arabia to the best of our knowledge that take care of booking recreation places. Now our project will address the highlighted problem for searching for Esterahas and booking, the system will enable the user to find and book esteraha easily.

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Thank you