Designing and Implementing Final Year Project
- with Success

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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 Subaramaniam, 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.

NFC-Based Student Attendance System

Ng Wei Hao, Chloe Thong Chee Ling, Javid Iqbal Thirupattur

Introduction

In this era of instant access to knowledge, it is becoming more usual for students to be late or even absent from class. This is because the traditional paper and pen method of recording student attendance is known to be unreliable, lacking authenticity and extremely inefficient, not to mention that students can access classroom content online for self-study. This leads to problems with student attendance in class. Fortunately, with the advancement and development of technology, this problem will be solved. Nowadays, it is one phone for every hand, and the mobile phones on the market are generally equipped with NFC function as standard. This project explains how NFC is able to make student attendance registration more reliable and convenient.

Objectives

1. To investigate the issues of the current student attendance record system.
2. To design and develop a prototype NFC-based student attendance system.

3. To eliminate the paper and pen attendance record system.

Methods

The methodology will be used to develop the system is System Development Life Cycle (SDLC). The reason for referring to SDLC is because this cycle is more in line with the development of this system. A user evaluation report containing 3 sections being asked to random lecturers in UCSI College and a total of 10 responses were achieved successfully.

Results

Based on the user evaluation report, it concludes that the majority of the respondents agreed that this system really improves attendance registration in several aspects. The paper and pen student attendance record system proved to be time-consuming, inefficient, unreliable etc. according to the responses. In usability aspect, the majority of respondents agreed that this system does improve attendance registration in terms of efficiency, simplicity and functionality. The respondents also agreed that they can use this system with ease and accomplish their task in a short period of time. Based on the responses, most of the respondents are satisfied with this system as it provides efficiency, simplicity and

ease of use. It is also worth mentioning that 80% of the respondents would recommend this system to their colleagues.

Conclusion

In conclusion, this NFC-Based student attendance system really improved the attendance registration in several aspects with the support from more than half of the respondents according to the result of appendix B. An NFC-Based student attendance system may be new to UCSI University, therefore more research and investigation is needed in the future. This project has accomplished the objectives and developed with the methodology chosen. According to the research results of the project, it is imminent to eliminate the paper and pen attendance registration method. This is because this attendance system can solve the problems of paper and pen attendance registration, such as preventing students from registering attendance on behalf of others, and reducing the time and workload required for attendance registration.

Developing Mobile Application to Prevent Cyberbullying Nowadays: Anti-Cyberbullying App

Siow Wen Xuan, Ghassan Saleh Hussein Al-Dharhani, Chloe Thong Chee Ling

Introduction

Cyberbullying is the bullying through the social media platforms using the digital devices such as smartphones, computers, and others. Cyberbullying can take place in anywhere and anytime through online. Cyberbullying mainly happens on the teenagers but also some of the adults will been faced. Sending, uploading, or spreading unpleasant, damaging, misleading, or nasty content about someone else is considered cyberbullying. It might involve shame or humiliation caused by disclosing intimate or private information about another individual. Cyberbullying can often cross the line into illegal or criminal behaviour. Spreading lies about someone on social media or posting embarrassing photos or videos of them, sending hurtful, abusive, or threatening messages, images, or videos via messaging platforms, impersonating someone and sending mean messages to others on their behalf or through fake accounts are just a few examples of inappropriate behaviour. Bullying that occurs in person and cyberbullying that occurs online frequently coexist. Cyberbullying, on the other

hand, leaves a digital trail — a record that might be important in proving the abuse and providing evidence to help stop it. Cyberbullying's consequences are often more severe than those of traditional bullying. Not only can the harmful remarks reach a limitless number of people, but the words and photos are frequently archived online. Cyberbullying victims sometimes have no idea who is person that are attacking them. Sometimes the victim suspects who is the person or who are the groups are attack them, but they cannot proof it because trolling and bullying accounts frequently take advantage of everyone's important right to anonymity. Cyberbullying is no longer limited to a single demographic; everyone is now at danger of being a victim of cyberbullying in some fashion.

Objectives

1. To study cyberbullying and social effects for the teenagers in Malaysia
2. To study existing anti-cyberbullying application for identifying the strength and weakness of current system
3. To gather and collect the data from the feedback regarding the prototype
4. To develop mobile application for cyberbullying to help teenagers that need helpings from community

Methods

The project is applied preliminary study in order to understand the user's expectation and fulfil their need where a series of user requirement would be gathered. A systematic literature review uses to collect and analyse data from research and an interview as qualitative survey research will be conducted to gather requirements, collect responses, and users' though, therefore the nature of data will be unstructured. Through the literature review, a lot of information and requirements will be collected, and it will be very useful to evaluate and evidence the validity for the new solution. Besides that, literature reviews are very handy in this research when a specific issue or research problem is given. In addition, literature review and article comparison to find out a clearer view to present the weakness of the existing system and the important of the proposed system. Other than that, it helps to collect requirement and preferences of the system as well. Further, the qualitative survey research is getting a human's underlying perspective. It is more concerned with interviewee's think and feels about the topics of concern to the research. In addition, it will gather the preliminary studies from the user regarding their opinion and experience. The target respondents will be focus on teenagers which are between 18-25 years old. The collected data will be used to evaluate on the necessity of the feature. The project will be using SDLC spiral model. The spiral model has 4 phases which are determined objectives, identify, and risk analysis, development and design, and system

evaluation. The reason that I choose spiral model is easy to change based on the requirements which are better model compared to waterfall model and iterative model. In waterfall model and iterative model, it is difficult to changing according to the user requirements and not a good model for complex projects. Besides, I can capture users' requirements in more accurate way. Spiral model also divided the process into smaller parts which can better to manage the risk.

Results

A total of 15 response from the survey question had been successfully achieved. It can conclude that most of the respondents are willing to use anti-cyberbullying application. All the respondents are totally agreed that the designated anti-cyberbullying application will bring benefit to the society. They think that the application will providing a lot of help to reduce the cyberbullying negative effect in the society nowadays. Besides, the application can provide a pathway to voice out their unfair experience for the victims. The application also can aware the society to take serious action to cyberbullying issues and spread the information to prevent others from being bullied again in the future.

Conclusion

Cyberbullying is a recently emerging phenomenon, and considerably more attention is needed to understand what types of interventions and formats for their delivery are likely to be most effective in decreasing it. However, the scholarly work done to date on cyberbullying along with extrapolation from prior work focused on traditional bullying can be used to inform the development of resources aimed at addressing both perpetrators and victims of cyberbullying. In conclusion, the methodological approach used to carry out the entire process of resolving the concerns detected in the present application clearly outlines the objectives of the study project. The goal of this project is to create user-friendly, simple, and efficient anti-cyberbullying to decrease cyberbullying faces in the world. To ascertain the current problem and analyses, systematic reviews, research, and questionnaires of the application and systems that are currently un use have been carried out. The Anti-cyberbullying app was created with the intention of achieving all objectives and resolving all issues, the proposed application was created using Android Studio and is compatible with mobile devices running the Android operating system. The system was created as a prototype and might be missing some functionality but based on input from the users that took part in the user acceptance test, it has been able to accomplish most objectives and enhance the user experience.

Development of a Novel E-Learning System for Improved Usability

Soo Yang Yew, Shayla Islam, Shabana Anjum Shaik

Introduction

E-learning is a learning approach that combines organized instruction with the use of technological resources such as laptops, computers, and tablets. It allows students to study at any time and from any location with the help of Information Communication Technologies (ICT) that can connect instructors and pupils who are separated by thousands of miles. E-learning has provided on improving education's efficacy and efficiency by assisting students' needs such as offering access to updated content, having quick delivery of lessons, and the ease of having unlimited access to the content. Most institutions use tools such as Microsoft Teams, Google meet, Zoom, and so on to impart the e-learning facility to the learners.

Objectives

1. To develop an advanced e-learning system that is convenient and efficient for students and lecturers to use.

2. To study existing modern technologies that enable the implementation of a practical environment simulation within the e-learning system.

3. To test and evaluate, investigate, and identify the security of the current e-learning system.

Methods

The methodology used in this project to develop an e-learning system is the Prototyping model. The reason for choosing this method is because of the flexibility and effectiveness to develop a system with user evaluation before implementing and maintain it. There is a survey containing 3 sections that asked random people who have used the e-learning system with a total of 101 responses being surveyed. Only 7 out of 101 people did not use the system before.

Results

In summary, most of the users benefit by using an e-learning system for attending classes. Most of the users get the new norm of using it during the technological era. Although some responders will still prefer face-to-face learning, users are very convenient and easy to use the e-learning system even before the pandemic when some of the users have been using it for their own learning purposes. There are some issues that users currently face such as incomplete resources, and a lack of security features. Users believe that using e-learning systems can help them verify their assignment work without having to meet with the lecturer. They will be honest with their work without plagiarizing from another source.

Conclusion

The project is to give students and lecturers convenient and efficient use of the system as it has features such as adding lessons and exercises for students to download it. Users can make changes to their profiles in the future. The system is believed to be further enhanced by introducing a video upload function. Next, the system can also be improved by adding a video viewing function. Finally, the system can improve a view function that allows users to view the files before downloading them.

Student Check-in System based on NFC Technology

Yin Yisheng, Kasthuri Subaramaniam, Shabana Anjum Shaik

Introduction

All universities are required to record student attendance and a good attendance record is an important aspect of assessing a student's attitude to learning. However, most schools still use manual recording methods. This is a time-consuming and inefficient method. Nowadays, IOT technology is widely used in everyday life. If we combine IOT technology and computer technology to develop a student check-in system, we can solve the problem of time-consuming check-in. Student information can be written onto an NFC card and when the student brings the NFC card close to the reader, the system can record the student's attendance information and time. This paper envisages the development of a student check-in system based on IOT technology. This system will solve the disadvantages of traditional check-in methods which are time consuming and inefficient. It saves time for students and teachers.

Objectives

1. To analyze the existing check-in system

2. To identify the strengths and weaknesses of the current check-in system

3. To gather the needs of users

4. To design check-in systems according to user requirements

5. To development of a prototype check-in system

Methods

The system designed in this paper will be developed according to the software development method of software development life cycle (SDLC). The system is evaluated through questionnaires filled out by users. In this study, an anonymous survey was taken. The questionnaire randomly surveyed 80 respondents from UCSI universities to obtain system functions and user preferences. To ensure the accuracy of the survey results, some abnormal data will be deleted from the survey results. Finally, system development is carried out based on all the answers.

Results

Through the survey, we collected many responses from users aged 18-25. These users are basically college students. Their answers can help me analyze the problems existing in the existing check-in system and design a new check-in system based on these problems. By analyzing the user's answers, we know that most users are still using the manual sign-in method, which is time-consuming and error-prone, which is not conducive to teachers' attendance record management. In terms of the type of check-in method, most users choose to use cards for sign-in. And through the survey, most users think that the sign-in system can replace manual sign-in, so using the sign-in system can better help users complete sign-in and improve sign-in efficiency.

Conclusion

The conclusion is that students can log in with the student card with NFC function by touching the NFC card reader and use the browser to log in to the login system to view the login records. Lecturers can manage student user information and check-in records. The sign-in system can run stably and smoothly for a long time, and the overall functions meet the needs of users. The check-in system we developed can bring great convenience to students and lecturers. Students can easily check-in and view their previous check-ins. Lecturers can easily manage

attendance records and view attendance records of all students. In general, the

check-in system can bring convenience to people.

Forecasting US Dollar against Malaysia Ringgit Exchange Rate using Gated Recurrent Unit (GRU)

Yeam Yong Xuan, Kurunathan Ratnavelu, Raenu Kolandaisamy

Introduction

Foreign exchange (forex) market is the world's largest financial markets, and it has always been a heaven for investors. Retail investors are usually guided by business news and herd mentality or gossip to invest. Investment companies use market knowledge and detailed business analysis to study the movement of these foreign currencies. It has never been an easy task to gain profit due to forex data volatility. Also, there are too many factors that can affect the closing price of currencies, such as political, economic, and social factors. Forecasting forex price using artificial intelligence (AI) has emerged as an innovative tool in predicting time series data like currencies using deep learning. This research aims to assess the performance of Gated Recurrent Unit (GRU) in predicting the closing price of United States Dollar (USD) against Malaysian Ringgit (MYR) currency pair.

Objectives

1. To understand the behaviour of foreign exchange rate of USD/MYR currency pair in the past 5 years using GRU.

2. To determine the performance of GRU in forecasting the exchange rate of USD against MYR using Mean Squared Error (MSE), Root Mean Squared Error (RMSE), and Mean Absolute Error (MAE) error metrics.

3. To design and develop a gated recurrent unit neural network trained with backpropagation algorithm.

Methods

In this research, a deep learning neural network model, GRU, the newest variant under RNN is developed and used to predict the closing price of USD/MYR currency pair. GRU are not commonly used in predicting currencies, but widely used in predicting stocks price and cryptocurrencies. This research aims to assess the performance of GRU in predicting closing price of USD/MYR currency pair. This experiment starts with collecting historical data of USD/MYR currency pair for the past 5 years, ranged from 2 October 2017 to 31 October 2022. The daily open, high, low, close price, and adjusted close price of this currency pair is collected. Then, the data is normalised to increase the accuracy of the model. Next, the dataset is split into input (x) and desired output (y). x contains open,

high, and low price column, and y contains the close price column. x and y are further split into training set (60%), validation set (20%), and testing set (20%) using train test split technique to give us x_train, y_train, x_validate, y_validate, x_test, and y_test. All these data is converted into array format, and reshape x_train, x_validate, and x_test into 3-dimensional (3-D) array as GRU model requires 3-D input. The next step is building GRU model and parameter initialisation. Then, this model is trained with the training dataset using fit method and validated using validation data to evaluate the performance. Early stopping is set before training to monitor the validation loss at patience of 20. The model is evaluated by plotting a learning curve of training loss against epoch, and validation loss against epoch to compare both losses. Next is performing prediction with the well-trained model using x_train, x_validate, and x_test to obtain predicted results from train, validate and test dataset. The predicted results and the actual ground truth are used as input to calculate the MSE, RMSE and MAE of this model, which are the metrics to evaluate the performance of this model. The lower the values, the better the model fits in the dataset. A comparison graph of the actual close price (ground truth) and predicted results are plotted to better virtualise the difference between ground truth and predictions.

Results

Learning curves on training loss and validation loss are visualised using line graph. The curves reflected that the present model is a good fit of the USD/MYR currency pair. The overview of actual closing price and predicted closing price of the whole dataset is plotted, and it can be seen that the trend of the predicted values is consistent with the trend of actual values. The result of error analysis is as follows. The average RMSE, MSE and MAE values of training data is compared with other three similar systems in the literature. The values of RMSE, MSE and MAE of the presented model are the lowest among all models, which are 0.008488, 0.000074, and 0.006177 respectively. This shows that the presented outperforms the existing models as its predicted values are the closest to the actual values. The results show that GRU is capable to predict USD/MYR currency pair better than LSTM and ANN models. Compared with EUR/USD currency pair, GRU model performs better in USD/MYR currency pair to predict future values.

Conclusion

The performance of present model is measured using RMSE, MSE, and MAE error metrics, and these values are compared with three other similar systems as shown in Table IV. These error metrics are calculated by comparing the

difference between the actual price and the predicted closing price of this currency pair. The experimental results show that presented GRU model outperformed other existed neural networks algorithms with a RMSE of 0.008488, MSE of 0.000074 and MAE of 0.006177. Based on these results, the presented GRU model for predicting USD/MYR currency pair is the most promising and efficient model among all compared models. This also demonstrates that this AI algorithm is reliable and acceptable for USD/MYR currency pair prediction, and GRU can predict forex prices better than ANN and LSTM models. In future work, we will apply the presented model on others major currency pairs to assess the performance of this model. Besides, we will take into consideration of more factors that affect the price of forex market such as inflation and interest rates to better predict the closing price of different currency pairs.

Development of UCSI University Community Portal

Lee Yuxuan, Heshalini Rajagopal @ Ramasamy, Kasthuri Subaramaniam

Introduction

Although online Shopping and E-commerce platforms are one of most trending applications of technology in the world currently and in the future, there are some situations where even the most advanced online platforms are considered a problem. In UCSI university, there are countless of students involved in business activities specifically the process of purchasing and buying. The problem surfaces when the students who lack the support of online platforms to promote their product suffers from minimal market opportunities and the difficulties of attracting other students' attention. In this research and project, the main purpose is to develop the UCSI university community platform to help solve the problem by providing an online platform for the students who are conducting business in UCSI university. Studies in this report has also provided the reasons why well-known e-commerce platform are not the best option. In terms of collecting data and information from UCSI students which is the target group of the project, questionnaires will be handled out to gather data and analyzation. Several software will be used for this project such as Visual Studio and Xampp.

Objectives

1. To search for platforms and systems that are similar to project

2. To compare each of the chosen systems and platforms

3. To design the system while prioritizing the simplicity of it

4. To develop the overall structure and system of the platform based on the requirements

5. To evaluate and test the prototype system for any bugs

Methods

Research Methodology- This project will combine and use qualitative and quantitative research method as a collection of questions regarding this project and it will be prepared to create a survey. The survey will then be given to a minimum of 50 students in UCSI to answer and provide response. Before handling out the surveys, it will first be checked whether there are any grammar mistakes or if it is understandable. Short answer questions, multiple-choice questions, Linear scale questions, and open-ended survey questions are the different survey question types that will be used in this questionnaire. For short answer questions, a question would be given to the respondent, and it will require typed answers typically one or two sentence and it has to be as short as possible as the boxes are for short answers only. For the multiple-choice questions, there

are questions where respondents is only able to pick one, and questions where they can choose more than one. Linear scale questions are questions that will allow respondents to answer the question with a numerical scale which is typically 1-5. One example of linear scale question can be asking respondents to rate a situation from 1-5. Lastly, open-ended survey questions are questions that will allow respondents to answer with short or long answers. System Methodology-In this research and study, the selected approach for the project is RAD. In the software development industry, rapid application development (RAD) is a prominent agile project management method. The focus of RAD on decreasing focus on the planning stage and maximizing prototype development allows for this rapid pace. RAD allows project managers and stakeholders to precisely monitor progress and communicate in real time on emerging issues or adjustments by decreasing planning time and prioritizing prototype iterations. As a result, there is more efficiency, quicker development, and better communication.

Results

To summarize all of the data analysed, most of the respondent in this survey is 20-25 years old and others are all younger than 20 years old. According to the data, all of the students that are 20-25 years old are bachelor's degree on their

level of education whereas the younger students are either from diploma studies or in foundation. As the younger generations are familiarising with advanced technology each day, it could explain why the respondents are overwhelmingly positive on the importance of internet technology for business purposes. In terms of programmes taking or planned to take in the future, most students are major in business administration followed by marketing and finance, logistics management, accounting, and the rest are majored in entrepreneurships, architecture, mass communications, actuarial science, computer science, and multimedia design. By observing at the data, it can be seen that students that opened a stall in UCSI did not have a smooth experience on selling items as the sales rate are considered to be shockingly low for every of the students. It can also be stated that most students that do business in UCSI with only a stall and no support from technology are facing problems such as difficulties of expanding market opportunities as students does not know the existence of the stall and attracting customer's attention as the stalls are typically being ignored by most students that passes by. This also explains why students also believe that doing business "offline" would be much more challenging compared to using internet technology. Data also shows that Shopee as a online E-commerce platform is the leading platform in terms of numbers of users as seen by the response of the respondents. To dive deeper into why, most respondents signifies that the simplicity and design of the user interface is what considered to be important for them and bad user interface design have a large chance of chasing away users.

Finally, from the data provided by the respondents, it can be said that the development of UCSI university community portal have a better chance on being successful based on the responds.

Conclusion

In order to help UCSI students that are doing business in UCSI no matter if it is setting up stalls for event purposes or assignment purposes, purely for educational or experience gain purposes, or just to make a quick buck by selling to other UCSI students in the campus area, this project is to help them through the process. Although other better well-known online platforms are existed in this country, specific students might not get the correct support they need from those platforms. This is because the platforms are better suited for selling to the whole country or even serving customers from overseas whereas the platform developed for this project is to help specifically for UCSI students where the target customers for them are also UCSI students. To conclude, the aim of this project is to develop a user-friendly and simple website which has a sole purpose is to help making products that are being sold by UCSI students well-known to as many UCSI students as possible in the campus area. To better understand the needs of the students, questionnaires are used to gather required data from a total of 71 respondents from students to conduct analysis. In terms of development of

the website, Visual Studio was used for the coding development of the website and the language used are PHP and SQL languages. Xampp was also used each step of the development to see the result of the website. Although it is not a perfect website, it has satisfied most of what was expected in this timespan.

LearnProg - Gamification of Learning Languages

Zeeshan Haider, Kurunathan Ratnavelu, Javid Iqbal Thirupattur

Introduction

As we entered the digital age, education changed as well as the manner we educate. In the age of online education, people choose to learn using their computers and smartphones. The conversion of conventional learning procedures into cutting-edge game learning techniques is known as gamification. Numerous queries arise, such as why new learning methodologies are necessary. Or then, why aren't the conventional methods effective enough? The solution is straightforward, but occasionally things get so complicated that we lose concentration rather than paying attention and comprehending the issue. The goal is to increase engagement and concentration in digital learning. The purpose of this project is to show how gamification can be used to teach programming languages in a fun and engaging way. This will be done by using simple games that allow users to respond to questions while playing games they design. We need to improve learning methods by enticing individuals to concentrate on what they are learning because traditional education has never been engaging or participatory. Gamification will change business and education by enticing and

encouraging individuals to take the necessary action. Gamification has grown significantly as a result of the use of adoption approach techniques and educational technologies.

Objectives

1. To develop a web active learning platform game that focuses only on practicing programming

2. To design an active database that logs in the user and stores all user's data and progress throughout the game.

3. To provide game-like features such as life span, rewards, points, themes, e.t.c. to make the game as interactive as possible.

4. Building a user interface that meets the requirements of youth while being simple to use.

5. Gather data of the users to improve the game as it proceeds.

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. Because the questionnaire enables quicker data collection from bigger data sets, it was chosen. Thus, this can be used to assist developers in researching user needs and preferences. In order to gather factual data for application development, a survey questionnaire will be given to UCSI students at random from different backgrounds. We will evaluate quantitative data using charts.

Results

Gamified learning is becoming increasingly popular among young people, especially university students, due to its ease. The participants really enjoyed the gamification features in our web application. Respondents said that they be mostly likely suggest this app to their friends. They said this application met their expectations and learning requirements. The participants told that the performance was really good. The UI of the web application can be improved as it remains simple and elegant. Most of the testers responded that LearnProg is crucial for our cluture as it is better then traditional learning. All users had pleasant experience on our web application. The researcher got to the conclusion that LearnProg still has a ways to go after looking at a wide range of perspectives. The user interface can still be improved, and we can add more languages based on the user's skill level and give the children even more challenging questions.

For other disciplines that might all be gathered together under one title, similar websites to LearnProg can be created using the same principle.

Conclusion

Finally, The main takeaway from this study was the value of intrinsic motivation for learners and whether gamification is one of the greatest strategies to boost intrinsic motivation in situations when it is challenging to find or generate. The document provides an explanation of the website's operation, launch, and release. Several system and performance tests were also conducted to make sure the launch goes off without a hitch. Due to its simple yet appealing user interface, young children can use the website unsupervised thanks to its game-based design, which allows users to practise their programming skills while having fun. We looked into other websites with objectives similar to LearnProg's and We learned how these businesses use advertisements and paywalls to encrypt their information and charge users for access. LearnProg ensures that every piece of content is completely free to use because we think it is immoral to profit from educational content. We also make sure that the website is free of advertisements. We read a range of publications from respected journals to analyse the effects of intrinsic motivation on students as well as how gamification helps to foster intrinsic motivation. 100 respondents from all across the world were given the

survey questions, which were based on the study and evaluation the researcher conducted utilising the articles. The researcher tried their best to implement as much of the comments from the respondents. When the web application was operational, we asked 100 different individuals to test it, and we then used their feedback to further develop the website. In the end, this was a very challenging experience that also provided many opportunities for growth.

A Development of an E-Commerce Website with Crypto Payment Method

Ong Zhe Chee, Javid Iqbal Thirupattur, Neesha Jothi

Introduction

With the continuous development of network technology, the development of online payment has gradually matured, and many merchants have also entered the e-commerce industry. However, there are still unavoidable defects in online payment, such as high intermediary fees and the leakage of personal information due to the identity of the user bound to the credit card. In this project, I propose cryptocurrency payments that rely on the blockchain for transactions. Cryptocurrency payment methods can permanently retain transaction information, and users do not need to bind their personal information such as ID cards or mobile phone numbers. For merchants, blockchain transaction fees are lower than other online payments. Because of these online payment methods, credit card processing fees (such as Master and Visa) and online payment intermediary fees (such as PayPal) are unavoidable. The project will work with a pet food store (ZaiPet Sdn Bhd) to enhance their existing e-commerce website with a redesign that gives their customers the option to make purchases using

cryptocurrency and allows merchants to add products to the website without any programming background.

Objectives

1. To improve data management by providing the database.

2. To provide a cryptocurrency payment method.

3. To enable merchant to add or change content by themselves.

Methods

We aim to identify potential users of their functions by researching and comparing the advantages and disadvantages of traditional online payment methods and blockchain transaction methods to follow the software development life cycle (SDLC) as my system development method to ensure that the project has a clear direction and reduce development time to provide complete output.

Results

A website that sells pet food with a Firebase database that allows the website to fetch and store data was launched. Two payment methods are also provided on this website, FPX online payment and Ethereum blockchain payment using MetaMask wallet. Users can choose any payment method to checkout. If users choose to use cryptocurrency for payment, they do not need to bind their personal identity and do not need to worry about personal data leakage. When the merchant logs in to the website with the admin account, the website will allow the merchant to add products and view all orders, and also be able to change the delivery status of the order.

Conclusion

Zaipet's original website was designed and run using WordPress, so all data is viewed and modified through the WordPress backend system, so the merchant cannot make changes to the website by himself, so we provide an online database Firebase for data storage and design the CRUD on the website to allows merchants to add new products and view orders through the website. Not only that, but we also provide a new payment method - a cryptocurrency payment method. The new payment method can not only expand the customer base of

merchants but also reduce intermediary fees for online payments such as PayPal

for merchants.

Developing a Facial Recognition of Attendance System

Wong Zhee Tat, Chloe Thong Chee Ling, Shabana Anjum Shaik

Introduction

Face recognition system plays a vital role in almost every sector. Face recognition is one of the mostly used biometrics. It can used for security, authentication, identification, and has got many more advantages. Despite of having low accuracy when compared to iris recognition and fingerprint recognition, it is being widely used due to its contactless and non-invasive process. Furthermore, face recognition system can also be used for attendance marking in schools, colleges, offices, etc. This system aims to build a class attendance system which uses the concept of face recognition as existing manual attendance system is time consuming and cumbersome to maintain. And there may be chances of proxy attendance. Thus, the need for this system increases. This system consists of four phases- database creation, face detection, face recognition, attendance updating. Database is created by the images of the students in class. Face detection and recognition is performed using Haar-Cascade classifier and Local Binary Pattern Histogram algorithm respectively. Faces are detected and recognized from live

streaming video of the classroom. Attendance will be mailed to the respective faculty at the end of the session.

Objectives

1. Able to show an indication to the user whether the face- recognition process is successful or not through the email.

2. To Allow new students to store their faces in the database by using system.

3. To let the whole system process to run in a fast and software base system

Methods

Methodology that will be use in developing this system is Rapid Application Development (RAD). Rapid Application Development (RAD) was first introduced by James Martin in 1991 in helping developers to deliver a good and high-quality system in short amount of time and low cost. In this project RAD approach is used as because of the timeframe of project is packed with different task without sufficient time. Thus, majority of planning had to be minimized to give sufficient time in building the system earlies as possible. RAD consist of 4 stages namely, requirements planning, user design, construction, and cutover.

Results

Based on the survey question that have been distribute to UCSI college lecturer which was close to me before I'm landing to the University of UCSI. With their survey results, I can conclude that most of the respondents are willing to use for my system as their attendance system. This project will bring a great help to the student as well as the lecturer to save their time during the class as we only have 1 and half hour per classes. Spending more than 15 minutes which will cause student unable to ask or fix their questions during the classes.

Conclusion

The face database was successfully constructed in this project. In addition, the face recognition system is operating effectively. A user-friendly, fully functional website has also been successfully created. Although the user cannot see the built-in database, they can still use for the system as their attendance system. In the end, the system not only fixes issues with the old model but also makes it easier for the user to access the data gathered, perfecting the use of technology to meet human needs

Develop a Health Medication Reminder Application

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Introduction

As time goes on, people today have a bad idea of time, and they often forget what they should do. Therefore, with the advancement of technology, a lot of application has been developed to facilitate users to control their own time. Especially in medical sector, medical adherence is very important nowadays, any failure in adhering to medical advice will result in poor clinical outcomes, unnecessary healthcare costs and increased morbidity and mortality. According to VNA, eight out of ten senior citizens use at least one drug, with many taking three or more each day. These drugs are used by seniors to maintain their health or treat a chronic disease. However, if people take these prescriptions incorrectly, the treatments' advantages may be lost, and they may even have serious side effects. When you are on several medications, staying on track might be difficult. In fact, research have showed that over 60% of seniors misuse their prescription drugs. Reminders for taking your medications are a great way to stay on schedule and follow a habit. You may prevent unnecessary risk and catastrophic illness by making sure you or a loved one is taking their medicines as directed.

Objectives

1. To target modify the lifestyle so that the percentage decrease for chronic disease
2. To develop a new medication reminder apps that allow seniors usage
3. To evaluate the Android-based health reminder medication application by giving

Methods

To get the information needed to collect data on the research issue, this study will employ a quantitative technique. A quantitative approach is a way to gather a lot of information from the questions posed and assess the data variables to get the outcomes. To ascertain user preferences and model requirements, this survey will be done at random to choose roughly 5 respondents from the UCSI University.

Results

Based on the fixed survey given by me, the design of the application is acceptable by the users. Other than that, the reminder function still not really functionable

from the comments of the respondents. Some of the respondents commented that the colour not colourful, not only just black and white.

Conclusion

The smartphone has advanced significantly since its inception in this period. Most of the human in this world have smartphone, but they don't really make use of the application in the smartphone, like most of the seniors, they would rather write the reminder stuff on a paper no set in the mobile phone, that's why I want to develop this application, which is easy to use and simple UI, which allow the seniors to use it easily.