



Designing and Implementing Final Year Project - *with Success*

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Foreword by **DIRECTOR**

Associate Professor Dr Keoy Kay Hooi (Alan)
Director
Institute of Computer Science and Digital Innovation
(ICSDI)



Welcome to the Institute of Computer Science and Digital Innovation (ICSDI), UCSI University.

The Final Year Project (FYP) is compulsory for the diploma and undergraduate programmes at ICSDI. This Final Year Project Handbook is designed to provide students with a comprehensive guide for planning, implementing, and documenting project work in accordance with the requirements of the relevant academic programme accreditation bodies.

The goal of FYP is to provide students with the opportunity and exposure to apply and integrate the theoretical knowledge and principles taught in the programme, as well as to solve problems creatively in their final year project.

To maintain the high quality of education at UCSI, we have continuously provided our students with advanced skills, cutting-edge software systems, and industry-relevant teachings by ICT professionals. FYP allows students to demonstrate independence and originality while also planning and organising a project over a set period of time.

I wish to congratulate Assistant Professor Ts. Dr. Kasthuri Subramaniam, FYP coordinator, and all ICSDI supervisors for their effort, dedication, and hard work in supervising the students and producing high quality projects. I hope that this FYP handbook will be set as an example and standard for many more FYP handbooks to be produced and will contribute towards producing quality research work by the students and excellent supervisory skills by the academic staff of the Institute.

Factors Affecting Adoption of E-Wallet Among University Students in Malaysia

Liew Hao Wei, Kasthuri Subaramaniam, Abdul Samad Bin Shibghatullah

Introduction

The modern-day digital revolution has created many new opportunities for new payment systems to grow due to the evolution of internet connectivity combined with the rapid increase in the usage of smartphones. Owning a smartphone has become the new norm in today's world. Without a doubt, it has become an important asset in our daily lives. This is because smartphones can now be owned at an affordable price therefore increasing the number of smartphone users. As the production of smartphones increases, there will be a lesser need for personal computers. Mobile technology involves applications for consumers such as mobile banking and shopping using only mobile devices. As mobile technology begins to develop, mobile devices have now evolved in smartphones where the features available can provide many new services such as mobile payment, entertainment, trading and more. New payment transaction methods have been developing throughout the centuries from trading to cash and into cards. E-Wallets have been around for years but recently it has been gaining attention from

the public where many businesses have begun to increase the usage of cashless payment. The E-Wallet is the acronym for an electronic wallet, which may also be known as a digital wallet or mobile wallet. E-Wallets are recognised as the future of payment transactions. It is an advanced payment technology that allows users to store funds into a digital environment replacing physical wallet features. It provides the same functions as a physical wallet. The difference is that the money is stored digitally in an application inside a smartphone. Any user who owns a smartphone can download any E-Wallet application, and store funds into the E-wallet. Most E-Wallets these days allow reload methods where users can link the application with the individual's bank account to perform transactions and utilize the E-wallet like a credit or debit card.

Objectives

1. To identify the strengths and weaknesses of the current E-Wallet applications.
2. To develop a user-friendly interface design and features for the E-Wallet prototype.
3. To find out the factors that causes university students in Malaysia to adopt E-Wallet.

4. To gather data through questionnaires from university students in Malaysia.

Methods

The research methodology was to prepare a set of questionnaires through Google Forms for university students around Malaysia to answer them. This is because the targeted audience is university students around Malaysia therefore it is important that we gain valuable insight and knowledge about what the students are thinking when using E-Wallet. The data gathered can be beneficial to finding out the factors which affect the adoption of E-Wallet among university students in Malaysia. Furthermore, the data gathered will be processed using IBM SBSS to find out the reliability of these data to help provide a conclusion on the important factors that affect the adoption of E-Wallet among the students who answered the questionnaire. A prototype will then be developed to help create an E-Wallet for UCSI to help improve the convenience and provide benefits to the students in the campus.

Results

E-wallet is becoming increasingly popular among young people, especially university students, due to its ease. Fast transfers with minimal fees were deemed to be the most beneficial characteristic of e-wallets by the vast majority of participants, according to this survey. E-wallets, according to the majority of participants, make it easier for them to load their funds. Because of this, using a digital wallet to transfer money took less time than using cash. As an example, transferring cash may take two days, but transferring payments with an e-wallet took just 10 minutes. Security is another benefit of utilizing an e-wallet that encourages students to use digital payment. In order to attract clients, many businesses are giving coupons, gifts, significant discounts and other special incentives to consumers who use E-wallet to purchase products.

Conclusion

Through testing, I have found out that there a lot of room for improvement compared to what the other existing E-Wallet have for their users. It is not easy to implement all the features that are provided by the existing E-Wallet out there. Therefore, it is important to serve the targeted audience, in this case, UCSI University students, which allows them to have easy access to the E-Wallet system to improve the convenience and promote the development of smart

campus. There are certain features which can be focused on improving such as parking payment system and linkage with UCSI 1Card. With the number plate sensor available at the current boom gates, the payment parking system can be linked to that system to allow UCSI Students to pay for the tickets using the number plate by scanning the QR code which leads them to the E-Wallet. The comparison amongst E-Wallet was deeply researched to produce and improve on the features that are currently provided by existing E-Wallets. It is important to note down the weakness and strengths of existing E-Wallet systems to prevent making the same mistakes done by them.

Developing a Prototype Food Order Mobile Application

– Health Food Ordering Application

Leng Hong Sing, Kasthuri Subaramaniam, Javid Iqbal Thirupattur

Introduction

Food order mobile apps are commonly used by people nowadays. Food order mobile app is an application that allows people to directly make an order to the restaurants or canteens without going to the location. When people make the order, the restaurant's chef will prepare the food and it will be delivered by driver directly to the customers who made the orders. Nowadays, due to young generations working in the cities and also there is a busy work life culture that makes the ordering app to be spreading around the world (Saxena, 2019). In this situation, food order mobile apps become a new dimension to the people's kitchen (Gupta, 2019). Home delivery service by specific restaurants was replaced by the trend of online food ordering systems. It provides more privacy because there is no human intervention during the online order process (Raina, 2019). The apps will provide a lot of restaurants and also it has provided all the menu of the restaurants. With this situation, people can just click the button to

choose their food and make an order easily. It may save time and give them convenience.

Objectives

1. To investigate how food order mobile application works and its function, gather information and requirements from users.
2. To design an improved food order mobile application.
3. To develop food order mobile applications based on requirements.
4. To evaluate the proposed food order mobile application.

Methods

To get the data and information needed for this project, it decided to use the literature review and survey questionnaire method. Literature review can be done through reading and reviewing the articles or journals. Literature review is an important step as it can help to identify points and legitimate proof that can aid in the proposed project. Survey Questionnaires are made from Google Forms and are sent through online as links. The survey questionnaire aims to collect the public's opinion about the usability of the health food order mobile application. The purpose of the interview questionnaires was to collect information and

opinions from the public about if they think that the food ordering mobile app will work out for the public users.

Results

Food Ordering Application is becoming increasingly popular among young people, especially people who have hectic work life, due to its ease. Fast ordering without going to restaurant deemed to be the most beneficial characteristic of food ordering application by the cast majority of participants, according to this survey. Health Food Ordering application, according to the majority of participants, make it easier for them to order food and provide healthy food with calories specified. Because of this, using this application will help people maintain their body weight and control the BMI rate. As an example, users can check the food calories before they order the food to know that how much calories takes in a day.

Conclusion

Finally, it can be said that the mobile application has been carried throughout the project's many stages of development, resulting in its effective establishment and achievement of the project's primary objectives. The main objective was to study

current food ordering mobile application and then to develop a new health food ordering mobile application. The application was developed after getting to know the users need through survey questionnaire. The studying of existing mobile application and literatures is a small step towards filling a discovered gap when it was successful built runs perfectly fine on mobile device. As a result, a more complete literature analysis would better represent the current state of affairs on social media platform when it comes to food ordering application, and would provide a better knowledge of what is needed, as well as the areas that need additional study. In addition, a more comprehensive study of the criteria would result in a superior end product. Knowing food ordering application user's needs might change time-to-time, guarantee that the application being developed can meet the demands of people who have hectic work life.

Developing a HouseCare Service Booking System - HouseCare

Lee Hui Yung, Abdul Samad Bin Shibghatullah, Ghassan Saleh Hussein Al-Dharhani

Introduction

Nowadays, the living cost has increased as compared to the past, so both parents need to go out and work to cover the living cost for the whole family. Which meaning beside to provide childbearing, catering for the children, catering, laundry, house chores, teaching the children, keep family together, caring, emotional band, mother also need to work. In this case, housework becomes a very heavy burden. Although doing housework is not a difficult task, it needs to take a lot of time and effort to complete it. Hiring a domestic helper or the hourly cleaner from the social media is actually a very good option. But it is a high spending as well as high risk decision. So, the best decision is hiring the service provider from the trusted platform.

Objectives

1. To study the strengths and weaknesses of current House Care Service Booking App and do research of the exist market.
2. To design House Care Service Booking App using Android Studio for helping customers to request their Service and develop Mobile App that has more functions that need House Care Service Booking App.
3. To test the proposed Mobile application, testing method that will be use is user acceptance test with the technology acceptance model. User acceptance testing (UAT), also known as application testing or end-user testing, is a stage of the software.

Methods

This project aim is to improve the existing system and develop a House Care Service Booking Application – HouseCare which is an application that provide a trusted platform to let users book appointments for hourly cleaners, furniture or appliance repair services. To make the user easier to solve their problem. Before start develop the system, the development team will do the systematic review the existing system and journal to analysis their common characteristics, strengths, and limitations. Then they will collect the data by using online survey method

from 100 respondents to see the requirement of the user and set the function for the system. The development team will use Android Studio to develop the application and use Firebase to store the data. After the HouseCare application is completed, the development team will carry out the user acceptance test using the technology acceptance model in the evaluation part.

Results

Based on the results collected from the respondents through the technology acceptance model, the development team found that the average marks for behavioral intention are low, only 3.03/5. For the average marks of perceived usefulness (PU) are 3.61/5. The result is not good, but not bad either. The project team still can make improvements for the system to get higher marks. Next is perceived ease of use (PEU), the average marks are 3.88/5. Which means most of the respondents feel that the HouseCare Service booking application is easy to use, but there are still some respondents who only gave 1 and 2 marks. There are still a lot of things that the development team can improve.

Conclusion

In conclusion, the propose of the development team is to develop a system to let the user can book the service from the trusted platform which is match to the project aim and project scope. The develop team had done the systematic review to compare the existing system and also collect the user requirement to the HouseCare system by doing the questionnaire survey. Then, the project team had developed the system based on the user requirement. After develop the system, the project team have carried the user acceptance test by using technology acceptable model from 13 participant for the evaluation. The result of the evaluation is 3.5/5, not bad but not good. So, there still a lot of function and user interface that can be add and improve. The develop team will improve the system in the future.

Developing a Team Management Web Application

Ismail Abdikadir Nour, Javid Iqbal Thirupattur, Shayla Islam

Introduction

The fluid nature of projects, changing settings, and the growing complexity of our world have long prompted managing scientists to look for more reliable solutions and support systems to help project managers deal with these and other issues. Project and team management software are some of the most often utilised technologies, and it has aided in the speeding up of work by facilitating team cooperation and resource sharing. High-end solutions use the Internet to enable firms to manage several projects in different places while maintaining tight resource and equipment management and coordination. Project management systems are moving away from isolated islands of data (low-end software) and toward integrated data across projects with automated processes that allow numerous people to see and edit project data remotely without time or space constraints. During that development process project management software got more complex, complicated and with high prices which will force the young clients to go back to manual project and task enforcement and opens an opportunity to the developers to come up with simple yet useful tools for which can make the important part of the project management role without making that

user uncomfortable. By the effort of solving that problem this project will be focused to help the new team and project management users by being simple and easy to use. It will give them the chance of getting new members for their projects and a platform that they can communicate.

Objectives

1. To develop website project management system.
2. To design architecture and functionality of the system.
3. To study and compare the existed project management systems.
4. To Develop an application that people can find a projects to work on
5. To Develop an application that people can communicate easily

Methods

The SDLC (software development life cycle) is a framework that specifies which tasks must be accomplished at each phase of the software development process. The life cycle is a method for improving the quality of software and the development process. The software development life cycle (SDLC) is the procedure followed by a development team inside a software organisation to deliver high-quality software that meets or exceeds client requirements while also

meeting timelines and budgets. SDLC simply describes each action required to create a software programme, which helps to reduce waste of time and resources while also increasing the efficiency of the development process. The modified waterfall technique was chosen as the Software Development Life Cycle model for this project. This process has numerous stages, including analysis, design, coding, testing, deployment, and maintenance. The waterfall model, sometimes called the sequential life cycle model, depicts the software development process in a sequentially linear flow. This is due to the fact that only when the previous phase of the development cycle is completed can the following phase begin. However, rather than adopting the standard approach, the modified waterfall technique was chosen since it is easier to change requirements throughout project development because, unlike normal methods, it can be reversed, allowing for changes to be made where necessary by returning to prior phases.

Results

According to the study most of the students face difficulties during team projects, especially finding the right choices. While the market of project/team management is witnessing a lot of development but for some reason students don't seem to relate to it. If you follow the answers were given you can understand that there is gap between students and the developers of that kind of

tools, students tend to think that team or project management tools are difficult to be adapted while the developing software companies for such software aren't considering students' needs or maybe doesn't recognize them as potential users.

Conclusion

In order to give students who, need assistance with their assignments with a pleasant setting, a web-based system called Sitch will be launched. Success for the website will reduce the workload for the students. Through chat and posts, all users may communicate with one another and share information. This project's goal is to create a user-friendly, straightforward, and effective Communication between students in need of an assistance. To identify the current problems and conduct an analysis, systematic reviews, investigations, and analyses of the already-existing websites, systems, and questionnaires were carried out. The React JavaScript framework has been used to build the suggested website. Sitch has been able to accomplish all the objectives and enhance the user experience based on comments from the participants that took part in the user acceptance test, despite the difficulties and obstacles we encountered. The planned website is expected to significantly improve the calibre of student Projects.

Pharmacy Warehouse Management System

Gan Jhui Ken, Heshalini Rajagopal @ Ramasamy, Shabana Anjum Shaik

Introduction

Private pharmacies have started to create medicine delivery services and they must store their medicines at their own warehouse. During covid, most people can't physically go to the pharmacy because they might get infected, and pharmacies must adapt to the pandemic. Therefore, private pharmacies began to create delivery services from their own store with the stored medicines from their storeroom. The medicine that can be delivered is mostly without prescriptions such as Paracetamol, Zyrtec, and Antibiotics. Their own warehouse does not have a warehouse management system thus it will cause confusion when shipping in and out of the warehouse.

Objectives

1. The first objective of this project is to study the existing pharmacy-based warehouse management system

2. The second objective is to identify the strengths and weaknesses of the current pharmacy warehouse management system.
3. The third objective is to design a pharmacy-based warehouse management system.
4. The fourth objective is to develop a pharmacy-based warehouse management system that is more convenient for the employees of the pharmacy company.
5. The final objective is to integrate the functions into the system.

Methods

To identify potential users who are more likely to utilise which system features to turn on and to solicit feedback and ideas, which might be vital for the system, is the main research topic that developers want to tackle by gathering data from users. Thus, this can be used to assist developers in researching user needs and preferences.

Results

The results above shows that majority of the UCSI student approves of the system, the results will be able to help and motivate the students further. Majority of the

users have positive feedback for the system while some users have issue but nothing major of a problem. The users of the system left some feedback based on their experience on using the project.

Conclusion

The development of technology allows warehouse management system to rapidly evolve with each day. The technology allows warehouse management system to record data more efficiently compare to being done manually with people. The implementation of Pharmacy Warehouse Management System allows pharmacies to have their work handled with ease. After researching and going through multiple warehouse management system and to study their strengths and weaknesses, UCSI Pharmacy Management System was designed and developed. UCSI Pharmacy Management System allows the pharmacies to check the stocks the stocks of products, generate sales transactions for the customers, purchasing products directly from the supplier or company. Besides that, the system also allows pharmacies to check the customers and suppliers that are registered in the system. Lastly, the system will also allow the users of the system to check the total amount of transaction per day.

Weather Forecast System for Mobile Devices

Hu Jiahao, Neesha Jothi, Chloe Thong Chee Ling

Introduction

We are now in an era where technology is changing our lives. How to better meet the needs of users has always been an important topic of mobile platform development, and the eternal theme of weather has naturally become a center. After all, weather information plays an important role in people's daily travel, agriculture, industry and other important fields. At present, synoptic methods are mainly based on weather maps, supplemented by meteorological satellite maps, radars, etc. Numerical weather prediction uses computer as a tool to obtain the information of weather prediction according to the prediction equation, and it can be released according to probability statistics. The development of the weather forecast software of the mobile platform makes the dissemination of meteorological information more convenient and expands the coverage. The majority of mobile phone users can obtain the latest weather forecast information at the first time, so that they can prevent in advance and facilitate travel. The losses caused by meteorological disasters can also be minimized, because people can easily and quickly obtain meteorological information at the first time.

Objectives

1. To study the existing weather forecast system and understand its characteristics
2. To determine the advantages and disadvantages of the current system.
3. To collect/collect user requirements.
4. To design mobile weather forecast application.

Methods

The main research problem we solve by collecting user data is to identify potential users who are more likely to use which functions in the system, and seek opinions and suggestions that are critical to the system. The reason for choosing the questionnaire is that it can collect data from a larger data set more quickly. Therefore, this can be used to help developers study the needs of users. The questionnaire will be randomly sent to UCSI students from different backgrounds to collect objective data on application development. Charts will be used to evaluate quantitative data.

Results

According to the survey results, men accounted for a larger proportion of the population participating in the survey. It can be seen that male users are more interested in this project than female users and may have more expectations. In addition, although a large number of people in this survey said that their understanding of cross platform development technology was almost zero, the majority of young people in this survey reached the basic level with their minimum education. This greatly increases the possibility of project development and dissemination, because most highly educated young people show a positive attitude towards accepting new things. More importantly, most of them said that the frequency of using the weather forecast app in daily life is really high. But sometimes using the weather forecast app will bring them various troubles, for example, the interface is not beautiful and easy to use. Or the quality is uneven, and it is difficult to judge the quality. Therefore, these findings indicate that the research of this project is of great significance. In addition, this weather forecast is officially applied in the market. This project will also provide some suggestions and improvements for the weather forecast app market according to the suggestions of the interviewees.

Conclusion

Based on cross platform technology, this paper uses Vue+spring boot front and rear end separation framework to finally design a weather forecast application that can truly face the mobile intelligent platform. Through the introduction and comparison of various cross platform technologies, the advantages of Vue+spring boot framework are clearly pointed out. At present, the Vue+spring boot framework is still on the rise, and developers are actively trying to adapt to this front and back separation framework. Due to the limited technology, this article only gives a brief opinion on Vue+spring boot framework and makes a simple practice. In the development process, Vue+spring boot framework fully reflects its efficiency, whether it is convenient to write code or fast to debug programs. It is believed that as technology continues to flourish, developers will build a more excellent and huge ecological community. However, when we are exposed to new technologies, we need to spend twice as much time to learn. Developers who have experienced these technologies understand the extra burden of using new technologies.

Enhancing Learning Management System to Improve User Experience

Aw Khai Sheng, Shayla Islam, Kurunathan Ratnavelu

Introduction

Learning Management System (LMS) is a web-based system for training programs and information sharing, from either their home or workplace. By recording every training session, managing individual training requirements, and reporting training progress, the Learning Management System goes well beyond traditional training. The majority of LMSs are web-based and enable users to access learning content and administration at anytime and anywhere. However, most of the LMS are developed as web-based technology even though mobile users nowadays keep increasing. Despite there are some of the LMS that did develop applications for mobile users, there still isn't much functionality in the app itself compared to a web based LMS. One of the examples will be, lecturers always needed to use third-party software to record down the attendance instead of using LMS itself even on the web-based version. Thus, this project are proposed to enhance LMS by developing a user-friendly and functional application to improve user experience.

Objectives

1. To study the existing Learning Management System application so that can identify the strengths and weakness of the current system.
2. To design a Learning Management System mobile application.
3. To evaluate the performance of the developed Learning Management System mobile application by conducting survey on the user experiences after it is completed and compare it with the existing application.

Methods

The main research problem that is to be solved in this project is to enhance the learning management system by developing a user-friendly and functional application for mobile users. The development of the app will follow the SDLC waterfall model methodology which allow for easier understanding and no overlapping in phases. The post-development of the app include creating a User Acceptance Test (UAT). A total of 5 testers will be chosen to test the app and provide feedback on the app tested. The tester chosen to test out the app are student from different kind of universities that are currently studying in Malaysia.

Results

The results from UAT has shown that in terms of the application developed in this project, it is shown that most of the functions work fine and doesn't encounter any bug when using it. However, there are still room for improvements and problems to solve in some specific functions such as the to-do list function and the view attendance function. For example, the to-do list function doesn't save the task added by the user after they exit from the function. Adding the subject enrolled to the attendance list is one minor change that might be made. In conclusion, the majority of replies gave positive feedback because the overall user experience was successfully addressed. Some of the responders also offered suggestions for how the application could have been improved, including the addition of features like a profile page, a navigation menu, and a notification system.

Conclusion

In conclusion, according to the findings of the UAT, the testers have high acclaim for the app's fundamental idea and design. Like other apps, it will require some improvement to be made, such as adding more functions to the application. Therefore, the conclusion that LMS can be enhanced to improve user experience by developing mobile apps is valid. The software could be modified to further

enhance the user experience and the user's overall experience; however, it is designed for academic use. If designed correctly and with the university's function integrated into it, the app itself can significantly increase the accessibility of the university's feature for students.

Cybercrime and Cryptocurrency: Evaluation of the Issues and Implications of Anonymity in the Malaysia

Lai Khai Yeong, Raenu Kolandaisamy, Heshalini Rajagopal @ Ramasamy

Introduction

Cryptocurrency is becoming more and more relevant in today's society especially here in Malaysia. The recent rise of cryptocurrency investment may be due to a number of factors as public perception of it is slowly becoming more positive towards it. The blockchain has been a vital part of cryptocurrency since the invention of the Bitcoin. After that, blockchain is used by most cryptocurrencies to keep it safe. But there are certain risks that come with cryptocurrencies and the blockchain called anonymity. Anonymity is a factor for encouraging cyber criminals to perform illegal acts including scamming people, purchasing illegal substances and services, blackmailing and etc. all involving cryptocurrencies. There is a danger to cryptocurrency but most Malaysians are still fairly new to the idea and will need help to figure out how to navigate the space safely.

Objectives

1. To identify the issues and the implications of cybercrimes.
2. To understand how anonymity is affecting cryptocurrency.
3. To raise awareness of increasing cybercrimes happening in Malaysia.
4. To find a connection between cryptocurrency crimes and anonymity.
5. To do a questionnaire about the safety of cryptocurrency and to calculate the results using statistical analysis.

Methods

The research will use a mix of quantitative and qualitative research. Through the collection of measurable data and the use of statistical, mathematical, or computer methods, quantitative research is the systematic analysis of phenomena. Through the use of sampling techniques and the distribution of online questionnaires, polls, and surveys, for instance, quantitative research gathers data from current and future clients. While, qualitative research is to better comprehend ideas, views, or experiences, it entails gathering and evaluating non-numerical data (such as text, video, or audio). It may be utilised to uncover intricate details about a situation or to spark fresh study concepts. This project will utilize qualitative research in literature review. This project will utilize the

quantitative research in a survey titled Data collection for the safety of Cryptocurrency in Malaysia. Charts will be used to assess quantitative data.

Results

The project has analysed the results of the survey with 56 respondents in total participating in the questionnaire. The project has also done literature review to ensure there are no gaps in the project and can compare to the results acquired through the survey. This project found out that the public perception of cryptocurrency in Malaysia is fairly positive towards the aspect of cryptocurrency and that anonymity is also a leading factor for causing cyber criminals to engage in illegal activities involving cryptocurrency.

Conclusion

The innovative world of finance technology has developed a multitude of innovative systems and concepts that has been revelled and celebrated throughout the world including digital currencies, banking systems, stock trading systems etc. None have made such an impact recently like cryptocurrency. Cryptocurrency is still a new and developing technology that is only 13 years old but it is widely used across the world like no other recent financial technology

has. This like all other financial currencies has its risks that come along with it. Cyber criminals are now focusing on using cryptocurrencies more than ever due to their anonymity and hard to trace technology in the blockchain. In this study, the project has conducted a questionnaire for Malaysians regarding their opinions on cryptocurrency with 56 participants. In the end, the results suggested that most Malaysians that participated in the questionnaire thinks that it is generally safe to use cryptocurrency. Also, the participants results suggest said that anonymity is an issue that involves cryptocurrency and its connection to it is somewhat connected as cyber criminals use it to commit scams and fraudulent activities.

A Development of Online Auction System - Auctionsite

Wu LeJin, Chloe Thong Chee Ling, Abdul Samad Bin Shibghatullah

Introduction

Today in the 21st century, the Internet has become a necessity for everyone on the planet, and almost everyone is now inseparable from the Internet. In 2022, the global Internet penetration rate will be 62.5%. The Internet has connected almost every industry in human society and has become the core pillar of the modern information society. [1] E-commerce is a new business model derived from the Internet. E-commerce has become a very important part of the global business framework and will become more and more important in the future. With the advent of the Internet, the business landscape has changed significantly, and thanks to the continuous digitization of modern life, people in almost all regions can profit from e-commerce. With the rapid increase in Internet access and popularity around the world, the number of people who choose to shop online continues to climb every year. More than 2 billion people purchased goods or services online in 2020, and the number is rising, with global e-retail sales exceeding \$4.2 trillion in the same year.

Objectives

1. To investigate the strengths and limitations of the existing systems in the market.
2. To gather/collect requirements from users.
3. To design a web-based auction system.
4. To develop a prototype web-based system.

Methods

Different phases Activities performed in each phase

- Requirements Gathering Phase: In this phase, gather all the information needed to develop this project
- Design stage: planning programming language and other software required, such as Java, Python, star UML software design chart making software and MySQL and other databases or other related project details
- Build stage: After the design phase, there is the build phase, where the software is coded and tested, various approaches are tried, and the software is tested to verify that it works as planned
- Deployment phase: Deploy the application in the appropriate environment

- Maintenance phase: After the system is ready to use, there is the possibility that bugs will appear, or some functions or user interface may need to be modified

Results

After much research and development, the design of the online auction system was ultimately finished. The system offers bidders a positive bidding experience and is designed with an optimum function. This system's architecture is simple, but it fully performs the duties required by bids and sellers and gives bidders a platform for discussion.

Conclusion

I gained a lot of knowledge during this process, including well-consolidated understanding of data structures, databases, and the Internet, as well as some skills and procedures for system development that will help me in the future. Great assistance, I've always like computer programs and have learnt a lot of languages, but I haven't independently created a sizable database. This method is a natural amalgamation of theory and practice, and it has greatly aided my future development. There are still many issues and flaws in the software workflow of

the online auction system that was used in the course design that I will need to test, modify, and maintain in my future work.

Parking Security System with Vehicle Number Plate Recognition

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Introduction

The transportation system in Malaysia has been developing steadily in the recent years. However, cars and motorcycles are still the main means of transport for people in Malaysia. Some places are still hard to reach by using public transport and people are more inclined to drive there themselves in order to save time and unnecessary troubles. This has also led to the constant improvement of surveillance technology. Automatic Number Plate Recognition (ANPR) is a technology used to capture and identify the number plate of the vehicle on the road. The ANPR technology is made up of four phases which are image processing, extraction, segmentation, and recognition. This technology is currently implemented by Royal Malaysia Police whereby images of vehicle which have violated the law are captured and the number plates are identified to issue a summon to the vehicle owner. This is also implemented by the traffic police whereby they capture the picture of illegally parked cars using a handheld

device and the summon with the exact number plate is issued immediately. This technology has proved to be a very powerful tool for security purposes, but we only see that it is being implemented and fully utilized by the traffic department. There are many applications of ANPR technology that can be carried out in fields other than just the traffic department. One of the applications will be to utilize the ANPR technology in parking areas. Most parking areas in Malaysia are using ticketing system where visitors are issued a ticket and charges are calculated based on the duration of the stay. Although most parking systems have moved towards contactless parking in which visitors use cards such as Touch N Go card, credit card and debit card, instead of ticket, the general working of the system is still the same. The system does not have security measures to keep track of which vehicle entered and left the vicinity. This is also the case for the parking system in UCSI University.

Objectives

1. To study the current parking system of the university
2. To identify the issues faced by the students and staff regarding parking issue
3. To evaluate whether a new parking system is necessary for the university

4. To identify the strength and weaknesses of the current parking system as well as the proposed system
5. To design a parking management system

Methods

In order to have this project progressing smoothly, it has to follow a standard flow of process. This flow will reduce the amount of time taken to fully develop the project from scratch to the end and improve the chances of success providing better structural outputs. The development of the system is further divided into smaller phases by using the Software Development Life Cycle (SDLC), a software development process. By using SDLC, the project can be managed according to the project plan, enhance project management, design and finally the product. The waterfall method is a serial methodology to software development life cycle (SDLC) and focuses on a sequential and logical procedure. At each stage of the development process, specific goals will be identified to ensure a completion before moving on to the next stage. This means that there will be no revisit to the previous stage after each completion, thus making a smooth and production progress. The waterfall method is an excellent method in ensuring that the deliverables meet the required specification, therefore, it is implemented at the beginning of the project. A common practice

used in designing software applications is using the Software Development Life Cycle (SDLC). SDLC should include the following components - planning, requirement, design, implementation, testing and maintenance stage. The SDLC is a method used for evaluating and enhancing the development process which allows a fine-grained analysis of each process phase. The system implementation should be done within the pre-determined period and budget. It explains how a software can be built, installed, and maintained. The different stages of SDLC have its own set of processes and deliverables that contribute to the next phase.

Results

The image recognition technology depends heavily on the data set that are available. In this project, the image processing engine that is used is PyTesseract. Despite the huge number of successful detections by the system, there are also a large number of wrong character recognition by the system. This poses an issue to the implementation of the system as the system is supposed to be automating the entry and exit of vehicles into the campus. Without precise character recognition, the system will fail to search in the database should a car be registered, and thus, rejected entry into the campus.

Conclusion

The proposed software can be applied to day-to-day life. Technologies such as Python, Tensorflow, and OpenCV are publicly available and easily applicable. The system can also be used not only in UCSI university but also other parking lots such as school, marts and hospitals. This provides a sense of security as the system is installed at the entry and exit of the parking lots. The development of modern technology is rapidly changing, and information technology is easily accessible. In order to stay in this competitive society, people, big or small companies, even countries are improving their structure and stepping up their game. Image processing which was first introduced in the 1940s have since come a long way. With the upcoming 5G information technology era, things like contactless payment, long distance information transfer and Artificial Intelligence will be further improved and be of higher level. Image processing, which is a simple yet power technique, will also see endless potential in the near future. In Malaysia, big companies that provide image processing and character recognition services have their own large datasets which are tightly secured. In this project, we are able to learn how image processing works, how character recognition is not just filtering of images and how we can further develop and improve other specs of our life using image processing technology.



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