

# Design and Development of TravBuddz Online Travel Portal

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**Abstract:** Today, travellers prefer online services because they help them to manage their travel, and Internet has become the most accessible medium to get information. Travel agencies can also utilize the Internet by providing services such as travel packages and accommodation. Previously, travellers faced many problems in dealing manually with a travel agent. In this paper, a travel portal has been developed in order to help travellers and travel agencies. The software development life cycle methodology was used to develop the system, where a portal prototype was developed. The system's name is 'TravBuddz Online Travel Portal', which will manage all the reservation information. Further, it will provide all the information, including transportation, accommodation and activities, to help a user decide. Travellers can make a booking suitable for their own time and budget. The prototype was tested, and the result was presented in this paper.

**Keywords:** *Traveler, Website, Online Travel Portal, Tourism, Information Retrieval*

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## 1. Introduction

Nowadays, the Internet plays an essential role in real-world technology. The Internet has also become the main factor in a successful platform to promote products and services. It can give an excellent opportunity for any sector worldwide, especially for travel and tourism management. Tourism is a trip either for pleasure or business. It will involve the business of attracting, accommodating, and entertaining tourists and the business of operating tours [1]. Therefore, a travel portal was developed to help user manage their travel. The requirement for Online Travel Portal increases due to modernist technology, and customers can get more information about the destination provided [2]. Many travel agencies took the opportunity with the promotion and give discount to attract travellers with the deal. In this way, it can increase the economic sector in Malaysia. According to the Department of Statistics Malaysia (DOSM) statistics, the tourism industry recorded a contribution of 15.9 per cent to GDP, which amounted to RM240.2 billion in

2019 [3].

Furthermore, the traveller will face a problem, especially those still using a manual method. Using a manual method will take time because they need to deal with a travel agent to get the information and package suitable for their time and budget. If travel agent loses the information of their customers, it can cause the registration of the package that has been booked to be missing. Although the traveller has an idea about the destination of their trip, they will be sure about the facilities or features that are provided at the destination. If they go directly to make a booking for accommodation, it may be complete, and at the same time, it wastes the time to go another place. Some packages offered by a travel agency do not fulfil their requirement.

Due to the above problem, an application or a tool is required to solve all the problems. Using the application makes a lot of information needed easy to get by using a search engine before the user can make any decision. The user can also trust the customer's review site, where it can give more details about the facilities or provided features [4]. From the previous comment rated and recommended, we can

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know whether the previous users are satisfied or not about the provided services. In addition, the user also can plan their travelling with a reasonable budget and time. The suggestion will help the user make a good trip decision.

This study has two objectives: the first objective is to ensure that the customers can make a booking easily with the information provided. The second objective is to prevent the negligence of the customer details. Based on that objectives, the website of TravBuddz Online Travel Portal was developed and evaluated. The website will help the user make a good decision in choosing the package provided, and at the same time, the data can be stored safely. Furthermore, the user requirements of the system will be collected and later used as a reference to a developer for further improvement.

## 2. Background and Related Studies

This section discusses the previous studies related to tourism application. Travel is not a new word for the traveller interested in travelling worldwide. Travel can be categorized as a medication for humans who want an excellent environment to release tension from their daily routine. If the traveller has leisure time; they can spend more time with the family by going to travel. Travellers can enjoy the journey and go anytime and anywhere they want. The Online Travel Portal (OTP) requirement is becoming more critical in globalization because the information and services provided can fulfil a user's need [1].

There are many advertisements from travel agencies in order to attract customers. Some travel agencies grab the opportunity to attract the customer by offering a discount with good service. If the traveller wants the service provided, the traveller must deal with the travel agency face-to-face. Nowadays, many travel portals show promotions during the holiday, such as a public holidays and a festival. The offer is also based on the customer's demand [5]. Travellers will try to find a suitable package under their budget. In this way, it takes time for a customer to book a date that will be available.

Furthermore, a search engine's impression is essential to ensure the user is satisfied. A traveller that plans to look for a destination with knowing more details by using the Internet can follow the strategies: (1) to construct a query by using a search engine to enter a destination-related term, or (2) directly to the destination website by typing a URL that has already been determined [6]. Most travel planners choose the former option and search the information in the absence of prior knowledge about the destination.

Besides that, previous studies show the concept that travel portal use shows the destination image as one of the most studied in tourism and hospitality, and many different attempts have been made to describe it. Scholars agree; however, the image consists of at least two closely connected components: cognitive evaluation and emotive appraisal. Some scholars propose that the conception of destination image should contain a third, behavioral (conative) component. The constructive aspect of the image

corresponds to the actual action of selecting a location (purchasing a brand) and/or actual travel to the location [7]. Tourism satisfaction when using a browser can give effect from other travel agencies. The destination website provides the setting in which potential travellers get their initial impression of a location. Users are most likely to switch to another source of information or change their trip destination if the website quality is insufficient [8].

## 3. Methodology of The Studies

The methodology selected for this study is SDLC with prototyping. A prototype is a tool that can generate more ideas for developers and users about how the system functions in its complete form and the process of producing a prototype called prototyping [9]. A prototype model is essential for any software development to help the developers produce a useable final system or product. It is an iterative, trial and error method which takes place between developer and client. SDLC methodology has six phases that start with the requirement and are followed by quick design, build prototype, user evaluation, refining prototype and implement and maintain. The flow of the phase is shown in Figure 1 [10].

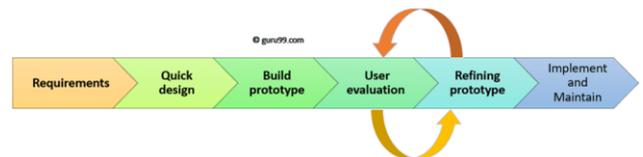


Figure 1. SDLC phases

The requirement starts with analyzing the user requirements, and the website will define the details. User requirements regarding the functionality of the system were collected and analyzed. During a quick design phase, the website will be created. It is just a simple design, but it will demonstrate the critical aspect only. In the building prototype phase, a prototype of the system was created that will represent the working model of the system. During the user evaluation phase, the end user tested and evaluated the prototype. All the comment and suggestion given by the user was collected and used for the improvement of the prototype. The new prototype was developed based on the additional information provided by the user and evaluated. This process continues until the user is satisfied with the prototype. Lastly, the prototype was converted to a running system. The system will be used by the user and will be maintained by the developer for future improvement. The system will be maintained on a regular basis to prevent any failures and minimizing the downtime.

## 4. Design and Development of TravBuddz Online Portal

This section shows the design and development of the

website that followed the six phases of the SDLC methodology. This section is divided into two sub-section: (1) the requirement of the website and (2) the prototype development of the TravBuddz Online Travel Portal.

The user requirements are gathered by using two methods which is (1) using google form and (2) analyzing the information and application that can be accessed from the Internet. Table 1 and Table 2 show examples of the list of requirements.

Table 1. List of requirements for creating the TravBuddz Online Travel Portal

ID	Requirement Description	Priority
1	<b>Login</b>	
1.1	The website should allow users to log in with their email and password	M
1.2	The website should allow users to logout	M
1.3	The website should allow users to create a new ID and password	D
2	<b>Select package</b>	D
2.1	The website will enable users to select the package that is recommended	D
3	<b>View list</b>	
3.1	The website should allow the users to view the packages	D
4	<b>Make booking</b>	
4.1	The website should allow the users to make a booking with their chosen date	M
4.2	The website should allow the users to type their comments	M
4.3	The website should display to users the information if the booking is successful	M
5	<b>Write us</b>	
5.1	The website should allow the users to make a report regarding the booking or other issues	O

Table 2. List of requirements for managing the TravBuddz Online Travel Portal

ID	Requirement Description	Priority
1	<b>Login</b>	
1.1	The website should allow users to log in with their email and password	M
1.2	The website should allow users to logout	M
2	<b>Manage service</b>	M
2.1	The website should allow the staff to add new information about accommodation, address and price	M
2.2	The website should allow the staff to update the availability of a particular package	M
2.3	The website should allow the staff to delete the package that is not available	M
3	<b>Receive booking</b>	M
3.1	The website should allow the staff to receive or cancel a booking from customers	M

between the user and admin that use and manage the TravBuddz Online Travel Portal. The system has seven major functions: login, select package, view list, make a booking, write us, manage service and receive a booking. In addition, the system allows the admin to add, update and delete the tourism packages displayed on the website.

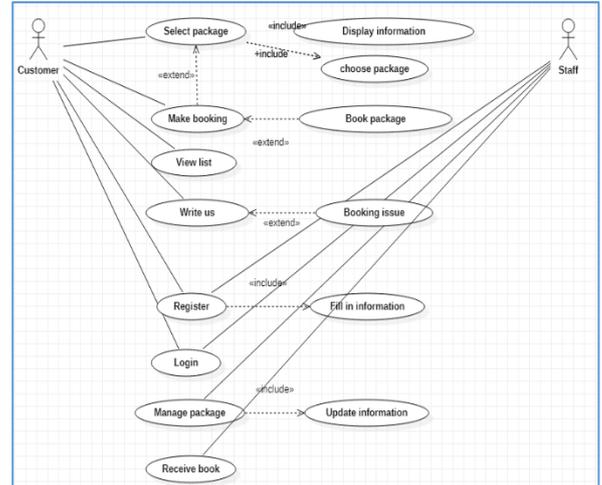


Figure 2. The use case diagram of the TravBuddz Online Travel Portal

The component of the system was presented in a class diagram in Figure 3. The class diagram shows the attributes and operations of the website such as login, select package, view list, make a booking, write us, manage service and receive a booking.

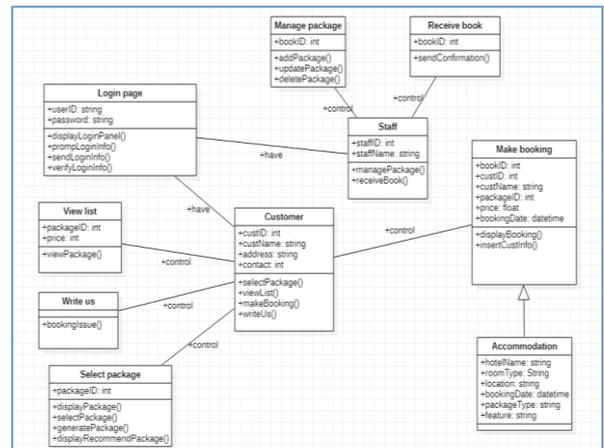


Figure 3. The class diagram of the website for creating and managing the TravBuddz Online Travel Portal

All the requirements were analyzed and converted to Unified Modelling Language (UML) diagrams. Two UML diagrams are used to represent the design of the system. The use case diagram and the class diagram are drawn to represent the component of the system. The diagrams were drawn using the StarUML application. Use case diagram shown in Figure 2 illustrates the communication of an actor

## 5. Prototype development

In this phase, a prototype of the portal was developed based on the collected user requirements from the previous section. The prototype will demonstrate all the functions and data used in the system. Below are the screenshots of the prototype:

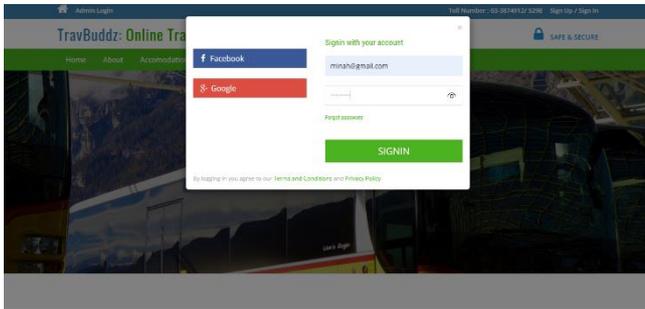


Figure 4. The interface for login

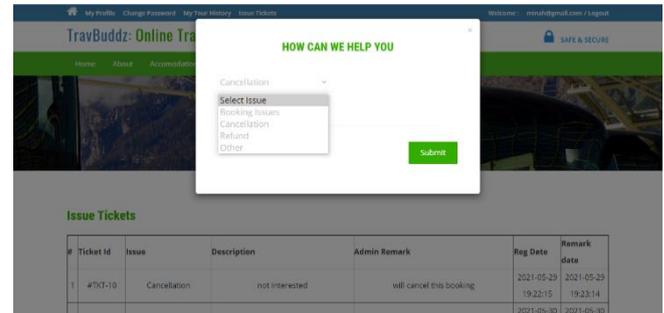


Figure 8. The interface for writing issue



Figure 5. The interface for the main menu

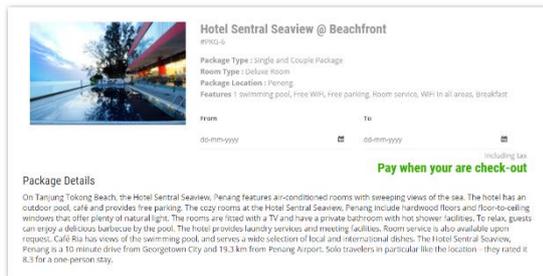


Figure 6. The interface for package detail

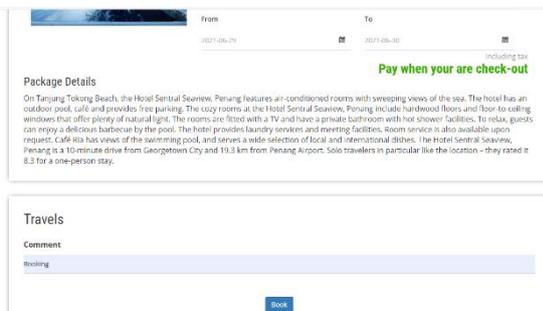


Figure 7. The interface for booking a package

## 6. Evaluation

The evaluation was open to general participants whether they had experience or not using an online travel system. The questionnaire was distributed via Whatapps and answered by 30 participants. There are 17 questions in two sections. Section A asked about the demographic information, and section B was about the system functionality of the website by using a five-point Likert scale; strongly disagree to agree strongly. The respondents also needed to follow the procedure of the evaluation process: (1) read and sign a consent form, (2) test the website on a desktop, and (3) answer the post-task questionnaire.

Analysis from the respondent demographic information revealed that the highest gender is 63.3% of them female with 19 respondents, while the male is 36.7%, which shows 11 respondents. The respondent is between 16-20 years old, 36-45 years old and over 46 years old. There are five respondents for each category, which is 16.7% of all the respondents. Nine respondents aged between 21 and 25 years old, 30% of all the respondents and the respondents from the age of 26-35 are six (20%).

In this section, the responses were analyzed to measure the system's functionality and the respondents' perception of the usefulness and usability of the portal. In addition, this section also analyzes user satisfaction. Tables 3 below show the result of the usability of the portal. Most of the respondents are rated agree and neutral scale.

Table 3. The Respondents' Responses to the usefulness of the website of Travbuddz Online Travel Portal

Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Travbuddz Online Travel Portal can save time	0 (0.00)	3 (10.00)	1 (3.33)	21 (70.00)	5 (16.67)
Travbuddz Online Travel Portal show the information that I want	0 (0.00)	7 (23.33)	5 (16.67)	15 (50.00)	3 (13.33)
Travbuddz Online Travel Portal is useful in overall	0 (0.00)	4 (13.33)	9 (30.00)	14 (46.67)	3 (13.33)
Travbuddz Online Travel Portal meets my needs	0 (0.00)	6 (20.00)	6 (20.00)	14 (46.67)	4 (13.33)

Tables 4 below show the result of how easy to use the

portal. Again, the majority of the respondent are rated as either agree or strongly agree.

Table 4. The Respondents’ Responses Ease of Use website TravBuddz Online Travel Portal

Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Travbuddz Online Travel Portal is user-friendly	0 (0.00)	0 (0.00)	7 (23.33)	15 (50.00)	8 (26.67)
Travbuddz Online Travel Portal is easy to use	1 (3.33)	0 (0.00)	7 (23.33)	13 (43.33)	9 (30.00)
I can easily remember to use Travbuddz Online Travel Portal	0 (0.00)	1 (3.33)	9 (30.00)	15 (50.00)	5 (16.67)
I can make a booking with Travbuddz Online Travel Portal successfully	1 (3.33)	0 (0.00)	0 (0.00)	21 (70.00)	8 (26.67)
I can recover from mistakes quickly and easily when I can't make a booking	0 (0.00)	0 (0.00)	13 (43.33)	14 (46.67)	3 (10.00)

Tables 5 below show the user satisfaction with the portal. Again, more than 70% of the respondent are rated as either agree or strongly agree.

Table 5. The Respondents’ Responses regarding Satisfaction of website Travbuddz Online Travel Portal

Questions	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am satisfied with Travbuddz Online Travel Portal	1 (3.33)	0 (0.00)	8 (26.67)	13 (43.33)	8 (26.67)
I would recommend Travbuddz Online Travel Portal to my friends	0 (0.00)	0 (0.00)	3 (13.33)	17 (56.67)	10 (33.33)
Travbuddz Online Travel Portal works the way I want it to work	1 (3.33)	1 (3.33)	6 (20.00)	15 (50.00)	7 (23.33)
I feel I need to use Travbuddz Online Travel Portal	0 (0.00)	0 (0.00)	7 (23.33)	19 (63.33)	4 (13.33)

The evaluation outcomes suggested that the TravBuddz Online Travel Portal can save time and meet their needs. The respondents were also satisfied with the website feature that is easy to use and straightforward. The respondents were also willing to promote the portal to their friends. In addition, most of the respondents are satisfied when using it.

## 7. Conclusion

This paper discussed the development of the TravBuddz Online Travel Portal. The system is developed with the aim

of helping travellers to manage their travelling. However, other researchers can still improve the system by adding more functions.

## 8. Acknowledgements

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## 9. References

- [1] J. Elliott, *Tourism: Politics and Public Sector Management*. London: Routledge, 2007.
- [2] S. V. Singh, R. Ranjan R., Online travel portal and their effect on travel agency: A study on outbound visitors of Varanasi, *International Journal of Research and Analytical Reviews (IJRAR)*, Vol. 6, No. 2, 387-393, 2019.
- [3] Department of Statistics Malaysia (2020). *Tourism Satellite Account 2019*. Retrieved from <https://www.dosm.gov.my/>.
- [4] V. T. Tran, N. V. N. Phan, T. N. Nguyen, H. H. Do, An impact of social media and online travel information search in Vietnam, *Global Review of Research in Tourism, Hospitality and Leisure Management*, Vol. 3 No.1, 414-439, 2017.
- [5] D. Lin, Z. Zhou, X. Guo, A study of the website performance of travel agencies based on the EMICA model, *Journal of Service Science and Management*, Vol. 3, No. 03, 181-185, 2009.
- [6] C. Luna-Nevarez, Hyman, M. R., Common practices in destination website design, *Journal of destination marketing & management*, Vol. 1 No. (1-2), 94-106, 2012.
- [7] J. M. Alcántara-Pilar, F. J. Blanco-Encomienda, T. Armenski, S. Del Barrio-García, The antecedent role of online satisfaction, perceived risk online, and perceived website usability on the affect towards travel destinations, *Journal of Destination Marketing & Management*, Vol. 9, 20-35, 2018.
- [8] M Martin, *Prototyping Model in Software Engineering: Methodology, Process, Approach*. Retrieved from <https://www.guru99.com/software-engineering-prototyping-model.html>
- [9] A Susanto, Meiryani, System Development method with The Prototype Method, *International Journal Of Scientific & Technology Research*, Vol. 8 No. 7, 141-144, 2019.
- [10] W.C. Chiou, C.C. Lin, C. Perng, A strategic website evaluation of online travel agencies, *Tourism Management*, Vol. 32 No. 6, 1463-1473, 2011.