

200





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## Contents

| Foreword by Director  | 4       |
|---|---------|
| <b>Developing A Web Based Shopping Management System</b><br>– <b>ZK Shopping Mall</b><br><i>Tee Zhi Kang, Abdul Samad Bin Shibghatullah, Shayla Islam</i> | 5 – 6   |
| A Development of Scheduling Course System – QC<br>register<br>Looi Kah Yen, Abdul Samad Bin Shibghatullah, Raenu<br>Kolaindasamy                          | 7 – 8   |
| A Development of A Dashboard System for ICSDI – UCSI<br>Space<br>Yvevinn Tan, Abdul Samad Shibghatullah, Chit Su Mon                                      | 9 – 10  |
| <b>Developing a Daily Expense Management System – DEMS</b><br>Tan Kerk Zheng, Thong Chee Ling, Javid Iqbal Thirupattur                                    | 11 – 13 |
| <b>Developing a Dashboard Management System for<br/>Research Centre at a University</b><br><i>Gnoh Hao Qian, Thong Chee Ling, Keoy Kay Hooi</i>           | 14 – 15 |
| <b>Developing an online ordering system – MY M<br/>BURGERS</b><br>Loh Zhi Yu, Thong Chee Ling, Kasthuri Subaramaniam                                      | 16 – 17 |
| <b>Food Ordering Using System Mobile Phone</b><br>Lee Pei Shuen, Kasthuri Subaramaniam, Abdul Samad<br>Shibghatullah                                      | 18 – 19 |
| <b>Developing an online food ordering mobile application</b><br><i>Tee Maan Him, Kasthuri Subaramaniam, Ghassan Saleh</i>                                 | 20 – 21 |
| <b>Developing a Pharmacy Management System</b><br>Chai Chee Kant, Kasthuri Subaramaniam, Shayla Islam   | 22 – 23 |
| <b>Developing an online multi donation system – Donate with</b><br><b>Me</b><br>Nur Dayana Batrisya, Mohd Fikree Hassan, Abdul Samad<br>Shibghatullah     | 24 – 25 |

| <b>Developing a prototype student management system [E-<br/>Ducation]</b><br><i>Chan Hua Jeen, Mohd Fikree Hassan, Chloe Thong Chee</i><br><i>Ling</i>                          | 26 – 27 |
|---|---------|
| <b>Developing a clinic management system – CMS</b><br>Lee Jun Xian, Chit Su Mon, Raenu Kolandaisamy   | 28 – 29 |
| <b>Fingerprint based ATM Security System</b><br>Jayveer Singh, Raenu Kolandaisamy, Kasthuri<br>Subaramaniam   | 30 - 31 |
| <b>Developing a prototype bus management system – Online<br/>reserving ticket</b><br>Muhammad Raseen Bin Mohamed Yaseen, Raenu<br>Kolandaisamy. Javid Iqbal Thirupattur         | 32 - 33 |
| <b>Developing a prototype accounting /Financial</b><br><b>Management system - Auto-count</b><br><i>Rishvan Ravi, Shayla Islam, Ghassan Saleh Hussein Al-</i><br><i>Dharhani</i> | 34 - 35 |
| A Development of a Language Translating Application -<br>Decipher<br>Mohamad Asiff Danial Bin Mohamad Alis, Javid Iqbal<br>Thirupattur, Kasthuri Subaramaniam                   | 36 - 37 |
| <b>Developing a prototype University news system –</b><br><b>UniPress Bulletin</b><br><i>Alan Ong Jin Shu, Shayla Islam, Kurunathan Ratnavelu</i>                               | 38 – 39 |
| <b>Development of E-Commerce Website - Travel Agency</b><br><b>Website</b><br>Saw Ju Guan, Javid Iqbal Thirupattur, Thong Chee Ling   | 40 – 41 |
| <b>MBTI Personality Test Website for Employee</b><br><b>Management</b><br>Lee Yee Fei, Raenu Kolandaisamy, Ghassan Saleh Hussein<br>Al-Dharhani                                 | 42 - 43 |

# 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 (2nd Edition) 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 Asst. Prof. Ts. S. Kasthuri, 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.

## Developing A Web Based Shopping Management System – ZK Shopping Mall

Tee Zhi Kang, Abdul Samad Bin Shibghatullah, Shayla Islam

## Introduction

In this day and age, the internet has become one of the basic needs of everyone. People can learn about the entire shopping mall through the Internet. Whether it is the shopping mall area, product types, specialty store types, and leisure and entertainment facilities, people can find information about the entire shopping center on the Internet on the shopping mall website. Therefore, the shopping mall website will become information for people to know about the shopping mall and can increase the popularity of the shopping mall.

## Objectives

- 1. To analyze the shopping mall website and collect requirements from customers
- 2. To design and develop an online shopping mall information with membership information.
- 3. To evaluate the proposed online shopping mall website.

## Methods

The methodology that will be chosen to develop the system is System Development Life Cycle (SDLC). It is most suitable with the plan and time for the project. System Development Life Cycle has the process consists of four phases and each phase consists of a series of steps. However, each phase will also be documented, so the plan and the time period that is perfect for the project.

#### Results

Based on survey questions distributed to random students at UCSI University. It can be concluded that the majority of respondents use the shopping mall website system. According to the responses, most of respondents visit shopping mall websites to learn about shopping malls. This project will be of great help as 60% of respondents are willing to use the shopping mall website system to understand the benefits of the entire shopping mall and the shopping mall.

## Conclusion

In conclusion, the shopping mall is a big highlight of a metropolis, one of the key criteria for a shopping mall is the website of the shopping mall, as it affects the overall shopping mall project. In this thesis, the shopping mall is characterized by a large area, a wide variety of products, a wide variety of specialty stores, and complete leisure and entertainment facilities. Therefore, the developed shopping mall website is for users through using the shopping mall website convenience for understanding the shopping mall. In general, a shopping mall website is one of the key criteria for a shopping mall, users may through the shopping mall website to know the shopping mall and get benefits.

## A Development of Scheduling Course System – QC register

Looi Kah Yen, Abdul Samad Bin Shibghatullah, Raenu Kolaindasamy

## Introduction

With the era of technology, most of the manual works have been replace by system to make our life more efficiency. Course Registration System is importance to all higher education institution because system replace conventional manual registration system. As conventional manual registration system required student to attend campus and filling out a paper form. Therefore, having this course registration system which is web-based program student can register their course every semester via online. Online registration systems bring convenience and make register course become more easier to students.

## Objectives

- 1. To ensure student satisfy with the schedule course registration system.
- 2. To avoid student waste their time to drop the wrong course and delay their first class.
- 3. To develop a schedule course registration system with accurate time for each course.

## Methods

There is total 54 students fill up the survey questionnaire form, the reason of why only student fills up the survey questionnaire form is because the course registration system is aim to solve all the problem occur regarding to student perspective and experience of existing system. Therefore, this survey questionnaire form can gather the student's feedback to identify what improvement should do in this system and to avoid the problem occur before will occur again. Pie chart and bar chart will be used to gather the quantitative data. This system will be fix if any issue occurs and enhance any time to have a better version for user.

#### Results

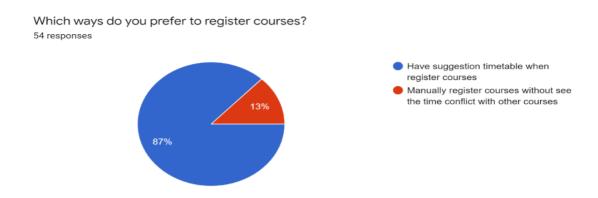


Figure 1.0 Respondents prefer to register course

As the result from the survey question, the majority of respondents would most likely to have suggestion timetable when register courses with the percentage of 87 which is 47 people. Beside provide suggestion timetables, the percentage of 13 which is 7 people like to manual register course without see the time conflict with other courses. This is just one question from the survey questionnaire form.

#### Conclusion

To conclude, all the objective has been fulfilled by gather feedback and perspective from students. This registration system able to let student to register course with suggestion timetable such as three period morning class, afternoon class and mix the class with morning and afternoon which provide the suggestion timetable to let student register the courses they wanted. Also, when student completed register their course, there will have timetable to let student view it. The timetable will show quickly on the timetable page. Also, there will have event show in the calendar which will show on home page's calendar. Student able to view the schedule such as the times of register course, exam date or any event need to participate. Besides, this registration system does not waste any time to register course probably just 5 minutes can complete the registration process. Also, this system reduces the work of getting approval from faculty. It provides simple interfaces to student and this system solve the requirements from students such as the time clash issue with others course.

## A Development of A Dashboard System for ICSDI - UCSI Space

Yvevinn Tan, Abdul Samad Shibghatullah, Chit Su Mon

## Introduction

Today, just rely on the original manual management and verbal information, people have been unable to effectively in the face of many demands of information to the people's daily life, and makes the corresponding judgement and processing, management decisions can only according to the report data, wasting a lot of manpower and unable to achieve effective monitoring, it is difficult to ensure the accuracy and timeliness of information. Moreover, effective information of students is difficult to be quickly transmitted to university staff. Therefore, the dashboard system has become a desirable target. UCSI Space has formed a standardized process in information collection and data processing, enabling the management to have relatively perfect experience in the application of information and materials, and significantly improve the utilization efficiency of information resources. As the dashboard system is a systematic project, its ability to collect and process information is fast and accurate, and the management team's ability to grasp the information of students and lecturers is enhanced. UCSI Space also prepares and delivers information in a unified format, simplifying various statistical and integration efforts.

## Objectives

- 1. To study the existing IIS system at UCSI University
- 2. To query students' information
- 3. To record lecturers' information

## Methods

Some article or journal have been read before starting the development. This may help developers have a better understanding about what are they going to do and how to do. Also, while I was doing this research, I launched a questionnaire to collect students' opinions. The survey consisted of four questions and 53 students were participated in it.

## Results

Through UCSI Space, the management can query students' information in a short time or compare their performance among many students. Lecturers' details will also be recorded in the system for management or students to view. Of course, students are not allowed to change their grades and attendance, only lecturers have the privilege to do so. This system is also for the development of the school, using the latest technology to store the data of lecturers and students, but also to ensure that the data will not be leaked. UCSI Space is mainly benefit on management, which has a need to query about student or staff information. The reason for choosing UCSI Space is because it provides a simple way to query information. What user need to do is just select the data they want to query, and the system will automatically filter and display it on screen. This action might save a lot of time and manpower for comparing the data one by one.

## Conclusion

Based on the results of this research, it can be concluded that UCSI Space is a system that give a convenience to user when query information. Especially for management, they can easily access to the system and query about student enrolment, attendance, results, tuition fees, and staff qualification, major and experienced year. The system had achieved the aim at the beginning which is design to save the time on querying. UCSI Space is also a user-friendly system. User can simply click on button or label, insert query condition in text box to get the results they want. System will automatically filter the data based on the condition provided by user. By the end of this research and development, we found that UCSI Space is guite useful for management to guery information. This system helps to save time and manpower for querying and filtering data. The system was tested by few users, they are satisfied in it since it is easy to access. They can simply get the result they wanted by clicking to the label or button and type some words as the query condition. Furthermore, they also suggest that UCSI Space can combine with IIS System, hence all the action can be done in one system.

## Developing a Daily Expense Management System – DEMS

Tan Kerk Zheng, Thong Chee Ling, Javid Iqbal Thirupattur

#### Introduction

Over the course of decades, technology has been advancing at a rapid rate. The things that we thought were not possible ended up appearing today and attracting billions of users. Along with the growth of technology, people's expenses are also increasing daily – the buying and selling of goods has become a staple in our daily lives. Most people have a fixed source of income that they receive at a particular time and will generally have a mindset on how to spend it. Normally, the budget will be allocated depending on the category of expense, namely food, transportation, entertainment, education, health and insurance, clothing, maintenance, loans and so on. Despite that, expense is restricted to the budget allocated. Hence, keeping a record of our expenses is mandatory so that people will not exceed their budget. Before there were spreadsheets and expense trackers, people used pen and paper to record their daily expenses. However, that proved to be associated with many disadvantages. Since then, developers have been finding a way to make expense recording an easier process, which gave the rise to expense tracking management systems and applications. An expense management system is a system that is designed to allow users to keep track of their daily expenses easily and efficiently. Desktop applications such as Microsoft Money, OuickBooks, and NerdWallet allow users to input their expenses by date, amount, and category. These applications also allow the users to view their expenses easily through the charts and graphs in the system.

#### Objectives

- 1. To study the existing expense tracking management systems and identify the strengths and weaknesses of current systems.
- 2. To design an expense tracking management system that is easy to understand and use.
- 3. To evaluate the final output of the user interface and the feasibility of the website

## Methods

To identify the relation of recording expenses to spending habits to determine the viability and feasibility of the production of the proposed system, the information will be acquired through giving out surveys to a certain amount of people and the information will be analysed. The survey will be posted online and accessible through a link for one week – which means that anyone interested can submit their opinions. At the end of the week, the final amount of people who have 19 submitted their survey will be analysed. The survey was designed with a total of 9 questions that will be enough to allow us to clearly establish and discuss the project topic and its objectives. It can also allow us to develop a clear vision on what sort of product is to be developed and the functions that it should include. To conduct the user evaluation process, the developer has decided to conduct it through a feedback survey. During the creation of the system, the developer has coded in a "Feedback" page for users to submit their feedbacks on the system. After the completion of the system, the developer has launched the system sent out the link of the system to 10 users to test out the system. At the end of their test, they were required to fill out the "System Usability Survey" at the "Feedback" page of the system.

## Results

From the record expense survey, it is concluded that there is a relation between expense recording and spending habits as the statistics indicate that individuals who do not spend unnecessarily has the habit of recording their expenses, while on the other hand, those who spend unnecessarily, do not record their expenses. Additionally, from the survey, it is also shown that most of the people who record their expenses were using applications such as Notes and Microsoft Excel. Moreover, more than 60% of the respondents have agreed to use an expense tracking system if there was a favourable one in place. From the results derived through the user evaluation survey, it is concluded that more than 50% of the test users have proven to like the design of the proposed system and find its functions easy to use and understand. Furthermore, the system also performed well on their end and the saving and retrieving of data worked perfectly. From the results, it is safe to determine that at least 50% of the test users would utilize this website, further proving the feasibility of the development of expense tracking management systems.

## Conclusion

The increase in expense recording systems since the year 2000 has contributed tremendously to the decrease of paper use as well as the increase in more relevant systems developments. Throughout the study, it is concluded that expense management systems are imperative to maintaining an expense recording habit and raise the awareness on the significance of expense recording to spending habits. By conducting research to identify the strength sand weaknesses of current systems and gathering information through survey from 50 individuals, the study has allowed the developer to achieve the aim of developing a daily expense management system that allow users to record and manage their expenses as well as view them with better insight. From the system such as the proposed system by the developer because of its simple design and features, and it being free to use

## **Developing a Dashboard Management System for Research Centre at a University**

Gnoh Hao Qian, Thong Chee Ling, Keoy Kay Hooi

## Introduction

Data is all around us, and it's transformed our lives in a variety of ways, including in the fast-paced corporate sector. Using the power of insight, digital data helps companies across industries to better their operations, projects, and innovations. However, with so many metrics, facts, and statistics available in today's hyperconnected world, deciding which data to use might seem like a nightmare. A dashboard is a centralised, interactive platform for monitoring, measuring, evaluating, and extracting valuable business insights from various datasets in critical areas while presenting data in an interactive, intuitive, and visual manner. There are also many sectors that uses dashboard as the medium to visualize and converse data such as healthcare, business, education, engineering etc. One of the many key features and elements in a dashboard are KPI (Key Performance Indicator), Charts, Filters and a Navigation Menu.

## Objectives

- 1. To analyse the strengths and limitations of existing dashboard management systems.
- 2. To investigate the difficulties faced by the research centre in a university on presenting data.
- 3. To design a dashboard management system for the research centre at a university.
- 4. To evaluate the usefulness of the dashboard management system by performing a evaluation test on the dashboard management system.

## Methods

The methodology will be used to develop the system is Rapid Application Development (RAD). In comparison to the classic waterfalls approach, this method was chosen due of its versatility. Because of the method's flexibility, speed, and responsiveness, it can assist in the rapid development of high-quality software. There is total 11 parts being asked to rate to random people and total 52 responses were achieved successfully.

## Results

Developing a dashboard management system for research centre at a university proves to be better and a more efficient way of presenting and visualizing data. The benefits of using a dashboard to present and visualize data can give a unified view of key data metrics, get real-time updates and to save time and effort. With that, creating a dashboard system to visualise data information may assist university leaders in monitoring the performance of all the institutes and faculties in the university and performing continuous measurements on the institution's performance and quality

## Conclusion

It concluded the objective stated has been fulfilled by analysing the strengths and limitations of existing dashboard management systems. The second objective is to investigate the difficulties faced by the research centre in a university on presenting data. The third objective is to design a dashboard management system for the research centre at a university. The fourth objective is tox evaluate the usefulness of the dashboard management system by performing a evaluation test on the dashboard management system. The main feature of the dashboard is to let users view the summary of publications and grants that has been added to the dashboard in one page. Other than that, users and add and edit the publications and grant in the system.

## Developing an online ordering system – MY M BURGERS

Loh Zhi Yu, Thong Chee Ling, Kasthuri Subaramaniam

#### Introduction

An online ordering system is system that allow mobile phone to access through the system. Customers can enter to the system by scanning QR code given by waiters. The online ordering system will provide simple and easy ways to place customers' orders. Customers can place their orders easily without waiting for waiters to take order. Various of functions are available to ensure that system customers receive efficient service. Also, customers can search and choose what food is available in the menu. Customers can choose their order option such as dine in or takeaway from the system. It will help waiters easily packing customers' food and do not mess up customers' order.

## Objectives

- 1. To stop using calculator for bill calculation.
- 2. To get a large number of orders at once.
- 3. To avoid food being served out of orders.
- 4. To increase boost profits.

## Methods

There are several research dimensions and methodologies for research methodology. The research techniques extend beyond that of research methods. When performing this study, the researchers mostly used this method. Methodology is a set of system processes, while it is the underlying concepts and regulations of the management system approach. The method of choosing the methodology is modified waterfall method. A modified waterfall method is also as a part of SDLC which is Software Development Life Cycle.

## Results

Users had collected the survey personal and system information for people who answer the survey form through Google form. Users get the survey results on how often people know online ordering system at restaurants. The most respondents are between age 19 to 23 years old. This age of people is studying or working, so that can easily to know the proper result for this kind of people. On this age basis, this also indicates that most people are teenagers and adults, and they are often online. It means that a lot of people can use their phones to access the online ordering system. Most people know what is online ordering system in the restaurant. Also, there are many people support QR code ordering when they want to order in restaurant. Most of the people prefer website and application to be an online ordering system. The most people think that using online ordering system will face some system errors.

## Conclusion

An online ordering system helps customers to place their orders easily without waiting for a waiter to collect customers' orders. Customers view the menu and choose for their meals from the online menu to order their food by using their devices which is mobile phone. The chef able to see the orders from customers. The chef does not miss out and mess up the orders from customers. In conclusion, this online ordering system might be scaled up in the future. It was created for restaurants to help them reduce their day-to-day administrative and operational tasks while also improving their customers' experiences of using online ordering system in the restaurant. The system also helps to collect and record the sales from customers' orders in database, waiters can make daily sales report easily and quickly.

## Food Ordering Using System Mobile Phone

Lee Pei Shuen, Kasthuri Subaramaniam, Abdul Samad Shibghstullah

## Introduction

In 2022, around 33.78 million people will dwell in Malaysia (O'Neill, 2022), and 6.56 million will dwell in Selangor (Hirschmann, 2021). With today's rising population, waiting seems to be part of our habits, and mobile phones have become a part of people's lives in this age of modern technology. Besides that, today's society is a digital, networked and informatized society. With the rapid development of the mobile phone, it has provided great convenience to all aspects of our lives. For the traditional food and beverage industry, the charm of the mobile phone is also subtly felt. However, how to use the mobile phone to better and more conveniently for the food and food and beverage industry is a question worth thinking about.

## Objectives

- 1. To design a food ordering system using mobile phone.
- 2. To identify the problem faced by user ordering food using mobile phone.
- 3. To analyse the similar existing system and identify their strengths and limitations.
- 4. To study how food ordering system using mobile phone convenience the users.

## Methods

The chosen methodology for this project is prototyping methodology. This is due to the fact that the bulk of the targeted users have no experience utilizing a computerized system in the meal ordering operation, having previously used a traditional ordering method. As a result, this technique enables developers to engage with target users through prototyping, which allows target users to examine, assess, visualize, and learn about the system prior to the final system's deployment.

## Results

The prototype food ordering system using mobile phone is examined and a few tests are run to ensure that it meets the user requirements. The project is deemed completed when it fulfils the user specifications. It should be noted that the application is being developed in compliance with the project scope. The system review also suggests that the software is well-liked by users.

## Conclusion

After a decade, technological growth and innovation have enabled individuals to handle their tasks more quickly and efficiently. Many other industries have long utilized management systems to help their businesses expand consequently, it is a trend that has caused the food and beverage industry to employ a management system for their firm. By the completion of this project, the system will be able to minimize and replace human labor tasks, reduce the time required for each transaction, and provide reports for future management purposes by fully leveraging the system.

## Developing an online food ordering mobile application

Tee Maan Him, Kasthuri Subaramaniam, Ghassan Saleh

#### Introduction

Nowadays Covid-19 has become one of the hottest topic. Because of this pandemic people are encourage to stay home, work from home and also study from home. Without a doubt, ordering food become a problem to people, so online food ordering become more and more popular as this could let people order their food without going to physical shop, wait in line and have contact with other peoples. Online food ordering is a system that have various shop around user and providing various type of food to let user choose. User will order the food then the food will be delivered by a driver and payment can be online payment or cash on delivery which can reduce contact with people meanwhile reduce the risk as well. Purpose of developing an online food ordering system on a mobile phone is because mobile phone is more convenience and portable so user could order their food anytime and anywhere without sitting right beside their laptop or desktop.

## Objectives

- 1. To design a mobile food ordering system.
- 2. To make food ordering a contactless action.
- 3. To study and improve the current system.
- 4. To investigate the weakness of current existing system in market.
- 5. To develop a food ordering and delivery system.

#### Methods

The main research method is by solving data that is collected from users. The question collected will be used to identify which features or function users will more likely to use and collecting problem user faced when using the existing system in the market. This is indeed important to collect Feedback and comment to know what to improve with the system. It allow faster collection of data and information gathering among all type of online food ordering user. This can also help to study the needs or requirement of the market hence improving the system and fulfill the market requirement. The survey will be sent to user with different

age and background in order to collect data from different user perspective. The result will be present in charts to assess quantitative data.

## Results

According to the survey question that have been sent to user with different age and background. It clearly shows that most of the respondents which are not willing to use online food ordering is because of delivery fees and they are more willing to use mobile application compare to laptop or desktop. As a result, this project will gather all requirement from user and put in the application to improve and promote online food ordering to break the Covid-19 chain.

## Conclusion

As a conclusion, it can be said that the system has fulfilled the question, requirement and problem faced by user when using online food ordering system. The main objective is to develop a mobile food ordering system. The second objective is to make food ordering a contactless activity. The third objective is to study and improve the current system. The fourth objective is to investigate the weakness of current existing system in market and the last objective is to To develop a food ordering and delivery system. The contribution of the mobile food ordering application which allow user to order food online thus they can perform food ordering even at home. So more and more people will reduce chance of going out for order which can also help with controlling Covid-19 cases nowadays.

## **Developing a Pharmacy Management System**

Chai Chee Kant, Kasthuri Subaramaniam, Shayla Islam

## Introduction

This project was concerned about developing and implementing a management system called Pharmacy Management System that will be used for pharmacy shops. A Pharmacy Management System is a management system that is designed to improve accuracy and to enhance safety and efficiency in pharmacy shops. It is a computer based system which helps pharmacists to improve inventory management, medical safety and etc. The purpose of this project is to manage all recorded data into a management system to maintain their business rather than recording data manually which increases the risk of data loss.

## Objectives

- 1. To investigate the feasibility of the system.
- 2. To ensure that the system is user friendly.
- 3. To provide easily accessibility of stock management.
- 4. To evaluate the effectiveness of the proposed system.

## Methods

The methods used to perform analysis about the current system includes questionnaires. It allows faster collection of data from larger data sets. The survey questionnaire will be sent to UCSI's Course Networking (CN) for UCSI students and outside of UCSI from different kinds of background in order to collect objective data for application development.

## Results

With the proposed system, the pharmacists will be able to record the medicine details into the management system instead of having to record the medicine details manually and store the documents in a filling cabinet. First of all, it requires hard work for pharmacists to record it manually. Second of all, storing documents in a filling cabinet requires a lot of storage. Therefore, storage will be filled out eventually, making it less or maybe no space to store additional

documents. As a result, the pharmacy management system will be implemented and pharmacists efficiency will be acquired.

## Conclusion

This proposed system's effective implementation will take care of the basic requirements of the pharmacy management system due to it's capability of storing necessary information and other functions. With these, the objectives of the system will be achieved. The time it takes for the research was very limited and it was not easy to come up with the system that has the current functions. Software used to build this proposed system like Microsoft Visual Studio 2019 and Microsoft Access were not easy to get and they also needed expertise to use. The greatest takeaway and lessons learned including detailed requirements analysis, great time management, and preparedness in terms of tools for development.

## **Developing an online multi donation system – Donate with Me**

Nur Dayana Batrisya, Mohd Fikree Hassan, Abdul Samad Shibghatullah

## Introduction

The COVID-19 pandemic is a global tragedy, and it has not even ended yet. Since then, society are forced to adapt to the new high-tech era whether they are ready or not. For the sustainability of donation campaigns, society are now encouraged to donate online. Since digital marketing is huge now, non-profit organizations are taking advantage of digital means to raise funds [1]. Online fundraising helps to increase visibility and awareness as most of the people now have access to the internet. Therefore, a multi donation web application would be very beneficial to Malaysians. There are very few of websites that allow donations to multiple nonprofit organizations on one website in Malaysia. Most of the donation websites can only specifically donate to their organization and this is very time consuming when funders want to donate to multiple organizations.

## Objectives

- 1. To design a web application for Malaysians to donate easier
- 2. To develop a multi donation web application
- 3. To test the functionality of the multi donation web application

## Method

To gather information needed for the key features of the system, literature reviews have been reviewed and studied. Literature reviews on online donation system identify gaps in present knowledge, demonstrating the limitations of ideas and points of view, and outlining opportunities for additional study. Therefore, studies on literature review had been made to know the user needs and wants.

## Results

Raising funds online has been popular as we are now entering a more advanced technology era. According to the literature reviews that have been studied, the behavior of donors had shown that online donors are more likely to fund than

offline donors. Online donors found it very convenient and time saving to donate online rather than offline. Besides that, COVID-19 pandemic caused uneasiness in people for physical social interactions. Therefore, an online donation system will help those who are still wary of COVID-19 can still be donors through an online donation platform.

## Conclusion

Finally, the system was carried out throughout the project's numerous phases of development and had proved to reach the main objectives of the project. The main objective was to study the current online donation platforms in Malaysia and to develop a better system by adding another key feature that allows donors to select products that they want to send to the NGOs on the same platform. This online donation system uses bank transfer as a payment method, and it runs perfectly on mobile devices.

## Developing a prototype student management system [E-Ducation]

Chan Hua Jeen, Mohd Fikree Hassan, Chloe Thong Chee Ling

## Introduction

With the constant development and modernization of technology, society tend to rely heavily on technology in most aspects of life. Technology plays an essential role in all fields from healthcare to education. The recent ongoing COVID-19 pandemic has presented all parties in the educational field to benefit from the advancement of technology and Internet by carrying out classes through online learning. Therefore, schools should also take this opportunity to digitalize the student management process. Taking this approach does not only benefit all stakeholders of the school but will also benefit the environment. The traditional approach on storing students' information is by storing it on paper and keeping it in cupboards or drawers. This requires a high amount of paper to be used which will potentially lead to wastage and causes an increase in deforestation activities. The traditional approach would also require teachers and admins to take more time off their busy schedules to search or organize students' information. Hence, introducing a digitalized student management system benefits all parties involved and should be a priority for all schools.

#### Objectives

- 1. To study existing student management systems
- 2. To design a desktop-based student management system for preschool
- 3. To develop a desktop-based student management system for preschool
- 4. To test the prototype and identify limitations of the prototype

## Methods

This project will be developed based on the system development methodology that is Modified Waterfall Model. Modified Waterfall Model is one of the SDLC methodology. In the Modified Waterfall Model, there are six development phases which are essential in the development of this project. The first stage of the cycle is requirement analysis phase where software requirements are gathered. The next stage is system design where system design is carried out. System design is a process of illustrating the architecture of the system, interface, system functionalities and data of the system. After system design, implementation cycle takes place. In this phase, the coding of the system will be done. Once implementation is completed, integration and testing will be done to ensure that the system is able to run without any error and all the functionalities are working. If the system is tested multiple times and is error-free, deployment of the system will be done. The last stage of this methodology is maintenance, in which software changes will be done from time to time ensuring the system is kept up to date with the environment. Modified Waterfall Model is the most suitable methodology used for this project because it is very flexible, in which phases are able to overlap one another, and tasks can function simultaneously, which saves a lot of time and is suitable for the project to be done in this short period of 14 weeks.

## Results

A large majority of respondents, when given a questionnaire regarding existing student management system, thinks that adding, deleting, and editing student information is required whereas a number of respondents do not think that displaying the student's image is required. Features such as calculating fees and displaying the average score of a student received both positive and negative response from the respondents, but majority of respondents thinks that both these features are required in a Student Management System.

#### Conclusion

The development of a student management system would not only benefit humans in terms of convenience and finance, but it would also assist in the wastage of resources, primarily paper. The environment can be preserved for future generations while reducing the possibility of the occurrence of natural disasters caused by human activities such as landslide and flash floods. A student management system will be able to eliminate numerous issues faced by teachers, parents, and students of all ages, especially students that are in preschool.

## **Developing a clinic management system – CMS**

Lee Jun Xian, Chit Su Mon, Raenu A/L Kolandaisamy

## Introduction

Nowadays, information technology has been used or involved in different sectors, which include government, business, as well as healthcare. The applications of information technology in these areas will result in various benefits, which include reduce in the chances of human errors happen and improve in service quality. Clinic management system, a computer-based system that can computerized some or most of the clinic's daily operation process, also can be considered as an applications of information technology in healthcare sector. Clinic management system can reduce the costs and save time by reducing paperwork that requires extra spaces to store and extra time to retrieve when the number of records is large. There are some researches have studied about this topic, and there are also have many existing systems, but still have some gaps have not been fulfilled. This project will study about the system and develop a prototype of it that can fulfill the gaps that found.

## Objectives

- 1. To study the existing clinic management systems.
- 2. To study the strengths and weaknesses of current systems.
- 3. To design a prototype of clinic management system.
- 4. To develop a prototype of clinic management system.
- 5. To evaluate the prototype of clinic management system.

## Methods

The method that will be used to gathering information and requirements will be literature review. By reviewing different literatures, the common features that most of the similar systems have provided to users. Next, the methodology that will be used to develop the system is system development life cycle, and more specifically is modified waterfall model. The reasons of choosing this methodology are it is a simple methodology that covers most of the processes that this project will go through, and it is straight forward. The modified waterfall model is the modified version of traditional waterfall model that go through the processes one by one, but the modified version will allow developers to go back the previous stage if needs.

## Results

There are different common features that most of the similar systems have provided to the users. These included, patient management that allows users to register patients and manage patients' information, appointment management that allows users to add appointments and que, electronic medical record that allows doctors to make the medical records by using computers or other devices, medicine management that allows users to manage the medicine information, billing and payment that will automatically generate a bill or receipt after the patients have paid, as well as other features that manage clinic's information, staff's information, and login feature. Furthermore, the gaps like lack of record printing also been find during the literature review.

## Conclusion

Finally, this project has fulfilled all the objectives that have been stated at first of this project. The first objective has been achieved by reviewing the similar studies and the existing similar systems. Therefore, the second objective also has been achieved since the strengths and weaknesses of the existing systems have been found during the reviewing process. The third objective is designing a prototype of the system has been fulfilled by drawing different diagrams as well as the designing the interface of the system. The fourth objective, which is develop a prototype if the system is achieved by coming out the actual codes for the system that can run successfully run. The last objective is to evaluate the prototype, it has been achieved by carrying the testing, and the results of the testing are satisfied, and any bugs have been found during the testing have been solved.

## Fingerprint based ATM Security System

Jayveer Singh, Raenu Kolandaisamy, Kasthuri Subaramaniam

## Introduction

In the recent years, an automatic teller machine or ATM allows a bank customer to manage their banking or withdrawal transaction from any other ATM machine located in mostly every corner of the world. ATM machines tend to be timeconsuming and allows customers to access their bank accounts as well as financial transactions in minutes, also reduces the long queue at the local banks to manage the same transactions. To gain access to an ATM machine, a Personal Identification Number (PIN) is acquired and is given by the authorized bank institution. PINs are very private as the customers are allowed to customize their PIN according to their preference. Without it, customers are not allowed to gain access to their transactions. We can say that PIN is one of the most important aspects in ATM security system. The question arises whether is PIN system reliable in the recent years?

Biometric security system in the banking industry is still in its early phase, but it may become one of a reliable alternative to PIN system. A biometric security system translates into efficiency and greater security due to its unique fingerprints of customers. This would also minimize the fraud and violence in ATM transactions. The importance of this security is to serve a good tool to security measures towards one's privacy.

## Objectives

- 1. To do research on the latest method of identification system (Fingerprint technology)
- 2. To come out with a design of the system
- 3. To design the interface for the machine upfront and screen layout

## Methods

The main research challenge that developers hope to tackle by gathering data from users is to identify potential users who are more likely to utilize which ATM system do they prefer, as well as to solicit feedback and ideas, which can be critical to the system's success. It enables for speed data gathering from larger data sets, the questionnaire was chosen. As a result, in order to acquire objective data for application development, the survey questionnaire form will be issued to UCSI students as well as other ATM users around the area. Quantitative data will be evaluated using graphs.

## Results

Due to its convenience, biometrics are becoming increasingly popular among the recent years. According to this poll, the clear majority of participants considered fast transfers and high security with the features of fingerprint system. According to majority of participants, fingerprint makes it easier to allow transactions to occur. As a results, transferring money using fingerprint takes less time than with PIN number, as well as when it comes to the security measures, fingerprint tend to be more securing compared to the regular PIN number.

## Conclusion

Finally, the system has been carried throughout the projects numerous stages of development, resulting in the project's effectiveness of its key objectives. The major goal was to research existing PIN number system and then giving out the idea of Fingerprint system for ATM users to realize that with the use of biometrics when it comes to ATM system, it ensures fast transactions and also high security.

## Developing a prototype bus management system – Online reserving ticket

Muhammad Raseen Bin Mohamed Yaseen, Raenu Kolandaisamy. Javid Iqbal Thirupattur

#### Introduction

The Bus Ticketing System is a web-based application that allows to check bus ticket availability, buy bus ticket and pay the bus ticket online. This system qates for all the home office users and can be accessed anywhere whether inside or outside. Electronic tickets, or e-tickets, give evidence that their holders have permission to enter a place of entertainment, use a means of transportation, or have access to some Internet services. Bus Management System enables the bus company's customer to buy bus ticket online. E-ticket is the easier and quickest way to take bus. The online system is a new system because it still not is used fully by other bus company such as Transnasional and Mutiara.

This project is to computerize traveling company to manage data, that all the transactions become fast and there should not be any error in transaction like calculation mistake, bill generation and other things.

## Objectives

- 1. To provide anytime anyplace service for the customer
- 2. To enable customer to check the availability of the bus ticket online
- 3. To provide a web based buying bus ticket functions
- 4. To ease the bus ticket payment by online

## Methods

This project is about bus scheduling software that was developed to manage the scheduling of buses in all bus terminals of a transport company. With the software, a dispatcher can manage bus stations/terminals, departure time, route, vehicle type, and driver for all terminals

The major research problem that developers the fundamental aim to carry out this project is to create and design an application of online Bus Scheduling System, in order to transfer all their routine operations into an Application, which will allow serving customers up to their optimum satisfaction.

## Results

Bus Reservation System deals with maintenance of records details of each passenger. It also includes maintenance of information such as timetable and details in each bus. Tourism is a big growth business in all countries. Bus Reservation System deals with maintenance of records details of each passenger. The staff will access the system by logging in via the staff portal where they can compare bus performance and monitor other related business performance issues.

## Conclusion

While waiting for a bus, people may felt impatient and anxious if he or she does not know when the bus will arrive. For the bus management side, it is very difficult to provide an accurate schedule for bus user due to some uncertainties may happen on the road such as traffic jam or bus break down. When a bus is delayed, bus management side should inform bus user immediately.

However, they do not have a platform to inform bus user in real time about the latest bus traffic status. In order to enhance bus system and increase the performance of bus service provider, the bus tracking system is needed. Bus tracking system provided a real time platform for bus user to check on bus traffic status in anytime and anywhere. It also provided a platform for bus service provider to monitor bus status and update latest information to user.

Online ticket booking system is very big to maintain but it always provides excellent facilities to accomplish the goal and help to reduce a complex paperwork process through a online system. This can be a benefit using online ticket booking system application rather searching on several websites. With the help of online ticket booking system records are maintained and the database is updated with time to time. Through Online ticket booking system,technologies and features have been introduced.

## Developing a prototype accounting /Financial Management system - Auto-count

Rishvan Ravi, Shayla Islam, Ghassan Saleh Hussein Al-Dharhani

## Introduction

The worldwide information wave created by current information technology has an impact on traditional social life in every corner of the world, and it has become the main issue of the twenty-first century. The global economy's information system has had a significant impact on traditional business management and accounting systems, prompting the financial calculation system to undergo fast transformation. Analysis demonstrates how to integrate financial and information technology, as well as how to manage information resources through the comprehensive use of computers, networks, and communications information technology and security, and how to acquire, process, transmit, store, and process other data.

The goal of this study is to look into various accounting software programmes, their functions, and specific characteristics in order to create a software that is cheaper and easier to use for new and small businesses. Accounting software was categorized by the authors based on its ability to suit various functions.

## Objectives

- 1. To study the existing accounting software.
- 2. To design the chosen accounting software.
- 3. To develop a prototype accounting software.

## Methods

The main research challenge that developers hope to tackle by gathering data from archival sites identify and analyze potential users who are more likely to utilize which features in the system to switch on, as well as to solicit ideas, which can be critical to the system's success. Because it enables for speedier data gathering from larger data sets, the archival study was chosen. As a result, this can be used to assist developers in researching user needs and desires. In order to acquire objective data for the system archives related to the project was selected and studied upon.

## Results

The need for financial management software continues to grow at a rapid pace. Corporate globalization, mergers and acquisitions, and business diversification are on the rise. As a result, accounting and finance processes are becoming increasingly complex, making them harder to coordinate, execute, and track. At the same time, the laws and guidelines that govern those procedures, as well as the data they generate, are becoming more rigid and more intricate, posing the risk for stiffer fines and penalties for non-compliant companies. This requirements also apply to small and startup businesses.

Many organizations are turning to financial management software solutions to help meet the challenges associated with consolidating, streamlining, and automating their most mission-critical tasks and activities and guaranteeing compliance with existing, changing, and emerging regulations. Some of the primary advantages that can be achieved include: Streamlined Accounting and Finance Process, More Accurate and Accessible Financial Information, Facilitate Regulatory Compliance and Better Strategic Planning and Analysis.

## Conclusion

The nature of business has changed as a result of technological advancements. Accounting software is meant to help firms manage their accounts and streamline their financial processes. Accounting software helps business owners manage financial procedures, complete financial activities correctly and rapidly, and improve corporate reporting in a computerized setting. The study concluded that accounting software is effective in gathering and processing data and information. Furthermore, the data revealed that accounting software has a favourable and considerable impact on the accuracy and dependability of corporate reporting in a computerized business environment like that of Malaysia.

In any business context, precise and dependable data is critical for corporate reporting. As a result, to increase accounting software adoption, particularly among Malaysian enterprises, the software should be more user-friendly, as it makes it easier for business owners to handle financial procedures and complete financial chores correctly and promptly.

## A Development of a Language Translating Application - Decipher

Mohamad Asiff Danial Bin Mohamad Alis, Javid Iqbal Thirupattur, Kasthuri Subaramaniam

## Introduction

In this 21st century of modern age civilization and society, the internet has become the core of socialization where people can become friends, or even have a relationship with someone far away from another country. But the most crucial thing about socializing is communication. Without communication, how are we going to interact with each other? The main problem about having a relationship or a friend from another country is language barriers. Due to the language being different, there is no possible way of understanding it unless we are using a translating system. Before the 21st century, mankind used a dictionary or a translation book to communicate with people from another country to establish a business partnership or to strengthen the bonds of mankind. It has always been a hassle to translate word by word, letter by letter using a book, that is why in this era, mankind created a translation app which will make communication more easier and convenient. Translation app is the most important app we have to keep because it can come in handy if we ever go to other countries where our language is now known to them. The Translation can be done by typing or using a microphone to talk and have a conversation.

## Objective

- 1. To study the existing translation application and to find out what the existing system lacks.
- 2. To develop a better system using a modern day coding language.
- 3. To refine thematic and cultural knowledge
- 4. To translate a language we don't speak.

## Method

The biggest problem we have to face in making this system is to find out which user would be more likely to use the app and to make the app as perfect as it is to use for the long term. The questionnaire was chosen because it allows us to identify what needs to be done with the interface and how people can use it easily. The survey will be sent to students and everyone we can grab on. A pie chart will be used to assess quantitative data.

## Result

Translation apps are becoming a necessity for everyone around the world to have, especially those who want to conduct business in another country. Time saving is the main advantage that the translation app has. It also has a wide variety of languages to choose from and according to what the survey says, most people would choose Mandarin and Bahasa Malaysia to translate. This is because the survey has most answers coming from Malaysian citizens. Other than that, the survey shows good feedback from the participants and they are satisfied with the interface, design and color scheme.

## Conclusion

At last, The system was carried through the project's countless stages of development, concluding in its effective establishment and accomplishment of the project's primary objectives. The main purpose of this study was to study the current system of translation in Malaysia and develop an application free for all users to use for better communication and understanding in other languages. It is a tool to abolish language barriers. This study also shows that not a lot of people can speak more than 3 or 2 languages. The languages that are available on the app have more than 40 different languages including German, Russian and Indonesian. The first until third objective is to study, investigate and plan for the app to run. Fourth objective is the hardest as the codes for translation are hard to develop but it was done eventually. Fifth objective is to sort out letters and shapes of different languages. Sixth objective is where our objective mainly focuses on a translation of a language that we are not familiar with. The seventh objective is what we called the butterfly effect after all the objective has been completed. This system will contribute a lot in societies because it helps us to understand mankind more and to abolish language barriers so mankind can become one.

## Developing a prototype University news system – UniPress Bulletin

Alan Ong Jin Shu, Shayla Islam, Kurunathan Ratnavelu

## Introduction

In this modern era, the 2022 where technologies have improved dramatically and it will never stop to be better, as often we can see that the younger generations are moving towards a better careers perspective where the young generations keep on improving themself and leaving behind the older generation. With this proposed University Online News/blog website, the end user would be able to get the ongoing news around the University campus without having any trouble. We'll let us talk about the evolution of Online newspaper which is also known as e-newspaper for some. From research done it is said that as the news had become easily and openly available, online landscape had changed significantly, thus, it helps the readers to read the news for free and have unrestricted access to it.

## Objective

- 1. To investigate and conduct a preliminary study on the requirement of the news website that provide news to the students.
- 2. To design and develop a prototype news website for the Universities to provide daily news to students.
- 3. To evaluate the prototype using usability testing.

## Methods

The main research challenge that developers hope to tackle by gathering data from users is to identify potential users who are more likely to utilise which features in the system to switch on, as well as to solicit feedback and ideas, which can be critical to the system's success. Because it enables for speedier data gathering from larger data sets, the questionnaire was chosen. As a result, this can be used to assist developers in researching user needs and desires. In order to collect objective data for application development, the survey questionnaire form will be issued to UCSI students at random from varied backgrounds. Quantitative data will be evaluated using graphs.

## Results

Based on a survey question that was distributed to a random UCSI University student. The majority of respondents are willing to use the university news system, according to the results. According to the comments, the majority of respondents have had concerns with a lack of information, and notifications are usually provided late, leaving pupils to be uncertain and frightened. For example, the institution may send students an email claiming that add and drop would begin next week, but without specifying the date or time, causing students to be confused. A post-evaluation is also conducted to ensure that students are satisfied with the development's conclusion, with the University online news website being accepted as a consequence of the post-evaluation.

## Conclusion

Finally, the system has been carried throughout the project's numerous stages of development, resulting in the project's effective establishment and attainment of its key objectives. The major goal was to research existing university news systems in Malaysia and then create a university news website system for UCSI University students to use. The system was created after a survey questionnaire was used to learn about the needs of pupils. Examining current systems and literatures is a first step in filling a need that has been identified in the development of a university news system for university students. The prototype University news system was constructed successfully and functions flawlessly on the website. As a result, a more comprehensive literature review would better reflect the current state of affairs on social media platforms when it comes to university news distribution systems, as well as provide a better understanding of what is needed and what areas require further research. Furthermore, a more thorough examination of the criteria would result in a superior final product. Knowing the requirements of users of the University news system could be beneficial.

## **Development of E-Commerce Website - Travel Agency** Website

Saw Ju Guan, Javid Iqbal Thirupattur, Thong Chee Ling

#### Introduction

During this day, internet has become a fundamental need for everyone. It has transforming people's life in a positive way in the way of entertaining, business and communication. As the extension of the internet in field such as business, the online business has become a new trend for nowadays. Over the year especially when the pandemics, all the physical store are closed and everybody would encouraged to stay at home. Since that, the number of physical customers will be restricted and most of customer will prefer for online shopping. The travel agent will be more reliable on internet as a channel to establish a relationship between the customer. Hence, the development of e-commerce travel agency website are crucial in conducting a business via online.

## Objectives

- 1. To study the existing e-commerce website and travel agent company to gather requirements and suggestions from users.
- 2. To identify the strengths and weakness of the current methods.
- 3. To design an e-commerce website for travel agent
- 4. To develop an e-commerce website for travel agent

## Methods

The major research problem that developers aim to solve by collecting data from users is to identify potential users who are more likely to use which features in the system to turn on, and to seek comments and suggestions, which can be crucial for the system. The questionnaire was chosen because it allows faster collection of data from larger data sets. Hence, this can be used to help developers study user needs and wants. The survey questionnaire form will be sent to public randomly from various background in order to collect objective data for application development and total 30 responses were achieved successfully. Charts will be used to assess quantitative data.

## Result

Based on the result, nearly all of the respondents are preferring to travel, which provide a high feasible for the development and use of the e-commerce travel agent website. However, throughout the next few statistics shows that there will be some challenge for the e-commerce travel agent website since most of the respondents are preferring to have self-planning and conventional ways for their travel and only a portion of respondents are likely to purchase travel package. Although they though that the e-commerce travel agent website is crucial, they might not intend to use it due to some problems concerning about the website such as security, user interface and user experience, credibility, and other factors. Majority of the respondents will use the e-commerce travel agent website for their travel only if their main concerning problems are being solved.

## Conclusion

With the progressing well of the project, the e-commerce website has finally been carry out, also resulting in the achievement of the project's objectives. The study has been made for the existing e-commerce website and travel agent company through the online and physical resources. The website was also developed after getting know the requirements and needs from public through survey questionnaire. The strengths and weakness of the current methods has also been identified by the comparison and based on the info given. Before the implementation of the website, a design of the website are being create as the references. With the well preparations, the e-commerce website are being develop. The contribution of the website allow user to access, view and purchase the product/service propose by the travel agent company. Thus, the business could be done via online without limitation of places and time. From that, both company and users could benefits more rather than conventional ways from the perspective of time, places, and cost.

## MBTI Personality Test Website for Employee Management

Lee Yee Fei, Raenu Kolandaisamy, Ghassan Saleh Hussein Al-Dharhani

## Introduction

Usage of personality test has seen a tremendous growth in workplace environment in recent years. Nowadays, MBTI personality test has accumulated the estimated amount of 3.5 million yearly assessments, and it is implemented by most of the Fortune 100 companies during daily operation of their organization such as hiring and team building. According to statistics, workplace personality assessment has nurtured into a business worth 500 million yearly and it is approximated to grow 10% to 15% per year. Organizations have utilized this tool to learn the behaviors and interests of their employees. They have made good use of this instrument to evaluate employees and improve relationship between the members and also upper management. Therefore, the implementation of personality assessment in workplace has become a method to facilitate management and performance of an organization.

## Objectives

- 1. To study and compare existing MBTI personality test websites
- 2. To design a MBTI personality test website targeting work related operation which is employee management.
- 3. To develop a prototype of MBTI personality test website for employee management
- 4. To test the prototype of MBTI personality test website for employee management

## Methods

System requirements are gathered by questionnaire in order to obtain a wider reach. The research and development approach chosen is the modified waterfall model from System Development Life Cycle (SDLC) in which it allows the return to previous phases to make adjustments. There are 4 phases in the SDLC which are planning, analysis, design, and implementation. The first planning stage consist of assessing the demand of the proposed project and analyzing the value that could be provided by the website. The analysis phase consists of determining the target consumer and the convenience the website brings. Design stage involves the plotting of website layout and features. Implementation includes the formation and test run of the website. The modified waterfall model is suitable for this project as it is rather small and straightforward. Thus, the modified waterfall model is sufficient for task allocation and documentation in this project.

## Results

According to the questionnaire for end-user testing that is distributed, the responses has shown that users are satisfied with the proposed website. The implementation of MBTI personality test in workplace is generally accepted by the users as they are willing to perform the personality test during the process of employment and team building. They mostly agree that the usage of the MBTI personality test will assist in improving workplace environment as well as getting to know themselves better.

## Conclusion

Following the detailed proposal and close execution according to the aim of the plan, the objectives that are stated earlier which mainly consist of studying existing MBTI websites and creating a MBTI personality test website targeting work related operation which is employee management are successfully met. Besides, the objective to conduct end-user tests are also made possible by publishing the prototype of the website to the public. The proposed system that focuses on personality assessment will be able to contribute to the workplace environment by enhancing employee management. Thus, employee welfare will be boosted substantially and ultimately allows organizations to be a step ahead of others in terms of productivity and innovation. The proposed system could further be developed by conducting extensive research on the topics of psychology and user interface development. This could result in a more user-oriented and more informative system.



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