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The Development of BridalGo: An Online Platform for Wedding Couples Using Structured Approach

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Abstract: BridalGo is an online platform for brides and grooms to choose the needs for the wedding they want. The system will serve as a bridal search website, where website visitors can compare bridal price offers and find the best prices quickly and easily. The purpose of developing this system is to solve the problem of the bride in finding the needs for the wedding ceremony such as the throne, dress, make-u and feast suitable for their wedding. Through this system, the bride and groom can make reservations on specific brides. It can simplify the process of recording and storing payment data so that it is easier to know the payment time information and the rest which can facilitate the cancellation process so that customers can know the status of the order. The programming language that will be used to develop this system are hypertext preprocessor which is PHP language, hypertext markup language (HTML) and Cascading Style Sheets (CSS) for user interface design. PhpMyAdmin will be used as database storage and. The system was developed using the iterative model and based on structured approach. Brides can also see their booking activities in the management interface. Users can use the website easily and can do it anywhere and anytime. The development of this system will help brides to make wise decisions about their wedding and bridal shops can have a high chance of improving their marketing.

Keywords: Web based system, Booking system, Online platform, Wedding, Structured approach

1. Introduction

In the coming age of the twenty-first century, the bridal products and services industry has a very high chance of turning into one of the generating service industries in Malaysia. With the exquisite sceneries in the country, such as the wonderful beaches, Malaysia can be promoted to be one of the major wedding destinations. However, before the country is able to reach that status, it is crucial to gather all the information in an easy to find one-stop center. Trivago as an example. Trivago is a global hotel search website, where site visitors can compare hotel prices for 1.3 million hotels across 190 countries. It allows users to compare hotel deals and find the best prices quickly and easily.This kind

of characterization and prediction is a significant input for vendors on making decisions on pricing of products, launching of new products, giving special deals, customization of the search results etc. [1].

While in bridal industry, there is no system that compare all the bridal's store in one platform like Trivago. In reality, most of the bridal do not promote products and services that can be obtained in the country. Usually, potential customers have to price hunt from one bridal provider to another. Consumers need help to compare the offers on the market [2]. A better way for these potential customers is to wait until the next bridal expo to search for the most suitable products and services. As such, the providers are losing out potential clients in the long run.

The Internet plays an important role in this service industry. The Internet continues to grow and evolve as a vital resource with which companies can upgrade their capabilities and grow their businesses [3]. The bridal can easily retrieve the information from the data that customers provide and use it to keep improve their services. As Internet becomes ubiquitous, it has been widely noted that technological innovations such as the Internet are a primary driver of industrial productivity [4]. Unfortunately, these online platform for wedding couples are definitely not familiar to the Malaysian cultures and this system requires deeper enlightenment so that it can be used more easily.

Hence, the work on developing a Malaysian online marketplace for wedding couples that will assist them in making decisions for their wedding preparations and recommending services based on their preferences and budget. For buyers, they offer the ability to compare their purchase alternatives based on price, product features, and merchant reputation factors [5]. For sellers, they provide a useful and more accurate information about potential customers and theirs needs which can directly affect sales [5]. Besides, the web-based wedding planner will also be an electronic commerce portal for providers and vendors to advertise their products and services to potential customers. The case study for this project is a wedding boutique. For this project, the target user is customer that will make choice for their option, bridal's owner that will keep update their packages and administrator which is one of the bridal shops located in Johor Bahru to keep the system work with ease. Modules in this system including Registration and login, customer profile management, budget, rating and review, booking and payment, and administrative modules.

This chapter consist of four main sections. Chapter 1 explained about background of the project while chapter 2 explained about a result from the literature review. In chapter 3 explained about methodology and chapter 4 explained about analysis and design.

2. Literature Review

Wedding consulting boutiques is a service that assists the bride and groom individually in organizing and monitoring the execution of a series of wedding activities in compliance with the schedule and budget set out. The wedding consultant has started to shift from the manual process to the online process with the advancement of technology today. The system design of the wedding online platform aims to extend the promotion area, sell wedding package sales and simplify the ordering process [6]. For people who do not want to mess with their wedding planning problems, this system would be really useful. The bride does not need to go to the wedding consultant and just using website to solve the problem.

In this study, the process to consult about the wedding, the bride and groom have to go to the wedding boutique and have discussion face to face with the person in charge. A wedding consultant assists the bride and groom with everything from a timeline and budget [7]. After that, the consultant will give many suggestions about the theme of the wedding which will make the bride and groom do not know what to choose. The consultant will certainly provide expensive package so that they can increase their sales during the month. The bride is usually the one who will choose that package because they want their wedding to be the best wedding ever and make their budget become over used. This problem can be avoid using online platform where the bride and groom can easily save their

budget.Online price comparison is increasingly becoming popular among a large cross-section of the set of all internet users with the top websites reporting as many as 15 million unique visitors every month [1].

2.1 Decision Support System

A decision support system (DSS) is a computer-based application that collects, organize and analyze business data for management, operations and planning to promote quality business decision-making [8].Due to the increasing speed and the complexity of business environment, Decision Support System (DSS) - a well-known Management Support System (MSS) is one of the driving factors in achieving complex business operations and making decision during that processes [9]. A well-designed DSS help decision-makers gather a range of knowledge from multiple sources. It is the characteristics of the Decision Support System (DSS) that helps the individual by offering numerous alternatives when making decisions. DSS can develop alternatives for semi-structured and unstructured types of problems by combining data, sophisticated analytical models and user-friendly software [10].

The advantage using DSS as technique in this system is to simplify the presentations of the products as simple as possible.With the development of wireless communication and popularity of mobile devices, it's convenient for people to search things almost anywhere at any time in any activity [11]. This will make the user feel easier to use the website because the user interface does not look too complicated. While showing the customers the several first option, it means that the options is the best product. This method will continue until the end of the process. This model works more effectively when more specifications about the product they want are provided by online customers surfing the website. Thus, this technique is suitable for this proposed project.

2.2 Comparison of the Existing System

Three existing systems are investigated and Table 1 shows the summary.

Table 1: Comparison of Three Existing System and Proposed System

| Features/System	Plan Your Wedding	WedResearch	Facebook Marketplace	BridalGo
Registration	√	√	√	√
Manage Profile	√	X	√	√
Budget Range	X	X	X	√
Booking	√	X	X	√
Payment	√	X	X	√
Accept and Reject	X	X	X	√

3. Methodology

Iterative model has been selected as process model to show the steps to ensure success in the process of software development. This model was chosen because the iterative process begins with a basic implementation of a small set of programme specifications that iteratively strengthens the developing versions before the entire solution is integrated and ready for deployment. The phases include in this model are planning phase, analysis and design phase, implementation phase, testing phase and deployment phase. Table 2 shows software development activities.

Table 2: Software development activities and their task

| Phase	Task	Output
Planning	• Proposed the project • Determine the project schedule, activities and output	• Project proposal • Gantt chart
Analysis	• Identify the corresponding system process model • Project research • Design context diagram • Design data flow • Design entity relationship diagram	• System Requirement Analysis (functional requirement, non-functional requirement, software and hardware requirement, user requirement) • System Analysis (DFD and ERD)
Design	• Design flow chart • Design relationship scheme and data dictionary • Design user interface	• Flowchart • Relationship Scheme and data dictionary • User interface
Implementation	• Build the project prototype using PHP code • Document the project	• Project prototype • Final report
Testing	• Test the project • Evaluate the project • Prepare for presentation	• Project evaluation form • Poster
Deployment	• The product release in the customer environment	• Complete system

3.2   Context Diagram, Data Flow Diagram and Entity Relationship Diagram

System requirements analysis is a task performed to assist the user needs of a system before the system is developed. Throughout the analysis phase, project requirement refers to the user perspective. The process involved are Data Flow Diagram (DFD) and Entity Relationship Diagram (ERD).
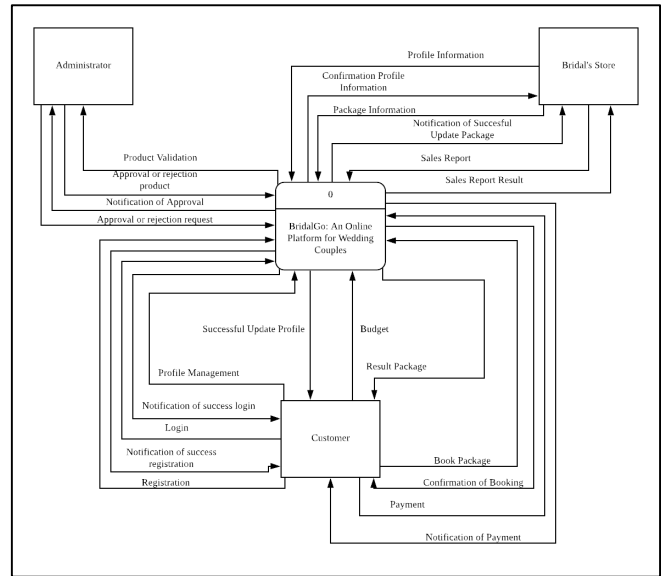
Figure 1: Context Diagram of the proposed system

Figure 1 shows context diagram of the proposed system that contain three external entities which are customer, bridal's store and administrator. Each of the entities have different roles in the system. For customer, they can register into the website system, login, search package using budget filterand make payment. As for bridal's store, they can register and wait for the approval from the administrator before login into the website, update package and view sales report. The administrator has to approve or denied the customer or bridal's store request to join the website and administrator also have to approve or denied the package that the bridal updates each time.
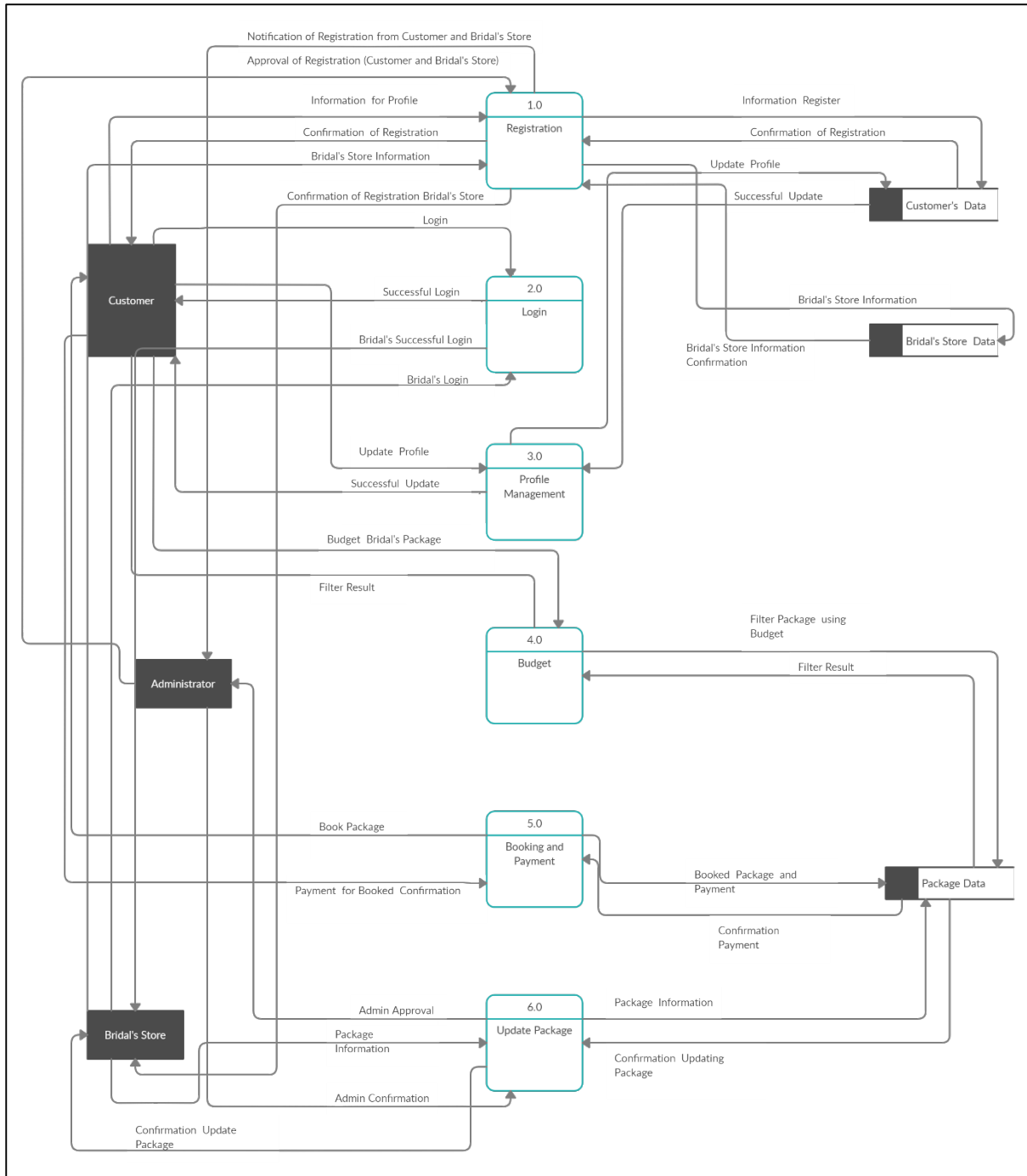
Figure 2: Data Flow Diagram (DFD) of the proposed system

Figure2 shows the specifics flow of the proposed system. The data flow diagram in level 0 contains data store which save all the data that the user keeps into the system. The data that will be store are customer's information data, bridal's store information data and the package data that will be update by bridal's store. This data is important because it will be used in the future to keep improve the system.

Figure 3: Entity Relationship Diagram (ERD) for the proposed system

Figure 3 shows that the relationships of entity sets stored in a database. The entity will represent the table in database. The table that will be needed for the proposed system are Customer table, Bridal's Store table, Store's Owner table, Booking table, Payment table, Package table and Sales Report table. Each table will have one primary key and foreign key to be related with each other. The entity relationship diagram is important because it can avoid ruining the data before the proposed system develops.

3.3   Flowchart

The following are the flowchart that have been designed based on each process in Figure 2. They are designed by using Creately software.
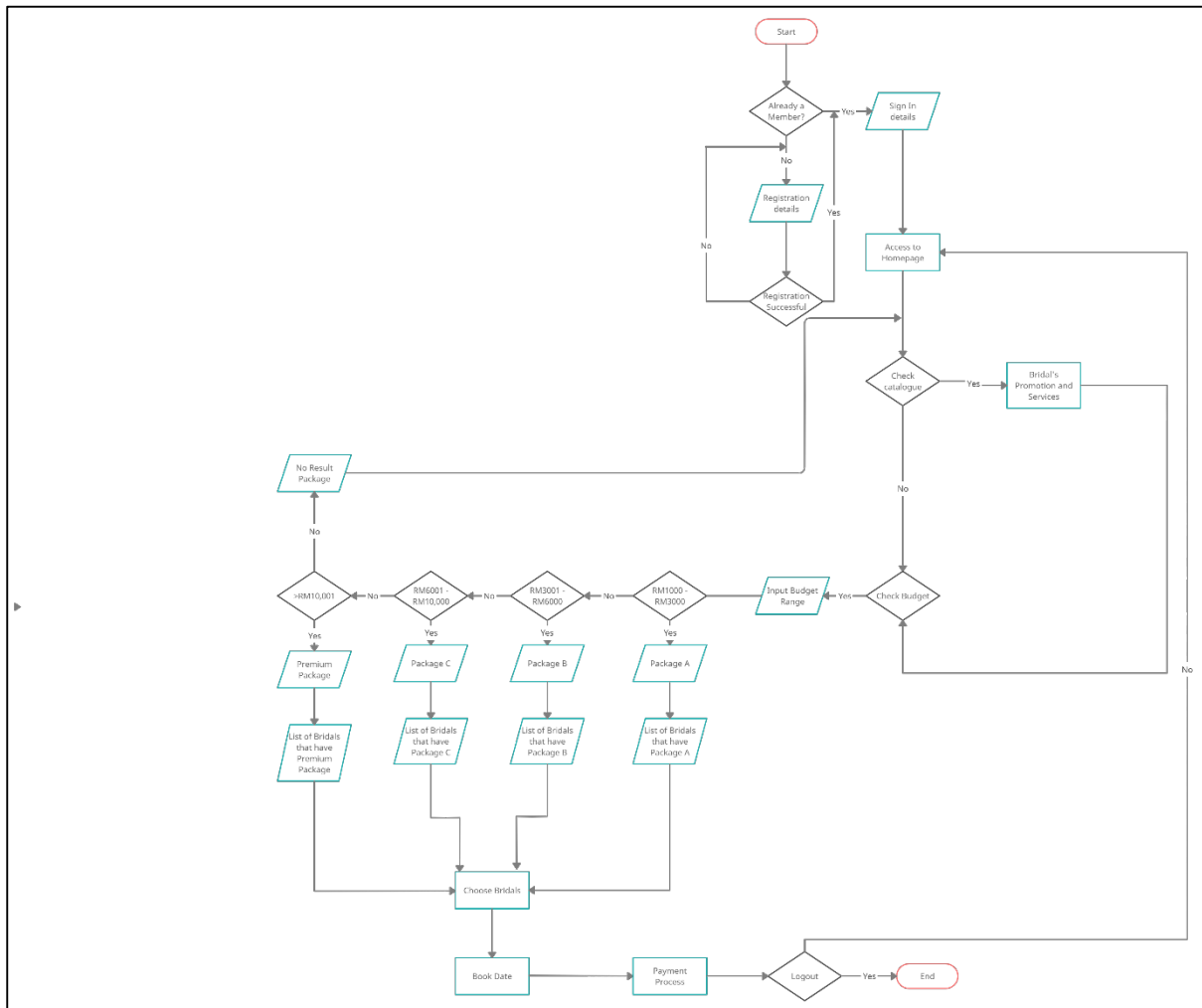
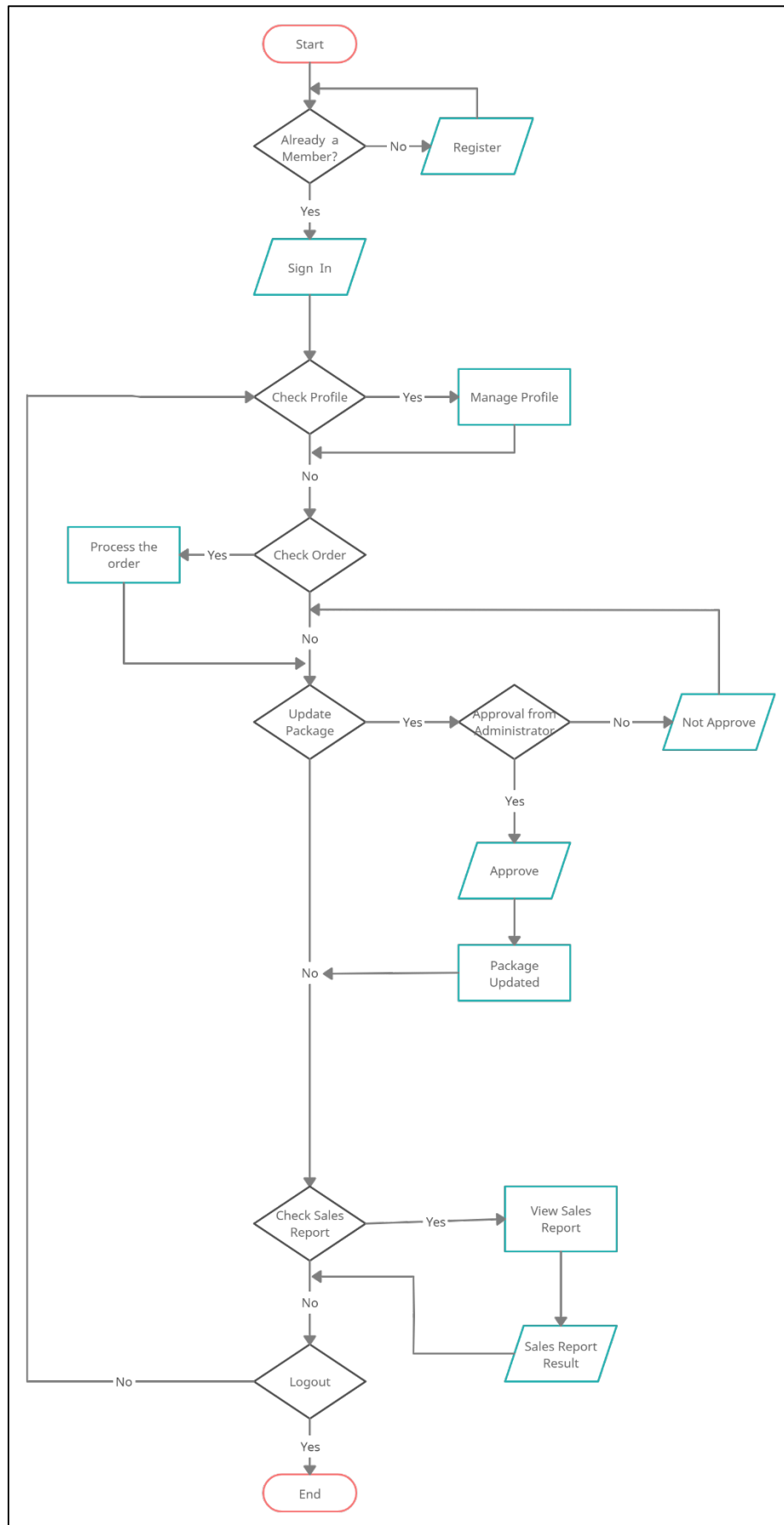**Figure 4: Customer flowchart for the proposed system**

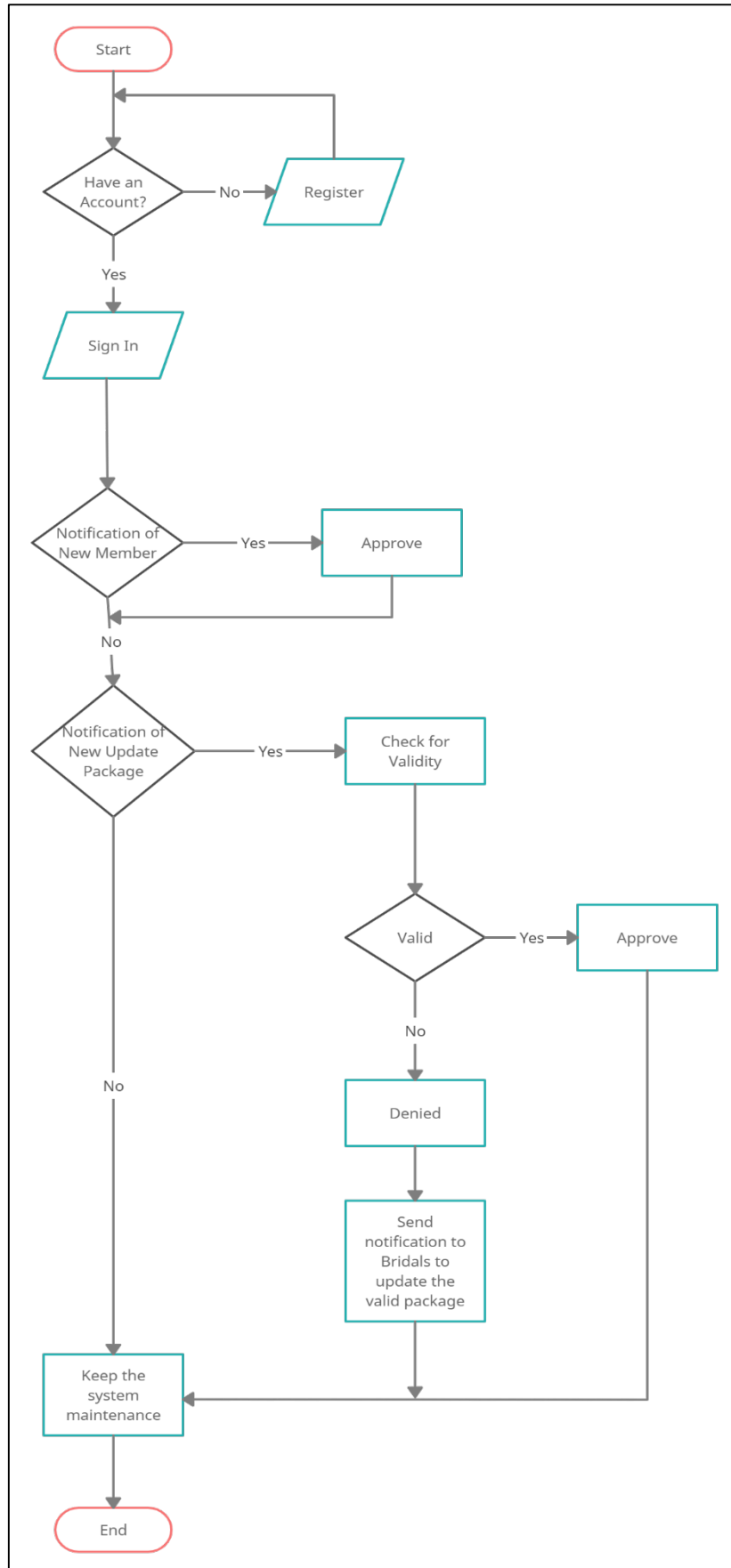**Figure 5: Bridal flowchart for the proposed system**

Figure 6: Administrator flowchart for the proposed system

4.   Results and Discussion

In testing phase, BridalGo is tested and documented using functional system testing. Testing should be carried out in order to check whether there is any error in the system and to ensure that the system is reach the project requirements.Functional testing is to test the functions of all the components and features of this application. This is to ensure that the system performs and functions correctly and as expected. The testing elements are integrated into the test plans based on different test cases of each module. The following subsections will present the test reports for the functional testing run on every module in this system.

4.1   Test Plan

Table 3: Test Plan for Register

No.	Test Cases	Expected Output	Actual Output
1.	Register using correct username, password and email	Registration need to be approved by administrator	As expected
2.	Incomplete email. (Without @)	Error message is displayed to enter valid email	As expected
3.	Incorrect email	Not able to sign up at registration page	As expected
4.	Attempt to continue (Login) without register.	Error message is displayed to register.	As expected

Table 4: Test Plan for Login

No.	Test Cases	Expected Output	Actual Output
1.	Login after administrator approve the request to register	Successfully login via username and password	As expected
2.	Enter wrong username or password	Error message is displayed to re-enter username and password.	As expected
6.	Attempt to continue (Login) without registration.	Error message is displayed that there is no data in database and need to register.	As expected

Table 5: Test Plan for Profile Management

No.	Test Cases	Expected Output	Actual Output
1.	Click 'My Store' to insert store information.	Platform to insert data is shown in the website.	As expected
2.	Save the data into the database	The data is saved into the database.	As expected

Table 6: Test Plan for Booking

No.	Test Cases	Expected Output	Actual Output
1.	Select Wedding Package from add to cart button.	Display booked wedding package.	As expected
2.	Click 'Add to Cart' button	The wedding package was selected.	As expected
3.	The wedding package booked by customers.	The system able to send the booked data to the manager's view order list.	As expected

Table 7: Test Plan for Add, Update, Delete Module

No.	Test Cases	Expected Output	Actual Output
1.	Add wedding package.	The data was added into the database.	As expected
2.	Update and edit wedding package	The data was updated in the database and website.	As expected
3.	Delete wedding package	The data was deleted in the database and website.	As expected
4.	Delete booked wedding package	The booked wedding package being deleted by customers.	As expected

Table 8: Test Plan for Display Item

No.	Test Cases	Expected Output	Actual Output
1.	Add wedding package.	The system able to display wedding package that being added into the database.	As expected
2.	Update and edit wedding package.	The system able update the new wedding package that the managers edits in the website.	As expected
3.	Delete wedding package.	The system able to delete the displayed item in the website.	As expected

Table 9: Test Plan for Request and Approve Module

No.	Test Cases	Expected Output	Actual Output
1.	User's register through sign up module.	The system able to display 'Your registration is now pending and wait for approval'	As expected
2.	Administrator accept the registration.	The users can login into the websites.	As expected
3.	Administrator reject the registration.	The users cannot login into the website.	As expected

Table 5.10: Test Plan for Payment Module

No.	Test Cases	Expected Output	Actual Output

1.	The customers check out the wedding package.	The system able to display credit card payment platform.	As expected
2.	The customers insert credit card information.	The payment successful.	As expected
3.	The customers try to check out without pay.	The booking is denied.	As expected

4.2   Limitations and Future Work

The limitations are existed in this proposed system although the objectives of the project have been achieved. The limitations are:

- Internet connection for the BridalGo system is required in order for the system to function without any problem occur.
- The payment cannot be done in real time-based because the payment system is not connected to the APIs system and only using dummy for payment interfaces.
- In search price range functions, the add to cart button does not function properly because the error in the coding.
- Customers cannot customize their order because the package was determined by bridal's owner.
- Customers cannot check their booking status because the coding does not function properly.
- Customers and bridals cannot update or edit their profile and only administrator can update or edit the customer's or bridal's information.

This section will discuss on the improvements that can be done in future works. These are some several recommendations that can improve this application. The recommendations are:

- The BridalGo should able to work without Internet connection so that user can access and check their booking anytime.
- The system should have payment that functions properly and user can make real time-based payment such as online payment and credit or debit payment.
- The 'Add to Cart' button in search price range interface should have function properly and shows the details of package to the user.
- Customers should customize their own desire package so that they can reduce their budget for wedding event.
- Customers should be able to check their booking status whether the booking is accepted, being rejected or in delivery.
- Customers and bridals should be able to edit and update their profile information.

5.   Conclusion

BridalGo is a system that provides many bridals boutique in one platform. This system allow user to search variety of bridals and choose the best package and service according to their budget. The process to choose the good bridal and book the date become easier with the user-friendly interface. The customer can choose their own bridal based on their budget and reviews from the other customers. The payment can be made using FPX to pay for deposit so that the bridal can be sure about the booking that being made by customers.

The bridals can expand their business market by using this web-based platform to advertise their business. They have to keep updating their packages or promotion to attract the customer and have a high sale. They can use any suitable picture to show how the wedding take place to ensure the customers. So, this system will ease either customer or bridal's boutique to use as their platform to make a survey and to expand their business.

BridalGo has achieved its goals based on system requirements, scope and user requirements. In addition, this system is also expected to increase sales for bridal's owner and their stores. Although the system contains some limitations, it can be improved by further efforts to fix the constraints and enhance other features to make them work better for the public in a better way.

Acknowledgement

Appendix A (Optional)

In this process, User need to log into system by providing the correct username and password by using login interface as shown in Figure 7. The system will then validate the username and password. If both username and password are correct, the system will redirect User to the main page. If one of the username or passwords is incorrect, the system will automatically display an error message. After that, the system will request User to re-enter the correct username and password.
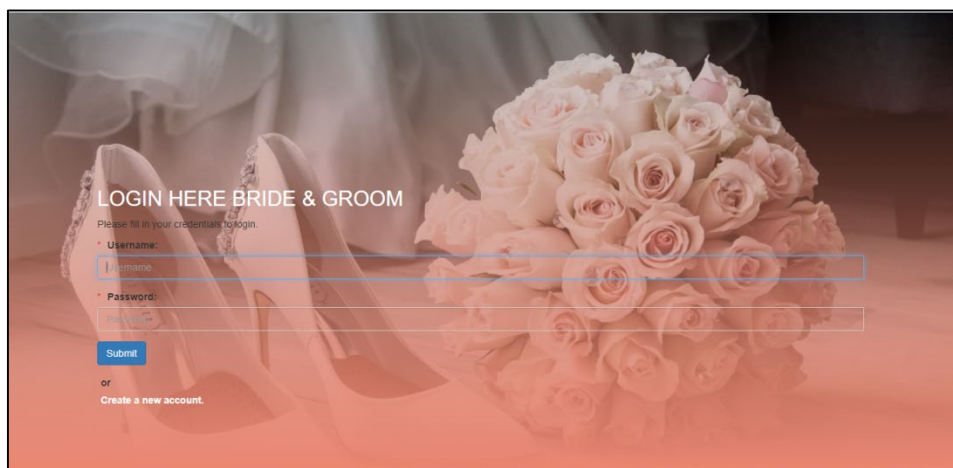

Figure 7: Login interface

After successfully log in, the system will display the main homepage interface. In the homepage, the list of bridals will be displayed for customer to make comparison between each other.
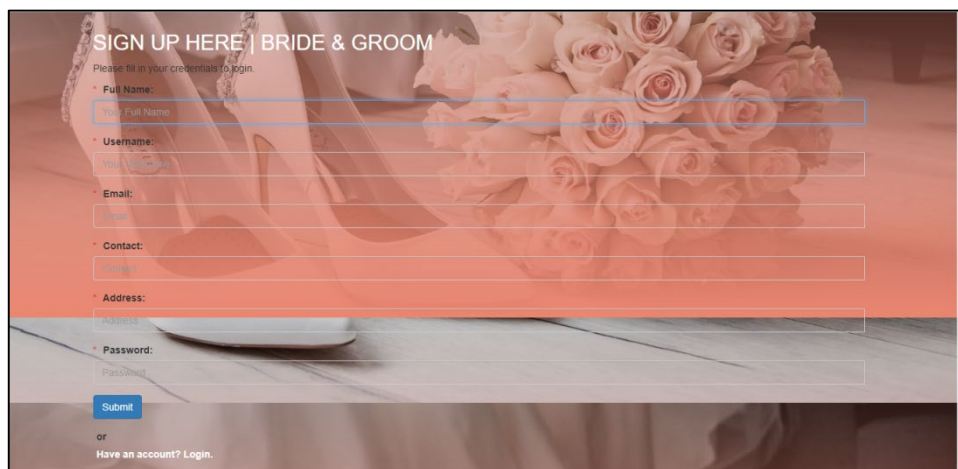
Figure 8: Registration Interface

In this process that shown in Figure 8, the user that got error message when trying to login will go to registration page. The requirement that will be needed to register are name, age, contact, address, username and new password. All of the information will be stored in the database. When the user input the same username as other user, the system will give error message and the user need to change their username. To make the strong password, the user needs to use capital letter, small letter, numbering and any other symbols. That will make the account become more secure. After successfully register, the user need to login and the system will display the homepage. The user can use all provided function after succesfully login into the system.
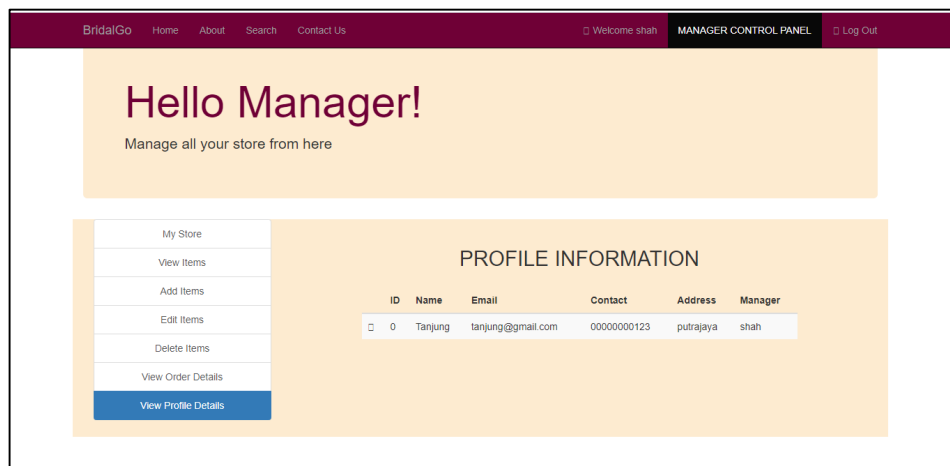

Figure 9: Profile Management Interface for Bridal's Store

Figure 9 shows profile information for bridal's store. They can only view the information and cannot edit or update their store information once they register into the system.


Figure 100:Budget Interface

The Figure 11 shows that the user need to input the range budget. The budget is depending on the couple whether they want to have a simple wedding event or the grand wedding event. The system will filter the wedding package according to the input budget. In this system, there are many packages that the bridal's store will update and the customer can always check and compare the price from time to time. After successful filtered using budget range, the list of bridals and their package will be display.
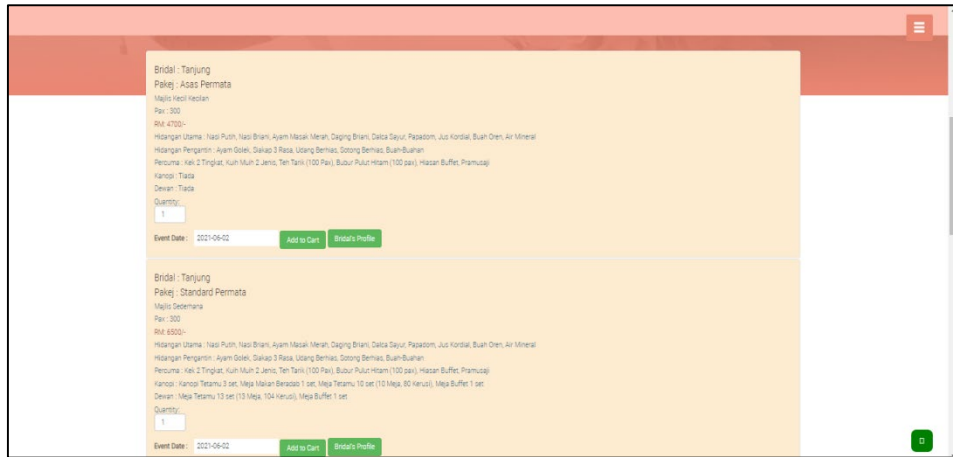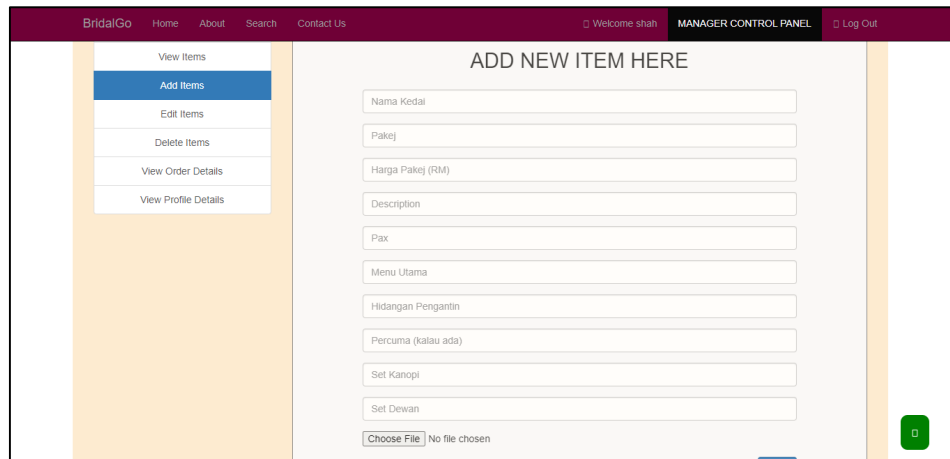
Figure 11: Package Interfaces

In this process in Figure 11, the customer will select one of the packages from the filtered result. Then, the chosen package will display an entire sub-package and the service from the bridal. After the customer is satisfied with the service provided in the package, the customer can proceed with the booking and payment process.
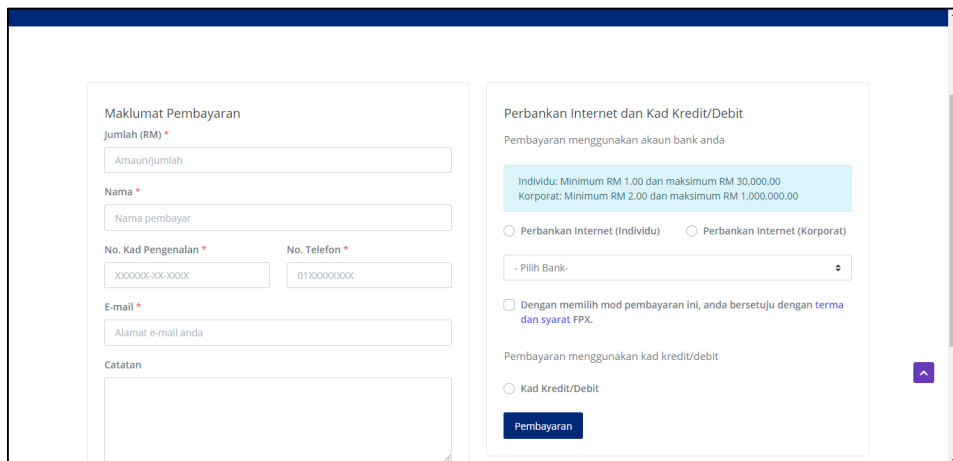
**Figure 12: Booking and Payment Interfaces**

Figure 12 shows that the customer can book the date for the event and start pay the deposit using FPX payment method.

Figure 13: Update Package Interface

Figure 13 shows the bridal's store can update their package. They have to upload the picture of the wedding and other system needed. After that, they can submit the new updated package. The package will be update into the system after the administrator approve the valid package.
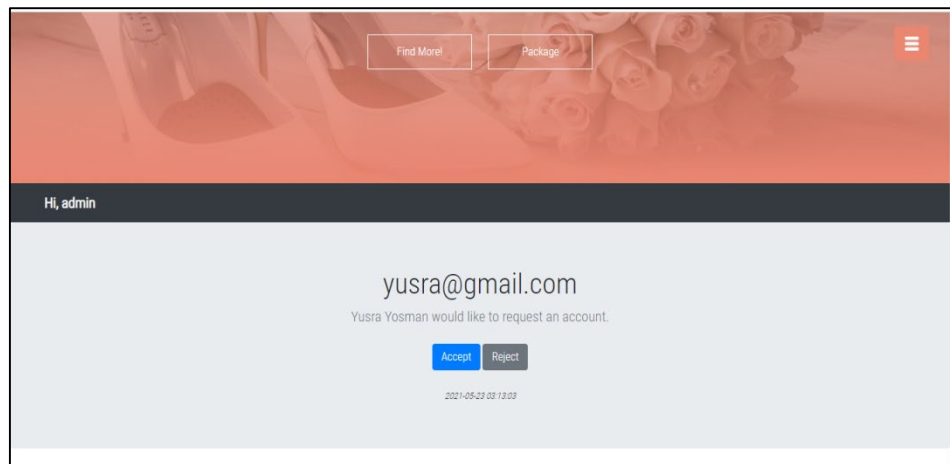
Figure 14: Administrator Interfaces

Figure 14 shows that the administrator gets their notification in this page. The administrator has to approve or denied the new package that will be updated in the system. This process is needed to avoid the bridal's store update the package that does not relate to the wedding things or they promoted another product.

Acknowledgement

References

[1]   M. Gupta, H. Mittal, P. Singla & A. Bagchi. (2014). Characterizing comparison shopping behavior: A case study. *2014 IEEE 30th International Conference on Data Engineering Workshops* (pp. 115-122). Chicago, IL, USA: IEEE. doi:10.1109/ICDEW.2014.6818314

[2]   M. Antal. (2020). A "parasite market": A competitive market of energy price comparison websites reduces consumer welfare. *Energy Policy*. doi:https://doi.org/10.1016/j.enpol.2019.111228.

[3]   G.T. LUMPKIN, G. G. (2004). E-Business Strategies and Internet Business Models:: How the Internet Adds Value,. *Organizational Dynamics*, 161-173. doi:https://doi.org/10.1016/j.orgdyn.2004.01.004.

[4]   M. Jiajia & D. Dahai. (2010). Determinants and Effect of Internet Marketing in E-Commerce: An Empirical Investigation from China. *2010 International Conference on E-Business and E-Government* (pp. 267-270). Guangzhou, China: IEEE. doi:10.1109/ICEE.2010.75.

[5]   M. Alfawzan & R. Alturki. (2018). Personal Loans Comparison Websites in Saudi Arabia: Challenges and Proposed Solution. *2018 21st Saudi Computer Society National Computer Conference (NCC)* (pp. 1-8). Riyadh: IEEE. doi:10.1109/NCG.2018.8593137.

[6]   H.D. Soleh. (2017). Wedding innovative application as a container to provide wedding preparation service: Development and application. *International Seminar on Application for Technology of Information and Communication (iSemantic)*, 121-125.

[7]   *Study.com*. (2020, November 18). Retrieved from Wedding Consultant: Job Description & Career   Info: https://study.com/articles/Wedding_Consultant_Job_Description_and_Info_About_Becoming _a_Wedding_Consultant.html

[8]   *Technopedia Inc*. (2018, February 9). Retrieved from Decision Support System (DSS): https://www.techopedia.com/definition/770/decision-support-system-dss

[9]   P. Vongsumedh. (2009). A Framework for Building a Decision Support System for Multi-level Job Assignment. *Fourth International Multi-Conference on Computing in the Global Information Technology* (pp. 77-80). Cannes/La Bocca, France: IEEE. doi:10.1109/ICCGI.2009.19.

[10]   P. Patel Kuntalkumar. (2006). Decision Support System Based E-Commerce Model and It's Functioning. *IEEE International Conference on Management of Innovation and Technology*, 513-517.

[11]   Y.Z. Shuang. (2017). Exploring and understanding web search behavior with human activities. *2017 IEEE SmartWorld, Ubiquitous Intelligence & Computing, Advanced & Trusted Computed, Scalable Computing & Communications, Cloud & Big Data Computing, Internet of People and Smart City Innovation (SmartWorld/SCALCOM/UIC/ATC/CBDCom/IOP/SCI)* (pp. 1-8). San Francisco, CA, USA: IEEE. doi:10.1109/UIC-ATC.2017.8397516.