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**Sta. Maria Campus, Sta. Maria, Ilocos Sur**

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**ONLINE BUS TRAVEL BOOKING RESERVATION**  
**FOR MITCHACOY MOUNTAINEERS INC.**

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## Chapter 1

### INTRODUCTION

#### Background of the study

Over the years, transportation of humans from place to place has been very difficult and uncomfortable due to lack of system and facilities that are necessary to facilitate fast, easy and convenient movement of people from one place to another. In recent times, there are a number of interventions that are made to improve available transport systems. Some of these interventions include; travel guides, trip transport planners, ticketing systems etc.

Despite being used by millions of people, the bus travel industry in India is highly fragmented as well as unorganized and it took a while to witness some innovations in the bus ticketing industry in India. Yvas (2016) concluded in his paper, it attempts to investigate as well as assess the degree of the change and its affect by centering on “redbus” which the biggest transport is ticketing company operating in India. The primary segment of this paper talks about the nature of transport travel industry nearby the challenges confronted by the Indian transport travel industry. The moment area of this paper counts the challenges experienced by “redbus” which directly covers geologically 80% of the overall advertise. Hence, this paper looks at a development demonstrate in presence for “redbus” which would give a maintainable development within the long term.

Gupta (2021) stated in their study that online transport reservation system is a project which gives entry for transport ticket reservation. This application permits clients to book transport tickets from anyplace and anytime. The clients can effectively book their tickets and cancel tickets. The client can see all the points of interest of the



site, transport, and drive. The client can see the subtle elements of the travel and the points of interest of the travel timings.

Arma (2019) stated that Online Bus Ticket Reservation system is windows-based application that works inside centralized arrange. The software program "Online Bus Ticket Reservation" gives bus transportation system, a facility to saved seats and diverse sorts of request which require a moment and fast reservation. OBTRS is built for oversee and computerize the conventional database, ticket booking and tracking bus and travel made easy. It includes all the datas of clients, bus details, and reservation details, booking points of interest and client points of interest.

MovOn, Philippines' first mobile app for online bus booking, announced together with Victory Liner a memorandum of agreement to provide Victory Liner buses and routes on its platform. "MovOn strives to bring unprecedented convenience to passengers planning to buy bus tickets on provincial bus lines. Lim (2020) Falling in line at bus stations will be a thing of the past with MovOn as they instantly reserve seats using MovOn app,". With MovOn, commuters may reserve seats from three months up to just five days before their departure date by simply logging on to the mobile app, inputting their origin and destination, and selecting their trip date. They can then choose their preferred bus line from the list of bus operators with trips that match their routes and trip date. "Almost everyone is using their smartphones now, and we, at MovOn, want to adapt to how Filipinos stay connected. Our mobile app is an innovation that helps Filipino commuters arrange their travels in a more convenient and practical way. From reserving a seat to making payments, everything should be hassle-free," he added. In Mitchacoy Mountaineers Inc., the current process in making a reservation is the passengers need to visit the bus station for the booking, the employee's job in managing the reservations is difficulty especially when the passengers visited the station at one



time. Hence, researchers proposed a project that might help all commuters at Mitchacoy through developing a system that would be easier to use upon making a reservation and it might be useful for the passengers who live far from the station. The researchers came up with an idea to make an "Online Bus Travel Booking for Mitchacoy Mountaineers Inc. commuters will know when or where a bus of Mitchacoy scheduled.

### Conceptual framework

Figure 1 shows the conceptual framework of the study. It serves as the outline on how the researchers will conduct the study.

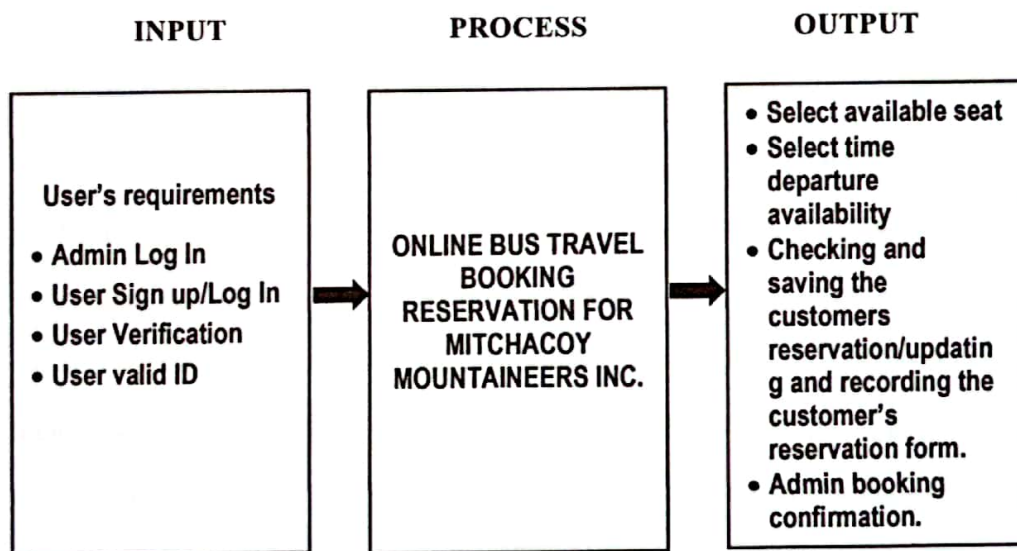


Figure 1. The Conceptual Framework of the study

In the conceptual framework, the researchers used the IPO as the representation of the data included in the system. Input shows the requirements of the user's needed to set up booking on the system including logging in to the website, signing up, verifications on ID. And in the process after the verification, the system will provide a one-time password (OTP) for additional security. Afterwards, the user can proceed on booking and choosing up schedule that suites the user, and that will be the output.

### Objectives of the Study





Generally, this study aimed to develop online bus travel booking that would provide passengers with the information regarding the schedule of all bus and to lessen the work of the employees in Mitchacoy Mountaineers Inc. in Abra.

Specifically, it aimed to answer the following objectives:

1. To determine the existing process of Online Reservation in the Mitchacoy Mountaineers Inc. in Abra.
2. To determine the features of the developed system
3. To test the acceptability of the developed system.

#### **Scope and Limitation of the study**

The study aimed to develop an “Online Bus Travel Booking Reservation” for Mitchacoy Mountaineers Inc. in Abra. It focused to determine the availability of all bus and the information regarding on all the bus and their schedule. The user must provide accurate informations in the system, the log in verification. After the user provided the otp, user may start to see the available bus, schedule, and the price per seat. Assumption time of the Departure and Arrival also. Before booking, users must provide the information’s needed and after booking a schedule, user must provide the proof of their reservation. This study, focuses only for reservation.

#### **Importance of the study**

The study is beneficial of the following:

The **Mitchacoy Employees** can easily manage and lessen their work for the transaction in making a reservation with the client.

The **Passengers** will provide the exact information needed to be fill in the system for making the reservation.



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The **Researchers** will enhance their knowledge, capabilities and skills in designing a particular program technically speaking, and in order to apply the principles they have gained in their field studies.

The **Future Researchers** will use the results of this study in developing and implementing online bus travel booking reservation considering other features like adding payment through online.



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## Chapter 2

### METHODOLOGY

This chapter discussed the research design software, project plan, sources of data and the statistical tools utilized throughout the system development process.

#### Research design

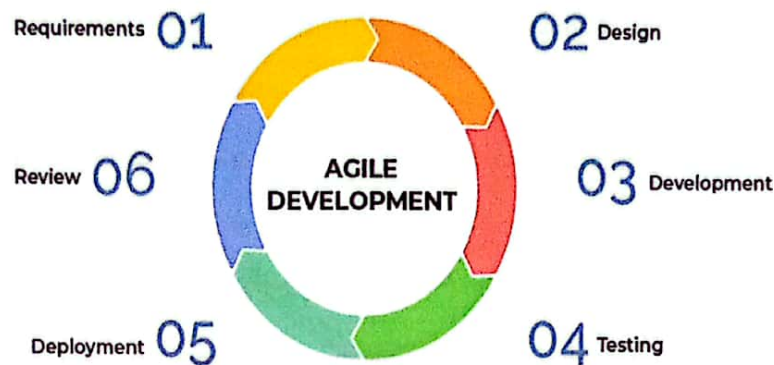
Researchers used the descriptive developmental type of research to organize the presentation, prescription and interpretation of the data and results serve as a basis to the developed system, the Online Bus Booking Reservation for Mitchacoy Mountaineers Inc. in Abra. Mention that the descriptive research aims to accurately and systematically describe a population, situation or phenomenon. Descriptive research is usually defined as a type of quantitative research. This method of research makes the researcher understand and have clearer view of the current situation of the reservation online (Combes MC, 2019). The development method of a research was on the development of the system. The development method research has been defined as the examination of the process and impact of specific instructional design and development efforts or participation in instructional strategies, progression, or evaluation activities while also discussing the process, or examining the process of instructional design, development.

#### Software Model

Figure 2 shows the Agile Scrum Development Model as the basis of the proponents in accomplishing the project.

Agile is a type of software development methodology that anticipates the need for flexibility and applies a level of pragmatism to the delivery of the finished project. (Silverthorne 2022)





**Figure 2. Agile Development**

For the system development, the proponents used the Agile Development Model. In this study, agile methodology can help the project team manage work more efficiently and do the work more effectively while delivering the highest quality product within the constraints of the budget.

**Requirements.** Requirements are something that must be done, or something that researchers need to accomplish the project. In this stage, the requirements of the system were gathered and analyzed. The researchers conducted an interview to some of the employee of Mitchacoy Mountaineers INC. The researchers used close-ended questions to gather the idea of the respondents as a basis of the system development. In addition, the researchers also read more of their review related literature that served as their reference to their study. The data gathered were analyzed by the researchers to come up with necessary actions and solutions for the problems to be addressed.

**Design.** Design is an outline, sketch, or plan, as of the form and structure of a work of art. This phase was focused on designing the user interface, defining the process, and data design. In this process, the details of the physical, logical and architecture design were described and defined. The researchers have used the Entity Relationship Diagram



and the Use Case Diagram in representing the system's design. Moreover, in this process, the researchers have defined the overall system architecture and the hardware and system requirements were also specified.

**Development.** Development is the stage where the researchers started to develop a system for their target client. In this phase, the researchers started to build the system. The researchers used PHP, JavaScript, CSS and HTML in creating and developing the system. PHP was the language used in server-side scripting, creating dynamic webpages and could interact to the database. Meanwhile, HTML and CSS are used in creating and designing the content and interface of the system. Also, a database was also utilized that act as a repository of the data to be stored and used by the entire system. The proponents used the MySQL as a medium in communicating with the XAMPP.

**Testing.** Testing is finding out how well the system works. Testing is the process of evaluating and verifying whether the system being developed is working or not. In this stage, the researchers have conducted a test for the system to determine its efficacy, as well as to find out any failure or fault. Prior the conduct of testing, the researchers have sought the permission to the Manager of the said Bus Transportation. After receiving the permission, the proponents have coordinated to some employees and IT experts to participate in the testing process to determine the things to be improved for a better experience in using the system.

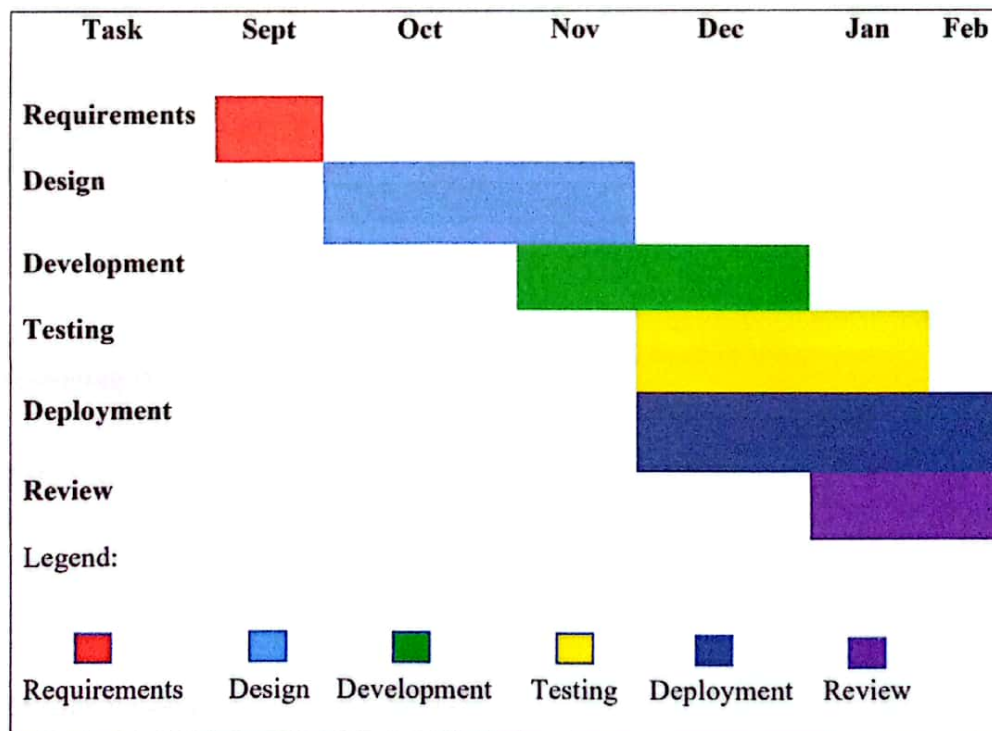
**Deployment.** Deployment is the process of making the system work on a target device, it is something that can be implemented when the project is being tested and well-used. In this stage, the system or product is ready to be released for public consumption or in the market after determining its fully functionality.



**Review.** Review is the process of re-evaluating the system, as well as implementing the recommendations of the panelists. In this stage, the researchers continue to work for the improvement of the system for a better user experience. Along the way, there are some bugs in the system that needs to be fixed, thus, the researchers work to fix those issues by releasing an updated version of the system.

### Project Plan

Project planning is the discipline of planning, organizing, securing and managing resources to bring the successful completion of the project goals and objectives. The figure 3 below were the formulated project plan for the progression of the study.



**Figure 3. Project Schedule**

In this project, one of the things that was taken into consideration is the time management. In this study, the researchers have established a schedule on each of every





phase of development that served as their guide in keeping an organized work which help them determine the things that needs to be done within the scheduled time frame. This also helped them in preventing from overdue tasks and finished the project development within the allotted duration.

### Project Assignments

The project's team members' roles and responsibilities within the proposed system, the Online Bus Travel Booking Reservation for Mitchacoy Mountaineers Inc. in Abra.

ROLE	NAMES	FUNCTIONS
Project Manager	Melissa Guiao	<ul style="list-style-type: none"><li>• Responsible for coordinating with the project team</li><li>• Maintain open communications with all the members.</li></ul>
System Analyst	Felix R Garcia Jr. Melissa C. Guiao	<ul style="list-style-type: none"><li>• Coordinates the technical team's efforts in resolving challenges and ensuring that solutions are practical and consistent.</li></ul>
Software Engineer/Developer	Felix R Garcia Jr Jessica P. Almazan	<ul style="list-style-type: none"><li>• Responsible for managing systems planning design team and building the project.</li></ul>
QA/Tester	Rose May Malaggay Jessica Almazan	<ul style="list-style-type: none"><li>• Responsible for checking the debugging queries of the project</li><li>• Evaluate software needs and communicate findings to the project team.</li></ul>
Writer/Researcher	Melanie Bolante	<ul style="list-style-type: none"><li>• A status report on the whole project.</li><li>• Publish project plan timeline and requirements</li></ul>

**Table 1. Role Requirements and Responsibility**

### Population and Locale of the Study

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The researcher's utilized purposive sampling that helped them determined the distribution of respondents, which involved 20 passengers, the Manager, Driver and the Conductor.

Table 2 shows the distribution of the selected respondents to participate in the acceptability of the proposed system. The study will involve the participation of the 23 respondents, which consists of 20 passengers from the bus where located, the Manager, the Driver and the Conductor of Mitchacoy Mountaineers Inc.

Respondents	N
Manager s	1
Driver	5
Conductor	5
Passengers	6
<b>TOTAL</b>	<b>17</b>

**Table 2. Distribution of Respondents**

#### **Research Instruments**

Interview, documentary analysis, internet research/library research and survey questionnaire where tools are used in the study, which also involved the participation of the passengers and employees of Mitchacoy.

WAMMI (Website Analysis and Measurement Inventory) is a Web analysis service that measures and analyze the experience of real Web site users to help them achieve goal (Muyllé et al, 2004). It was used by the researchers in their data gathering from the respondents to determine whether it is acceptable or not.

#### **Data Analysis**

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Questionnaires and interviews were served as tools in gathering the data. Mean, Frequently Count, and the following indicators: ease to use, satisfaction, usefulness, and ease of learning were needed to treat the needed data to identify the usability of the proposed system Online Bus Travel Booking Reservation for Mitchacoy Mountaineers Inc. in Abra.

Table 3 shows the descriptive interpretation of the proposed system's level of acceptability.

The data gathered were categorized from Not Acceptable to Very Highly Acceptable. Mean ranges from 1.00-1.80 described as Strongly Disagree and interpreted as Not Acceptable, 1.81-2.60 described as Disagree and interpreted as Slightly Acceptable, 2.61-3.40 described as Neutral and interpreted as Neither Acceptable and Not Acceptable, 3.41-4.20 described as Agree and interpreted as Highly Acceptable, and 4.21-5.00 described as Strongly Agree and interpreted as Very Highly Acceptable.

Point Value	Mean Range	Descriptive Rating	Descriptive Interpretation
5	4.21-5.00	Strongly Agree	Very Highly Acceptable
4	3.41-4.20	Agree	Highly Acceptable
3	2.61-3.40	Neutral	Neither Acceptable or Not Acceptable
2	1.81-2.60	Disagree	Slightly Acceptable
1	1.00-1.80	Strongly Disagree	Not Acceptable

**Table 3. Descriptive Interpretation on the Level of Acceptability of Online Bus Travel Booking.**





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