



نبذة عن مشاريع التخرج 2021-2022

Project Abstract in English	اسم المشروع (عربي)	Project Name (English)
<p>The use of the containers, specially docker containers is wide spread, many developers and companies use it for their microservices that they develop, but because the use of the containers is wide spread, the vulnerabilities also and the malicious actors try to find and attack or focus on how they can target these containers, to do a malicious action like placing a malicious file or virus on the system or run a reverse shell by a malicious process, opening an unwanted port and also change the configuration of the dns, and here comes our role to try and give the developers the ability to run a file system scan, processes scan, network scan, dns scan and even run a convolutional neural network scan to try and find the malicious files using a machine learning model like the CNN, and all of this we try to do it on the docker containers running on the system.</p>	حماية الكونتنتر اثناء التشغيل	Container Runtime Compliance
<p>There have been several advancements in technology and a lot of research has been done to help the people who are deaf and dumb. Aiding the cause, Deep learning, and computer vision can be used too to make an impact on this cause.</p>	التعرف ع لغة الاشارة باستخدام تعلم الآلة	Sign language recognition using machine learning
<p>About three decades ago, military intelligence agencies introduced the concept of cyber fusion. They leveraged the concept to collaborate with various intelligence communities and obtain an in-depth understanding of the threat landscape. Thereafter, the idea gained more prominence post 9/11 attack, when the 9/11 commission recommended establishing fusion centers to promote collaboration between law enforcement agencies via threat intelligence sharing. Today, cyber fusion is gaining traction in the cybersecurity industry and modern-day organizations are espousing this advanced technology for the elimination of silos, enhanced threat visibility, and increased cyber resilience and collaboration between teams. Cyber fusion is a next-generation approach to cybersecurity that unifies all security functions such as threat intelligence, security automation, threat response, security orchestration, incident response, and others into a single</p>	الاندماج السيبراني	Cyber fusion



connected unit with the capability to coalesce all comprising units for detecting, managing, and responding to threats in an integrated and collaborative manner.		
We aim to make a solution that helps both students and teachers. It we provide an inclusive learning experience for students by providing courses explained in different forms to help them exploiting all means of cognition and confirming for understanding by adaptive quizzes and exams. This comes true by providing a different form for teachers to upload their explanation.	تطبيق موبايل للتعليم الإلكتروني	E-learning mobile app
it Facilitates Finding a place to rent for students by adding features to find roommates faster and also with more appropriate place	إيجار الشقق للطلاب	Apartment rental
Our goal is creating a prototype for multiplayer third person shooting game... the main objects or 'what to do' for a 'Multiplayer TPS Game' 1- Create the game objects + gameplay SC 2- Solve the multiplayer and login system 3- Create a gaming community	لعبه شوتنج اونلاين	TPS Online Shooting Game
<ul style="list-style-type: none"> • Our project is based and focused on easing life for patients, doctors, and the medical staff. • For the patients, our project will help them by diagnosing their symptoms and offer them a chance to book a meeting with a doctor or a hospital appointment for further diagnosis and treatment. <p>For hospitals, doctors, and medical staff, our project will help them reduce the amount of work to be done in the reservation process [when a patient wants to book an appointment in a hospital or with a doctor, they (the hospital/doctors) get the complete medical diagnosis and medical history of the patient, (the patient age, what they suffer from, their symptoms, etc.)]. They get to chat with the patient for further inquiries or to agree on a date for their appointment.</p> <ul style="list-style-type: none"> • Our project mainly consists of three parts a patient interface, a hospital interface, and a doctor interface. <p>Through the patient interface a patient can chat with a chatbot, the bot begins</p>	هوم ميديكا	Home Medical
Retrieving information from the Holy Quran is an important field for Quran scholars, Muslim researchers, and Arabic enthusiastic in general. There are two	سل القرآن الكريم	Ask The Holy Quran



<p>types of Qurans searching techniques: keyword-based and semantic or concept-based that is a challenging task, especially in a complex corpus such as the Holy Quran. This Project is developed to help all people and specially Muslims to deal with the Holy Quran easier and faster. as this Project allow them to search the Quran for specific Keyword or Verse, and for a Concrete Topic or Conceptual Topic which is a challenging task. It consists of multiple phases: First, the pre-trained models are collected from authenticated sources with high accuracy, which are generating features' vectors for words by training a Continuous Bag of Words (CBOW) architecture on large Arabic and Quranic Classic, Modern Standard and Colloquial corpus, and calculating the features' vectors of both input query and Quranic topics. Second, using APIs to search lexically and semantically for a sentence in an efficient way. Third, evaluating Sentence Embeddings, using different techniques like computing average, frequencies, Pooling, and max similarity score for each word in a sentence. We assigned a sentence with a vector using different word vectors techniques for a sentence and by computing the cosine similarity between both topic and query vectors, to finally get the sentence representation of vectors, to retrieve the most relevant verses and answer your questions in the Holy Quran.</p>		
<p>There are a number of applications in Android store for Recipes Search but none of them support interface for searching, saving, and sharing recipes all at once. Quick Recipes is an Android application with image-based UI for searching, sharing, creating and saving recipes. This app provides flexibility to user to search top rated and variety of recipes from available recipes in cloud. This is very handy application, which every user can search cloud for recipes, save recipe as favorite, share recipe with friends on social media Facebook, Twitter, Google+ and Gmail and create personal cookbook. This app is time saver providing recipes in few clicks. By combining ingredients and title search, Quick Recipes app makes finding recipes easy. With recipes being added daily there will always be something new for user to crave. The project has been implemented using Java, Android, and SQLite. Spoonacular API are consumed for getting recipes from cloud.</p>	<p>تطبيق وصفات طعام</p>	<p>Quick Recipes</p>



<p>It is a smart home project through Android Application. In this project a user can control his/her home fans and lights by using his android mobile phone. User can also check the current status of lights and fans by click on Room name from the list. Synchronization is also implemented in this project. This project is a combination of a software and hardware. In hardware there is an ESP8266 Board, Breadboard, jumper wires, relays and lights. This android application controls the lights and other devices by sending the changes throw a websocket connection to the Web Server. the web server is implemented using java spring boot, the server uses spring security for securing the connection, the server connects with each client throw a websocket protocol and make the ESP8266 communicate with the android app. When ESP8266 board receives the values from server it checks that and turn off/on devices. Android Application has a very decent and professional interface. First of all, there is a splash screen, or you can also say it a loading screen. After loading the application Login screen appears where user have to put the “Username” and “Password” in the given fields. After a successful login there is “Welcome Screen.” On this screen there is a Navigation Drawer which shows on swiping the screen from up to down. Navigation Drawer has a list of rooms for this project we only implement three rooms. When User clicks on a room then there are some switches to turn on/off lights.</p>	<p>التحكم في الأجهزة المنزلية باستخدام تطبيق Android</p>	<p>Control Home Devices using Android Application</p>
<p>We propose a Decentralized Application (DAPP) that uses the Ethereum smart contracts for data access control and uses the InterPlanetary File System (IPFS) as a distributed system for storing and accessing data. Moreover, the files get encrypted on the client side using AES-256-CBC symmetric encryption and split into smaller chunks, distributed across multiple computers, and assigned a hash to allow users to locate them. Its then served to the user via a peer-to-peer connection, similar to BitTorrent technology. Our proposed solution overcomes the problem of the centralized web, data censorship, data hacking, and data loss.</p>	<p>تخزين سحابي لامركزي ومشفر مبني على سلسلة الكتل</p>	<p>Devault: A Blockchain-based, self-hosted, and end-to-end encrypted cloud storage</p>
<p>Establishing a campus network to establish communication between engineering colleges including the main building, the Faculty of Computers and</p>	<p>شبكة محليه لجامعه الازهر</p>	<p>A local network of Al-Azhar University</p>



<p>Information, the Faculty of Electrical Engineering, and the Faculty of Mechanical Engineering at Al-Azhar University Nasr City, and we will Connect these buildings with each other.</p>		
<p>Satellite operations are essentially based on subsystems interacting with one another and exchanging data according to the mission requirements and objectives.</p> <p>Virtually all satellites require an onboard computer (OBC) to manage autonomous operations of the satellite and to interact with the ground operators. The primary objective of this project is to develop a 1U Cube-Sat prototype with all its subsystems, based on a selected MCU architecture. In order to achieve this, three milestones have to be reached chronologically, which can also be identified as secondary objectives of this research:</p> <ul style="list-style-type: none"> * Defining a set of requirements and specifications for all subsystem which will lead to the selection of the MCU to be used for the design of the architecture. * Designing, implementing and testing all subsystems architecture around the chosen MCU according to the specifications defined in the first phase. * Integrate and test all subsystems together, and ensure that the main functions of the Cube-sat are delivered. <p>And additional function will be added to the OBC which is (Satellite swarm feature).</p>	<p>تطوير القمر الصناعي المكعب ذو الوحدة الواحدة</p>	<p>Development of 1U CubeSat</p>
<p>Student Information System, or SIS, is an information system developed to use in educational establishments. The main functionality of the system revolves around managing student data and faculty member – student academic interaction. SIS provides the capabilities of registering students in courses, documenting students' grades, forming student schedules; tracking students' attendance, enabling students to check in on their lectures and managing other student-related data needed in an educational institution.</p>	<p>نظام ادارة شؤون التعليم والطلاب</p>	<p>Student Information System (SIS)</p>
<p>The project was divided into two parts, the first part is banks, where a group of different banks is linked with each other so that they can communicate with each other through one central bank, and the second part is a group of companies that are linked to each other through an VPN tunnel. In addition, each bank and</p>	<p>شبكة ربط بين مجموعة بنوك مختلفة وتم اضافة جزء ربط بين فروع شركه</p>	<p>Link a Group of Banks</p>



company have a number of VLANs, to facilitate the process of transferring data between branches		
endpoint detection and response for Linux os	نظام فحص وامن لنظام اللينكس	Linux EDR
post graduate Azhar	نظام للدراسات العليا	PG-Azhar
<p>We make a network where we link the departments of the Faculty of Engineering and we will use devices such as (routers, switches, cables, computers).</p> <p>we installed a switch for each department and connect it to a number of devices. we make a good firewall (ASA) for the network of to secure private data in and Dmz Which is considered a secondary firewall that protects the internal network from penetration</p> <p>In the end, we made a part to go out on the Internet that contains Google and Amazon servers.</p>	شبكة منطقته الحرم الجامعي (كلية الهندسة)	Campus Area network project (Faculty of engineering)
<p>The model take image and process it then extract some features from images then classified it</p>	التعرف على لغة الإشارة باللغة العربية	Arabic sign language recognition system for alphabet using machine learning
<p>Digital Image Processing Techniques will be carried out using an FPGA based design on RTL level. Pixel operation will be performed using combinational circuit.</p>	تحديد الحواف الصورة باستخدام FPGA	Edge detection FPGA based implementation of digital image processing
<p>Web-based Library Management System is a system which maintains the information about the books present in the library, their authors, the members of library to whom books are issued, library staff and all. This is very difficult to organize manually. Maintenance of all this information manually is a very complex task. Owing to the advancement of technology, organization of an Online Library becomes much simple. The Online Library Management has been designed to computerize and automate the operations performed over the information about the members, book issues and returns and all other operations.</p>	مكتبة على شبكة الإنترنت	Web Based Library



<p>This computerization of library helps in many instances of its maintenances. It reduces the workload of management as most of the manual work done is reduced.</p>		
<p>In Digital Marketing Section There are some problems that facing this field, and if these problems Solved it will make the Decision Making much more easier than before. Which will increase profits in many industries which need Digital Marketing Solution as a Digital Marketer I Need to Manage My Personal Info like name, email, Password. Add my Social Accounts. View my Advertising Campaign results in one place. View the Accounting Metrics to take decisions Quickly. Disable or complete the ads after seeing its results. Track my team Efficiently. Search For Ads in Library. To know the updates of the social media Updates.</p>	<p>موقع حلول التسويق الرقمي</p>	<p>Digital Marketing Solutions Website</p>
<p>In the world today, automatically systems are being chosen over the manual system, and most smart home systems are controlled by smartphones and microcontrollers. So, in this project we intend to design and implement a prototype for home automation system (HAS) with low cost and wireless technology, which will be done by interfacing the open-source Arduino microcontroller with the NodeMCU ESP8266 ship which also popular open-source IOT platform and has the ability to connect to the internet and make integration with IoT cloud services to control your home from any place in the world. Therefore, users can control and manage every home appliance and high loads like lighting lamps, fans, sockets, heater and more through smartphone application which provide a control panel to the house. System also operates in two modes: Manually by physical switch for every load and remotely by mobile app or IR remote control or Alexa amazon feature integration. Relays are used here to separate between the high voltage of the loads and low voltage of the Arduino circuit. This system is designed to assist and provide support in order to fulfil the needs of elderly and disabled in home. Also, the smart home concept in the system improves the standard living at home.</p>	<p>البيت الذكي بنظام انترنت الاشياء</p>	<p>IOT Based Home Automation System</p>



<p>Briefly, because of the traffic and road congestion, the idea of the carpooling application came, and it is an application through which you can share your trip with someone else if your road is close, and therefore instead of going with your car and the other person in his car, you went with one car, and therefore we reduce the number of cars and therefore the crowding and reach your place in a faster time And in a comfortable way. The project was built with a flutter framework to support android and iOS.</p>	<p>تطبيق رحلة</p>	<p>Carpooling Mobile Application</p>
<p>Web app for real estate and residential facilities management</p>	<p>عقارات</p>	<p>Real estates</p>
<p>Electronic Medical Records (EMRs) are now exerting a more significant impact on healthcare practices than ever before. We are developing a mobile application built on the Android platform that provides an electronic medical record. The aim of the application is to design an electronic medical record that contains a central database. This system is followed by the Ministry of Health, which can be accessed through the Internet, linking all the hospitals. The information and data can be exchanged between different hospitals, For patients better.</p>	<p>سجل طبي إلكتروني</p>	<p>Electronic Medical Record</p>
<p>The EHR project aims to collect individual's health information from birth to death so that it can be registered, certified, and shared in different places by healthcare providers.</p>	<p>السجل الصحي الإلكتروني</p>	<p>Electronic Health Record</p>
<p>A computer network or data network is a telecommunications network which allows nodes to share resources .in computer networks, networked computing devices exchange data with each other, using data link. The connection between nodes are established using either cable media or wireless media</p>	<p>شبكة لربط فروع جامعه الأزهر</p>	<p>Al-Azhar university campus</p>
<p>The project aims to achieve speedy arrival of demand, security, and traffic safety by applying artificial intelligence in a self-driving car that can determine the path, avoid obstacles, and fully comply with traffic laws such as traffic lights, safety distances and avoiding crowds</p>	<p>مركبات توصيل ذاتية القيادة</p>	<p>autonomous delivery system</p>
<p>As a result of the rapid technological development and the development of the chatbot concept and the time and effort it can save. Many specialized frameworks have emerged to undertake chatbot creation and development. By</p>	<p>شات بوت</p>	<p>ChatBot</p>



<p>relying on artificial intelligence, the chatbot has integrated machine learning within it, and it has become more comprehensive and wider for various technological fields. Therefore, we will create a chatbot for the University's Admission and Registration, the project aims to build a chatbot to facilitate the process of accessing information related to students' inquiries towards admissions, Registration, and the university itself. The motivation for the work of this project is that there is no university-level equivalent from previous graduation projects. As a conclusion, it lies in answering frequent and frequent questions by people and providing the answer to these questions at any time the person wants</p>		
<p>Weather App is able to analyze many data related to the weather, it can get the temperature, pressure, humidity, and wind in several measurements, as well as it can display the direct wind direction. using graph to display and analyze the data. It has four different widget elements. and using notification to notify the user about weather. has a lot of changeable theme like Viscose? and its Supports many languages to interact with many users. and it also runs in the background and stores information periodically and simultaneously using the thread. The main work of this project was to deal with all the principles of Android systems (threading, APIs, graph, activities , service, Broadcast Receiver, adaptors, Recycler View , fragment , UI different views ,wed view ,Background Tasks ,notification ,language....)in the way of Software Development Process and collect a number of features used in weather applications by APIs and put them in one place, while adding the elements that make the shape of the application attractive to use the application and publishing it to the public so that we can increase the number of users of it .</p>	<p>تطبيق للطقس .لتحليل وعرض معلومات الطقس</p>	<p>(Weather application) to analyze, manipulate and display weather information</p>
<p>CAPi is a mobile-based comprehensive tool to help picking and developing your best match career while enriching you with a community of like-minded people. Be it copycat decisions, multi-interest confusion or poor consistency and planning .People generally fail to land a fitting career and keep it going, things</p>	<p>دليل الكفاءة المهنية</p>	<p>CAPi (Career Aptitude Pocket Instructor)</p>



<p>end up in a mess! Based on hundreds of researches and expert's recommendations we build a progressive system to professionally asses your personality traits, strengths and weaknesses, offers you the best possible match of career options and takes you into a full community-based road map to master your craft, in addition to a variety of field-specialized communities on websites like Reddit, Linked-in and Facebook to enrich you learning experience.</p>		
<p>An electronic application that enables you to buy or sell products in an easy way by choosing the type of user when register in, a seller or a buyer. With some features such as online payment, search for products, change of language and change to dark mode</p>	<p>تطبيق التجارة الإلكترونية</p>	<p>E Commerce Application</p>
<p>Each There is no doubt that every university progresses through its students, so we had to take part in this role and be a page of a book through this project. Our project focuses on serving students through:- Ø Providing the study materials prescribed for them in their years, whether these curricula are for the professor or external sources, whether these curricula are documents, videos, or otherwise. Ø Each student can create an account in order to be able to enter the academic year to which he is attached to have his materials appear Ø Those students can add documents that they want to keep for later use Ø If the student does not have an account and does not want to, he can log in as a guest to see all the study materials for all teams Ø A page for technology news has been added to follow technology news from all over the world and most sources in order to keep pace with technological development Ø The application is characterized by a simple, easy interface and calm colors. It is also available to change the position to light and dark, as well as change the language to Arabic and English.</p>	<p>دليل الطالب</p>	<p>Student Guide</p>
<p>Students in the College of Engineering suffer from some problems that hinder their academic progress as follows: -</p>	<p>إيديو بيديا</p>	<p>EduPedia</p>



<ul style="list-style-type: none"> • the method of studying for College is different from the stages before it. •In addition to a large number of online courses in various study subjects with useless content •The students waste a lot of time in the search to reach the content dedicated to the study subject to be searched for, in addition to many other similar courses, As some statistics indicate that 80% of students' time devoted to studying is wasted in searching for a good and appropriate academic content All this leads to wasting a lot of time and effort and causes student dispersal, which leads to poor quality of the educational process. Our project focuses on compilation all engineering content in one place, coordinating, Filtering and indexing it according to each section and each study Level , and facilitating access to it from anywhere and at any time so that it saves students a lot of time and effort. The platform provides study Materials for all engineering departments and presents them in an organized manner, facilitating search and filtering options to reach desirable results. It also provides special sections for engineering programs and advanced courses. We aim to establish the largest integrated engineering encyclopedia that benefits the Egyptian and Middle Eastern engineering community with university studies and beyond. We hope to build an Engineering Encyclopedia including everything about engineering materials in one place to save money, Effort, and time. we try to Contribute to the dissemination of good educational content, that helps to develop the educational environment. we impact Education by Creating an interactive environment Valid for students in different universities, which works to raise the efficiency of the educational process. 		
<p>This project tries to emphasize the point of advantages of some microprocessor technologies which could make many more houses smart with lower cost. Therefore, the middle class could afford them more easily and enjoy greater convenience and safety.</p>	<p>البيت الذكي</p>	<p>Smart home</p>