"Hotel and Restaurant Booking Simulator"

A non-thesis Project
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In Partial Fulfillment
of the Requirements for the Course of
APPLICATION DEVELOPMENT AND EMERGING TECHNOLOGY

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CHAPTER 1. INTRODUCTION

In this chapter, researchers will delve into the essential aspects of the project that provide a comprehensive foundation for the project ahead.

Project Context

People's lives revolve around technology. This way of life is sometimes referred to as the *Digital Age*. The digital age is defined as the current environment in which digital media and technologies are complexly present within all spheres of life (Ferreira et al., 2021). This period resulted in the production of various types of systems and applications which are now heavily used by people all over the world. Despite this, it's far from perfect and some gaps are still present, especially in the fields of hotel and restaurant related business and education which, fortunately, leaves room for improvements and possibilities.

The researchers are proposing the Hotel and Restaurant Booking Simulator which will assist and guide students that are in the hospitality industry such as hotels and restaurants. This system will also train students to handle socialization with customers

in a professional manner which will be helpful in their career paths later on. In the study conducted by Ahlawat (2022), it found several major gaps between hospitality industry and hospitality education, and it included lack of communication skills among students. The reasons were lack of experienced faculties in institutions, outdated curriculum, lack of modern infrastructure, lack of research and development facilities in institutions, and lack of innovative teaching methods.

The Hotel and Restaurant Booking Simulator is an innovative solution for teaching. The system will generate a roleplay scenario between a customer and the student to attempt real-life socialization. The roleplay scenarios will usually be composed of actors, such as students and instructors. The student will roleplay the customer and the other student will play the hotel or restaurant staff. This simulated interaction mirrors real-life situations where customers make reservations, ask questions, or request services through the system. This will improve the students' communication and technical skills and are much better than learning through textbooks. In a study by a Harvard staff writer, Siliezar (2021), students

learn better by engaging them physically. Which means simulation-based learning is ideal.

Objectives

This study aims to develop hotel and restaurant booking simulator for the College of Bachelor of Science in Hospitality Management to simulate scenarios suitable for both instructors and students to use and learn from.

Specifically, this study has the following objectives to:

- Allows users to practice skills that need improvements by using the system's simulator mode (e.g., multitasking by communicating with clients and entering information into the system at the same time).
- Make the system accessible on several platforms at once, enabling users to replicate real-time restaurant and hotel reservations anytime, anywhere and with any device available.
- Provide the users with two simulator modes to choose from that concentrate on teaching either restaurant reservations or hotel bookings.
- Design a simple and user-friendly interface that

is easy to use and comprehend for users of all computer literacy levels.

- Offer the users an alternative modern way of teaching basic knowledge about hospitality education that is aligned to the modern age. Traditional ways of teaching are often outdated, limiting the learning possibilities.

Scope and Limitations

Hotel and Restaurant Booking Simulator, aims to provide a holistic educational tool for students pursuing a Bachelor of Science in Hospitality Management. Taking inspiration from Smith's (2018) research on the importance of hands-on learning in hospitality education, the project's primary objective is to create an immersive simulation environment that faithfully replicates hotel and restaurant booking procedures and guest services. Which underscores the effectiveness of simulation-based learning in enhancing students' comprehension and engagement within the hospitality field. The application will boast a user-friendly interface, which emphasizes how user interface design can significantly impact customer satisfaction and the success of hospitality applications. It will encompass a comprehensive venue database, drawing from

Walker's (2018) research that champions the benefits of centralized databases in enhancing operational efficiency and guest services.

The reservation system will empower students to book rooms or tables and manage check-in/check-out processes, mirroring Smith's (2018) insights into the impact of reservation systems on hotel occupancy and revenue optimization. The project will simulate payment processing and billing procedures, The role of financial management in sustaining and growing hospitality businesses. Furthermore, the simulation will include guest services, to emphasize the importance of delivering excellent service and its positive impact on customer loyalty and business success.

However, the project does come with certain limitations. Firstly, it exhibits an inherent reliance on the internet, as some features, like data synchronization, may still necessitate an internet connection, making it fall short of the goal of complete offline functionality (if Applicable). Additionally, the simulator might not fully encapsulate all the dynamic variables that can affect real businesses, as mentioned by industry experts like Johnson (2018),

including local economic conditions, seasonal variations, and unforeseen events. Furthermore, the application's venue database may become outdated over time, potentially leading to inaccuracies due to the dynamic nature of the hospitality industry, as identified by Thompson (2018). Additionally, the guest feedback system may not fully represent the intricacies of actual customer feedback, has underscored the complexities in interpreting and effectively responding to guest feedback. Lastly, the project may not entirely replicate the intricacies of large-scale hospitality operations and may not encompass every facet of hotel and restaurant management, as noted by Turner (2018) in the context of limitations in simulation-based learning. These limitations should be taken into consideration when using the application as an educational tool, with room for exploring potential solutions or future enhancements.

Definition of Terms

To enhance clarity and facilitate comprehension, the subsequent terminology is conceptually and operationally elucidated:

Database. The system will access the database to make use of the CRUD functions needed by the system to

perform its functions.

Reservation Confirmation. The system-generated notification or confirmation message sent to users after a successful booking. This feature aims to reassure users and provide them with essential details about their upcoming stay or dining experience.

Transaction security. Safeguards sensitive user information, such as credit card details, personal identification, and other financial data. This protection is vital in preventing unauthorized access, identity theft, and fraud.

System Simulator. Provide a controlled and flexible environment for testing, analyzing, and optimizing complex systems, ultimately contributing to better decision-making, reduced risks, and improved overall system performance.

User Recommendation. This feature enhances the booking simulator by tailoring recommendations and services to the specific needs of each user.

CHAPTER 2. REQUIREMENTS SPECIFICATION

This chapter elucidates the specific criteria, features, and functionalities essential for the successful realization of our project.

Hardware Specification

Hardware Specifications refers to the technical descriptions of the hardware items, its components, and capabilities. Table 1 below presents the different hardware components to be used for the completeness of this project.

Hardware	Functions	Specifications		Unit
		Minimum	Recommended	
Computer/ Processor	It is used to run the website and the database needed for the main functions of the system.	Dual Core CPU, 4 GB RAM	Quad Core, 8 GB RAM	1
Storage	It is used to store data and information from computers.	500 MB ROM	1 GB ROM	2

Table 1. Hardware Requirements

Software Specification

Software Specifications refers to the system's

software representation. Table 2 contains the project's additional software specs.

Software	Description
Visual Studio Code	A code editor completely redesigned and tuned for creating and debugging contemporary cloud and online apps. Version 1.83.1 or higher is required.
Laravel	an open-source PHP framework that provides a rich set of features to build robust, full-stack applications. Laravel offers tools for tasks commonly used in web projects, such as authentication, routing, sessions, and caching. The framework used is required to be in Version 10.35.0
Microsoft Edge	A web browser that enables user to access the system. Latest version is recommended.
Windows	An Operating system, Version 7 to 10 64-bit.
Tailwind	A front-end framework that assists systems with designs and interfaces. Version 3.3.6 is required, installing patch releases and updates are recommend.
Laragon	A portable, isolated, fast & powerful universal development environment for PHP, Node.js, Python, Java, Go, Ruby.

Table 2. Software Requirements

Functional Requirements

The functions and tasks that the system needs to complete are listed in this section. The descriptions of the data requirements, process requirements, and

output requirements are shown in Table 3.

ID NO.	Requirement Description
FR1	**Data Requirements**
Admin Account	
1.1	The admin must input email and password to access system.
1.2	The admin must input name, password, and email to register.
1.3	The admin can add, update, or remove hotels and restaurants from the system.
User Account	
1.4	The user must input email and password to access system.
1.5	The user must input name, password, and email to register.
1.6	The user must be able to reserve a table or room.
FR2	**Operational Requirements**
Admin Account	
1.7	The system must be able to accept a new user registration.
1.8	The system must accept a reservation of a table or room.
User Account	
1.9	The system must allow users to register with their name, email, and password.
2.0	The system must be able to view and track the status of reservations.
FR3	**Output Requirements**
Admin Account	
2.1	The system must be able to create a hotel and restaurant simulator.
2.2	The system must have access to system-wide analytics, including booking trends and user statistics.
2.3	The system must show the account details of all users.
User Account	
2.4	The system must show the details of the user's account.
2.5	The system must be able to show users their reservation history.

Table 3. Functional Requirements

Non-Functional Requirements

These specifications deal with the behavior characteristics that a system ought to possess. It outlines the intended behavior or characteristics of a system. It contains the following:

Operational Requirement

The operating environment or settings that the system must operate in, as well as how they might change over time, are described in the requirement description, which is displayed in Table 4.

ID NO.	Requirement Description
1.1	The system must remain accessible around the clock to enable users to make reservations at any time.

Table 4. Operational Requirements

Performance Requirement

The operating environment or settings that the system must perform. Table 5 depicts the performance requirement of the system.

ID NO.	Requirement Description
1.2	The system needs to provide swift responses, ensuring that most operations are completed within 5 seconds to facilitate a seamless and efficient booking process.
1.3	The system should support 95% concurrent users, especially during peak booking periods.

Table 5. Performance Requirements

Security Requirement

Table 6 displays the required description for security considerations, such as who can access the system's data and the requirement to protect it from loss or disturbance.

ID NO.	Requirement Description
1.4	The user’s information must be encrypted.
1.5	The system should only make the reservation function available for registered users.
1.6	The system must only allow the admin to manage user accounts and reservations.

Table 6. Security Requirements

CHAPTER 3. DESIGN AND DEVELOPMENT METHODOLOGIES

In this chapter, researchers elucidate the system design (e.g., database structure or schema), methodology used, phases, testing, evaluation, and other aspects of the development of the system.

System Design

System design is the process of creating a system's architecture, parts, interfaces, modules, and data to satisfy specified needs. This crucial stage of the software development life cycle involves several important tasks to generate a system architecture blueprint. The following are under the system design:

Database Design

In this chapter, researchers show the database design. This will consist of tables, particularly containing the fields such as name, email, date or time, password fields. The database design is an important part of the system which enables researchers to envision the flow of the system’s information throughout the processes of its functionalities.

Field Name	Data Type	Size	Default	Description
id	bigint		None	User Id
name	varchar	255	None	User Name
email	varchar	255	None	User Email

email_verified_at	timestamp		NULL	Verification Time
password	varchar	255	None	User Password
is_admin	tinyint	1	0	Admin Count
remember_token	varchar	100	NULL	User Token
created_at	timestamp		NULL	Time Created
updated_at	timestamp		NULL	Time Updated

Figure 1. Fields for User

Figure 1 contains the table for both registration and login. The fields presented are personal information such as name and email address. There are also other fields required for registration. The id is the primary key.

Field Name	**Data Type**	**Size**	**Default**	**Description**
id	bigint		None	User Id
first_name	varchar	255	None	User Firstname
last_name	varchar	255	None	User Lastname
email	varchar	255	None	User Email
tel_number	varchar	255	None	User Number
res_date	datetime		None	Reservation Date and Time
table_id	bigint		None	Table Id
guest_number	int			Number of Guest
created_at	timestamp		NULL	Time Created
updated_at	timestamp		NULL	Time Updated

Figure 2. Fields of Restaurant Reservation

Figure 2 contains the table for table reservation. The fields presented are personal information such as first and last name, email address, and contact number. There are also other fields such as reservation date and time which are

important. Id is the primary key.

Field Name	Data Type	Size	Default	Description
id	bigint		None	User Id
first_name	varchar	255	None	User Firstname
last_name	varchar	255	None	User Lastname
email	varchar	255	None	User Email
tel_number	varchar	255	None	User Number
res_date	datetime		None	Reservation Date and Time
room_id	bigint		None	Room Id
guest_number	int			Number of Guest
created_at	timestamp		NULL	Time Created
updated_at	timestamp		NULL	Time Updated

Figure 3. Fields of Hotel Reservation

Figure 3 consists of hotel room reservation information or fields. It has personal information such as the customer's name, email, and contact number. Other fields will also be related to the reservation of rooms such as room_id field and reservation date and time. Id is the primary key.

Field Name	Data Type	Size	Default	Description
id	bigint		None	Food Id
name	varchar	255	None	Food Name
description	text		None	Food Description
image	varchar	255	None	Food Image
price	decimal		None	Food price
created_at	timestamp		NULL	Time Created
updated_at	timestamp		NULL	Time Updated

Figure 4. Fields of Menu

Figure 4 consists of fields related to the restaurant menu. Name, description, price, and

image of food in the menu is in this table. Id is the primary key.

Field Name	Data Type	Size	Default	Description
id	bigint		None	Room Id
type_id	int	45	None	Room Type Id
room_status_id	int	45	None	Room Status Id
number	varchar	255		Room Number
capacity	bigint		None	Room Capacity
price	double		None	Room Price
view	varchar	255	None	Room View
created_at	timestamp		NULL	Time Created
updated_at	timestamp		NULL	Time Updated

Figure 5. Fields of Room

Figure 5 consists of fields related to Hotel Rooms. These are room price, status, capacity, and number. The id is the primary key.

Field Name	Data Type	Size	Default	Description
id	bigint		None	Transaction Id
user_id	int	45	None	User Id
customer_id	int	45	None	Customer Id
room_id	int	45		Room Id
check_in	date		None	Check-in Date
check_out	date		None	Check-Out Date
status	varchar	255	None	Transaction Status
created_at	timestamp		NULL	Time Created
updated_at	timestamp		NULL	Time Updated

Figure 6. Fields of Transaction

Figure 6 consists of fields related to the user. The id is the primary key.

Architectural Diagram/Block Diagram

In this section, the researchers use an architectural diagram to help visualize the flow of

the whole system including its features and functionalities, easier.

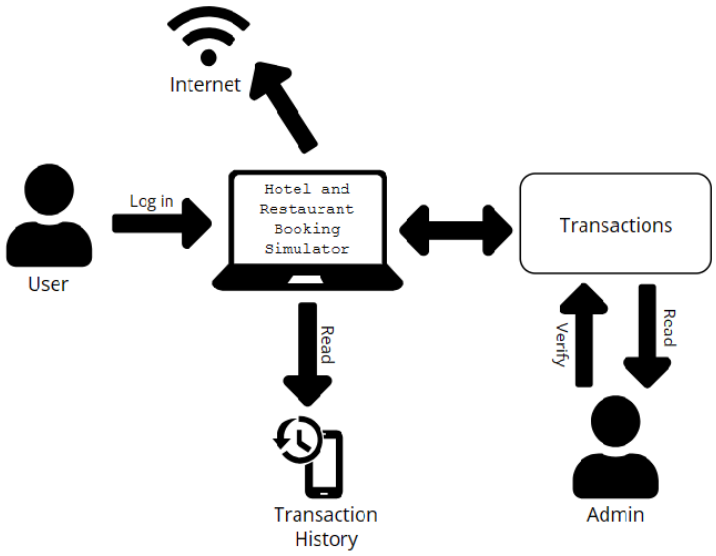

Figure 7. Architectural Diagram/Block Diagram

A system architecture shows the representation and structure of the system. In figure 7, it shows the system architecture of the proposed system.

Data Flow Diagram Level 0

This section depicts the Data Flow Diagram Level 0, which is commonly referred to as an upgraded version of the context diagram and provides a thorough grasp of the project's operational procedures.

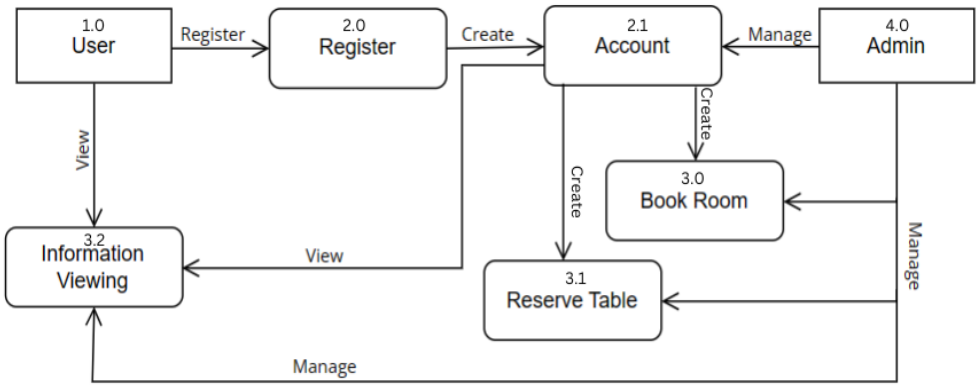

Figure 8. Data Flow Diagram Level 0

Figure 8 shows diagram 0 of the proposed system. The user can view information without registration but must register first to access other advanced features of the system.

UML Use-Case Diagram

This section contains a use case diagram that illustrates how the system functions within the interactions of the actors as well as a graphic depiction of the relationship between the system, admin, and users. The researchers will be able to recognize and arrange the whole project operating with the aid of the diagram.

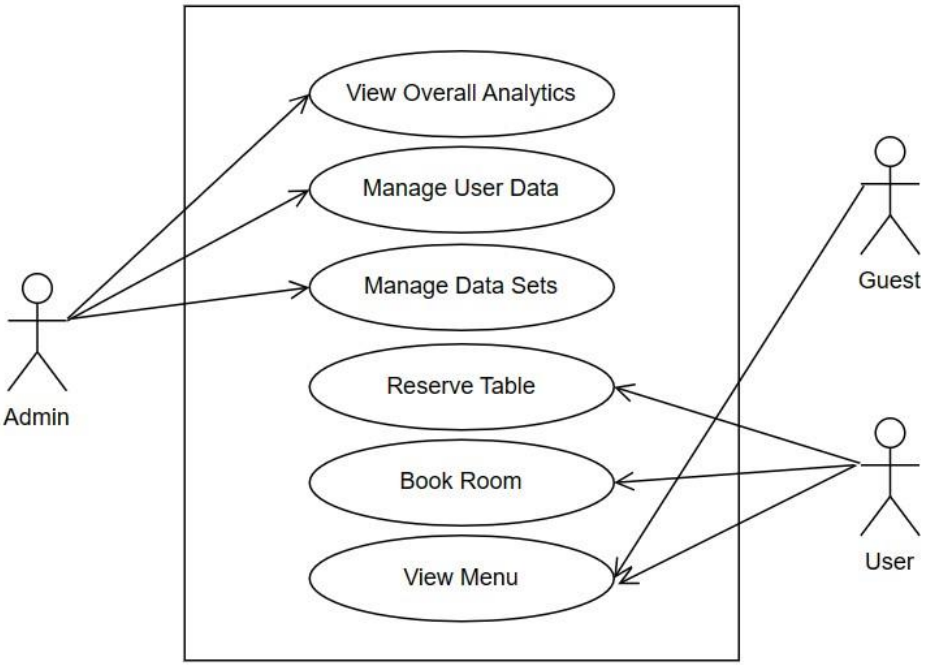

Figure 9. UML Use-case Diagram

Figure 9 depicts the features available for every user account in the system. The admin can view and manage data regarding user's or the restaurant and hotel. Guest (Unregistered User) can view information including the menu. Users must register to access advanced features such as booking or reserving a table or room.

Sample Mock-Up

A sample mock-up is a visual representation of a finished website. It includes graphics that demonstrate how the website should seem and function. It is used to fine-tune the design, discover problems, and guarantee that the system meets the user's needs and expectations. The system

users and administrative interface are depicted below.

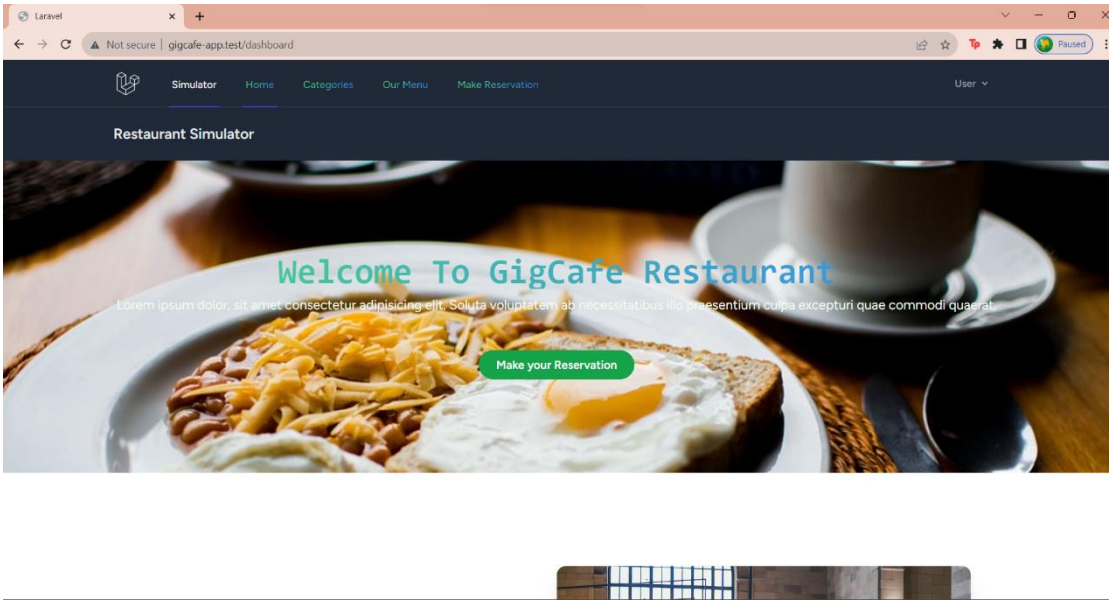

Figure 10. User Panel

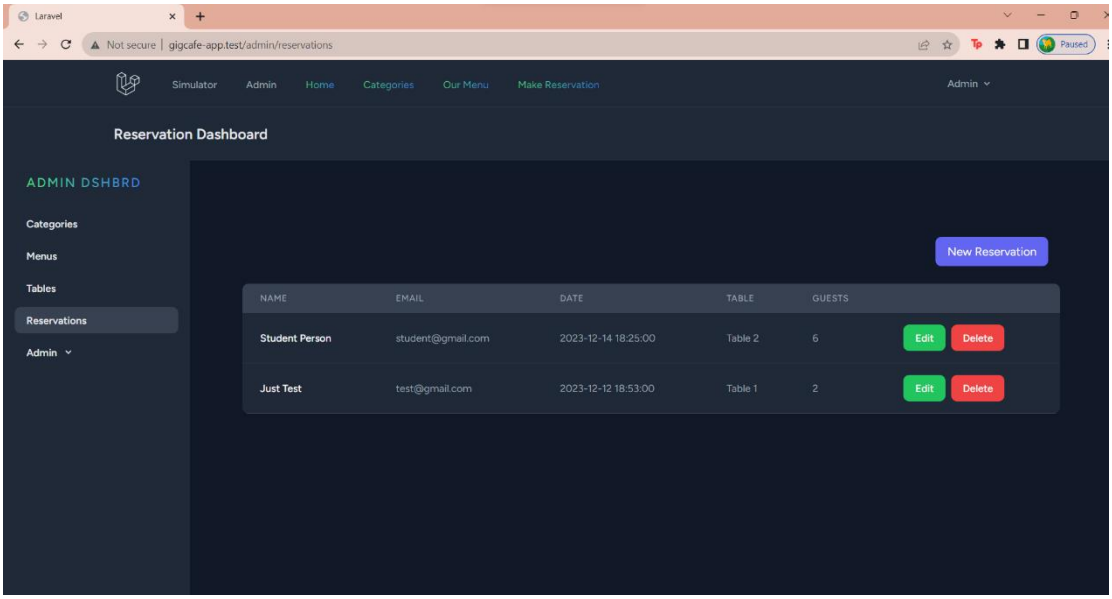

Figure 11. Admin Panel

Methodology

This section presents the methods and strategies used in this study to develop an

approach that matches its objectives. It was obtained using different processes, specifications, analysis, data gathering instruments, and evaluation that guide the researchers to manage and control the research. According to Brush and Silverthorne (2019), agile software development is a type of development. The development method for this study will be the Agile software development methodology because it works very well with small groups, timeframe, and budget. It is a methodology that anticipates the need for flexibility and applies a level of pragmatism to the delivery of the finished product. Another good reason is the great deal of flexibility that it gives, especially with constantly changing requirements.

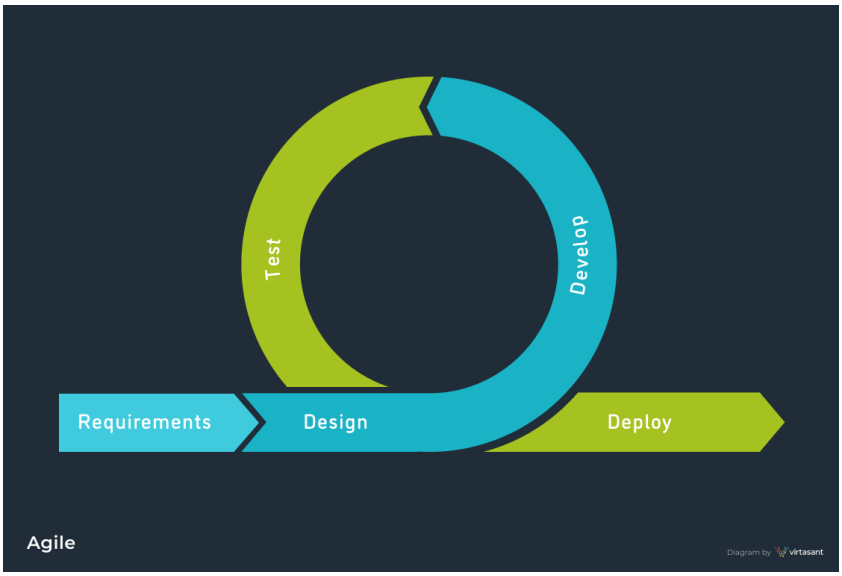

Figure 12. Agile Model

Figure 12 depicts the researchers' Agile approaches as guides in project development. The technique focuses on breaking down large projects into smaller, more manageable tasks. These activities are accomplished in short iterations, which are considered short durations, and entail teams working through the entire project lifecycle, including requirements gathering, design, coding, development, and testing, before presenting a working system to the client to present and demonstrate.

Gantt Chart

This section utilizes a Gantt chart to visualize the project's development timeline. It meticulously documents all development stages, from conception to completion. This transparent representation serves as a valuable tool for researchers, allowing them to track progress, identify deadlines, and celebrate breakthroughs achieved across various tasks.

Task Name	Task Date																			
	Oct				Nov				Dec				Jan				Feb			
	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4	Week 1	Week 2	Week 3	Week 4
1.Planning																				

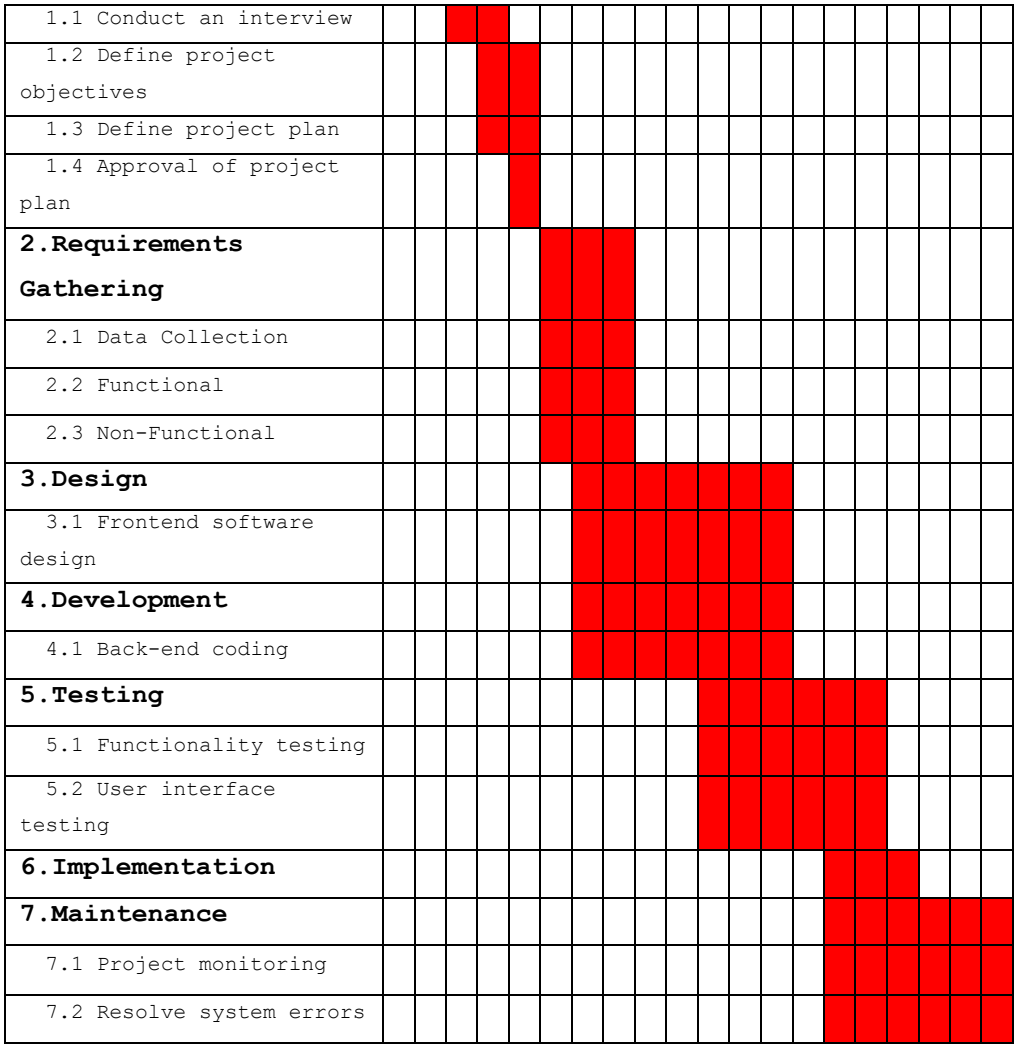

Figure 13. Gantt Chart

Legend: ■ - Completed/ Done

Figure 13 illustrates the comprehensive development process of the Hotel and Restaurant Simulator. It delineates diverse tasks with corresponding completion dates. Regular updates will be provided to researchers to ensure they stay informed about the development progress, aiding them in avoiding oversights and distinguishing tasks based on their respective completion

durations.

Testing and Evaluation

In the testing and evaluation stage of the software development process, developers need to perform assessments on the system to understand its capabilities and constraints. This step is crucial for pinpointing any issues or potential challenges before moving on to the production and deployment phases. The tests should encompass all the specifications outlined in the Requirements Phase, covering aspects like design, performance, supportability, and more. The outcomes of these evaluations will be analyzed to gauge the system's advancement and confirm its alignment with the project requirements. The developers considered the following:

1. **Unit Testing**- is a software testing method that involves the examination of individual units or components within a software system. Typically carried out by developers who possess a deep understanding of the system's internal structure, this form of testing is focused on scrutinizing specific functions, modules, and features to ensure they function as intended.

2. **Component Testing**- It entails testing the distinct elements of the system, such as modules, classes, objects, and programs, in isolation without integrating them with other components. This process aids in detecting defects or bugs within individual components before they are integrated into the overall system. Additionally, it assists in recognizing unforeseen interactions or dependencies among components that might lead to issues or errors in the system.
3. **System Testing**- is a software testing method that assesses the complete system or application along with its components to confirm the proper functionality of individual modules and accurate data transfer between them. The objective of system testing is to verify that the system aligns with its specified requirements, operates as anticipated, and functions correctly within its designated environment. This comprehensive examination of the system and its components is generally conducted after unit and integration testing phases.

4. **Unit Acceptance Testing**- is a procedure to confirm whether a unit, which may be a software, product, or service, complies with the requirements specified by end-users and clients. In this testing phase, end-users and clients engage with the unit, offering feedback on its features, usability, and performance. Their input determines whether the unit is accepted or rejected. This step holds significance in the development process as it guarantees that the unit aligns with user expectations.

CHAPTER 4. DEVELOPMENT, TESTING AND EVALUATION RESULT

Researchers examine numerous features of the system under discussion in this chapter in depth. The major emphasis is on system development phases, testing techniques, and final system assessment.

System Output

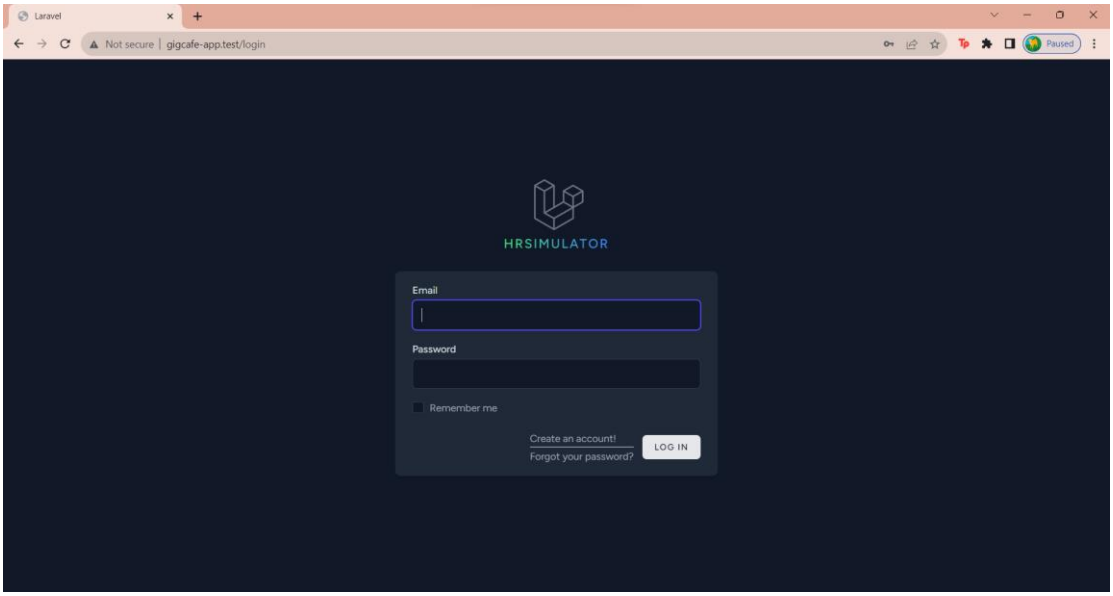

Figure 14. Login

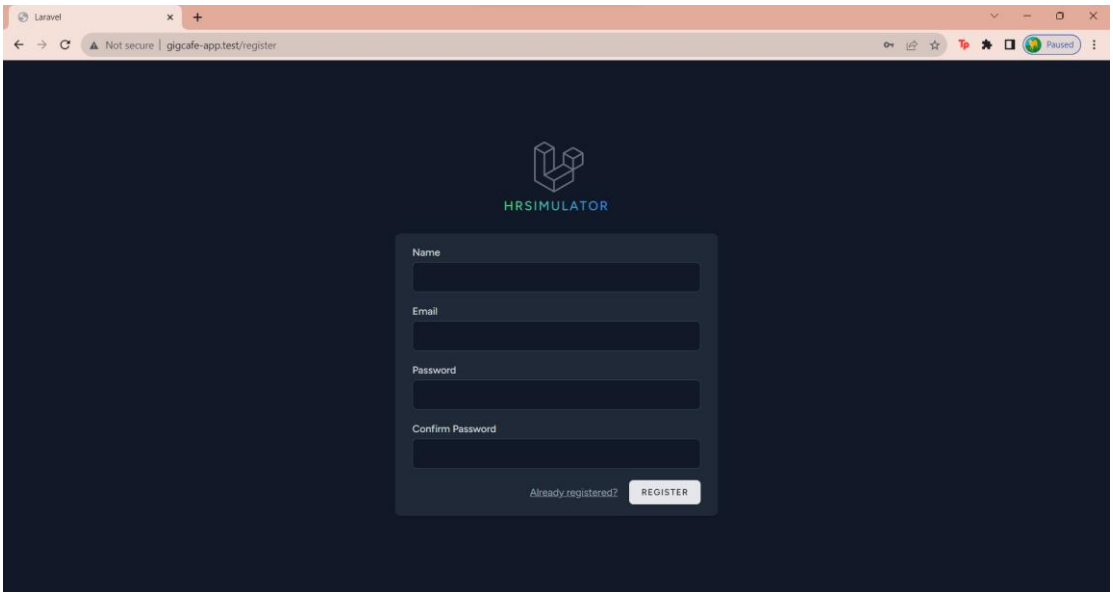

Figure 15. Register

Figure 15 is where users, both admin and public, must enter their information to register and to be able to go through Figure 14, which is the login interface.

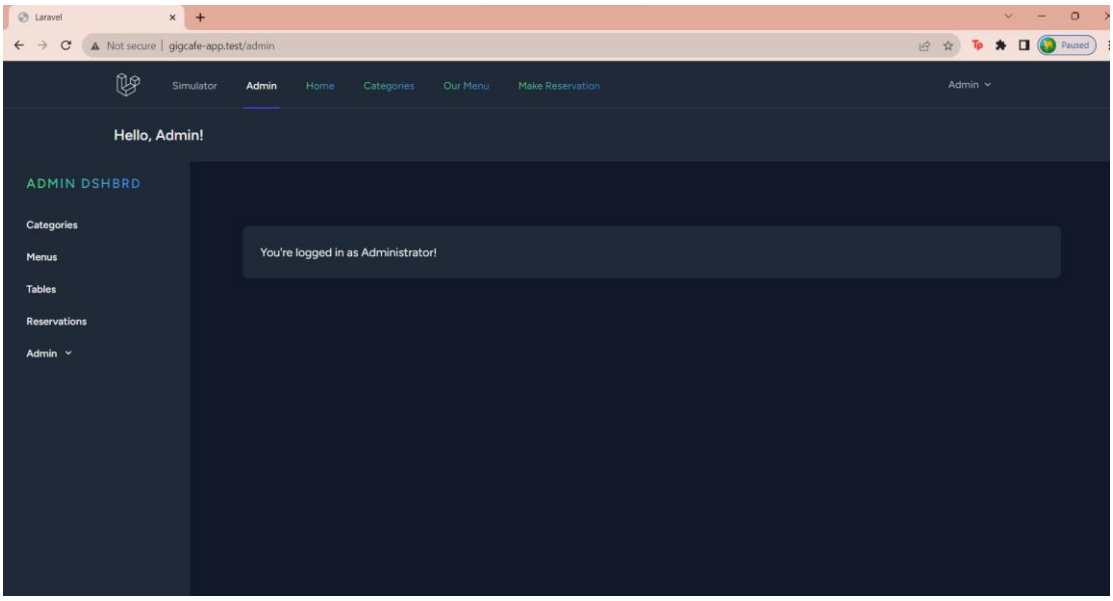

Figure 16. Admin Greeting Page

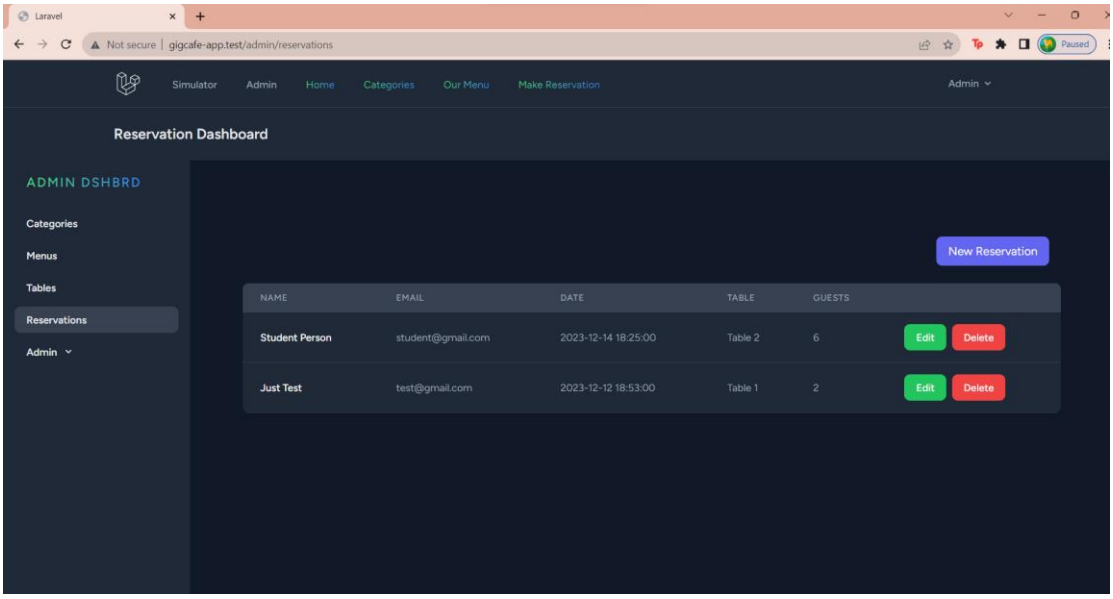

Figure 17. Admin Panel

Figures 16 and 17 are about gaining centralized

control with the Admin Panel. Administrators can efficiently manage categories, menus, tables, and most importantly, reservations. This empowers administrators to create a dynamic and responsive virtual dining experience.

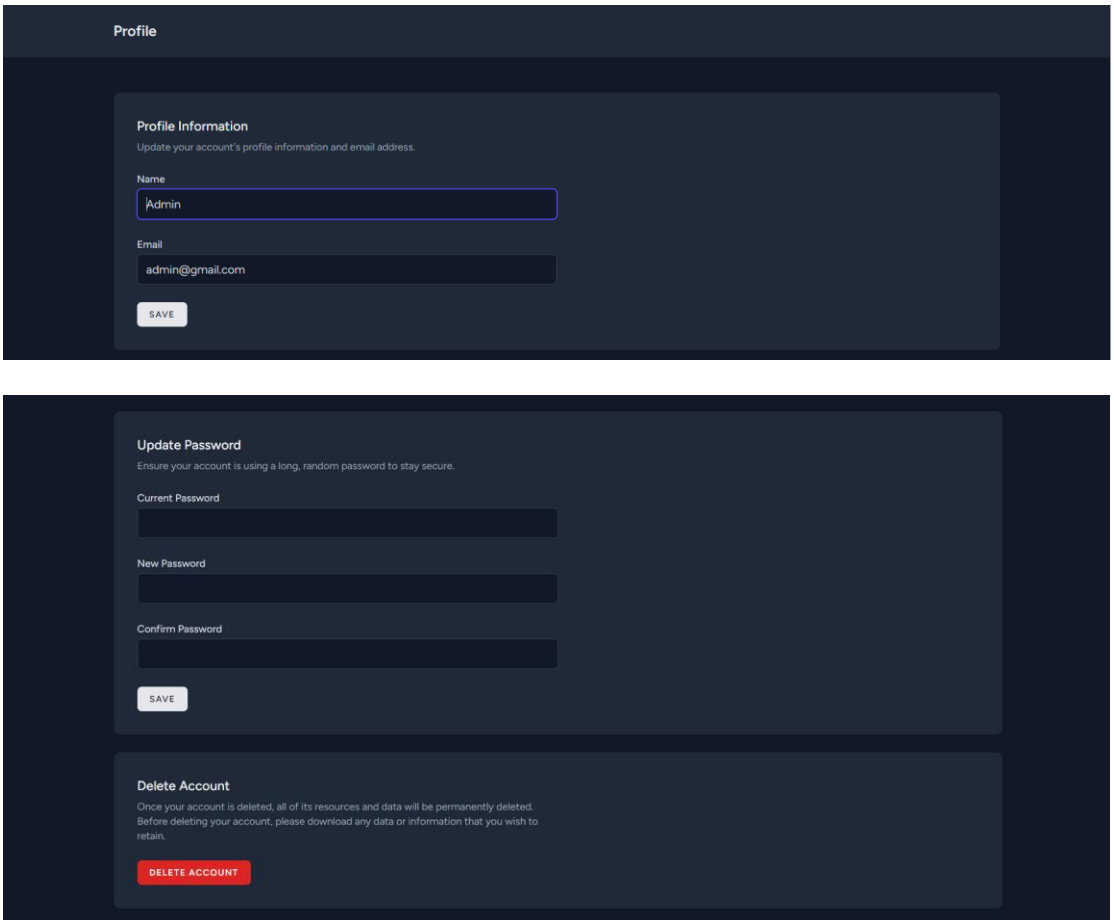

Figure 18. Profile

In figure 18, both users and administrators have access to a profile section where they can conveniently change their name, update their email, and modify their password. This ensures a personalized and secure experience within the simulation. Users can also delete

their accounts if they choose, offering flexibility and control over their virtual presence.

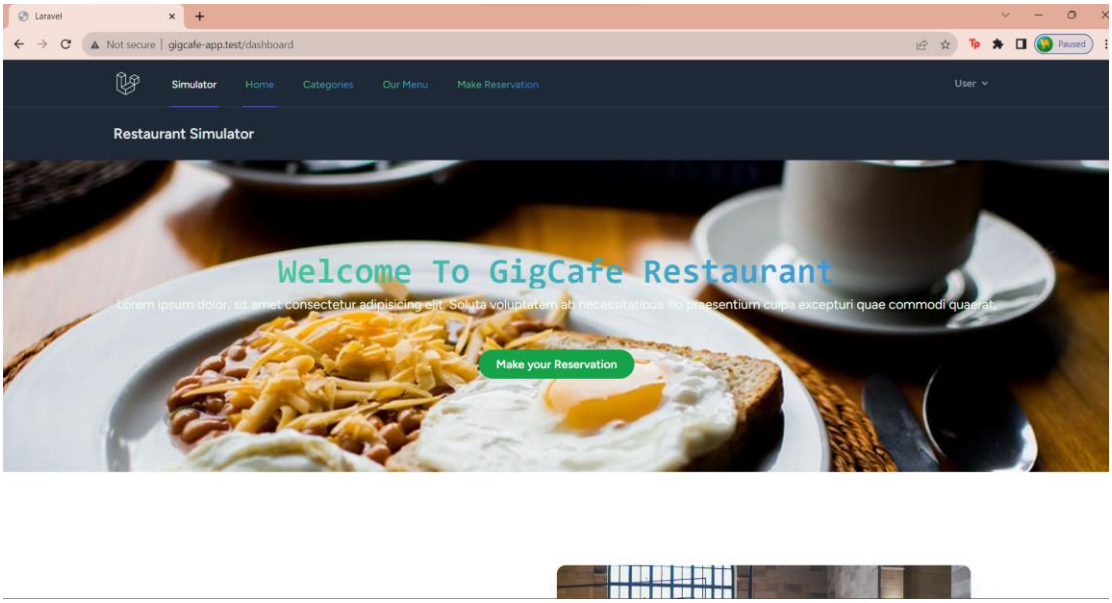

Figure 19. User Landing Page

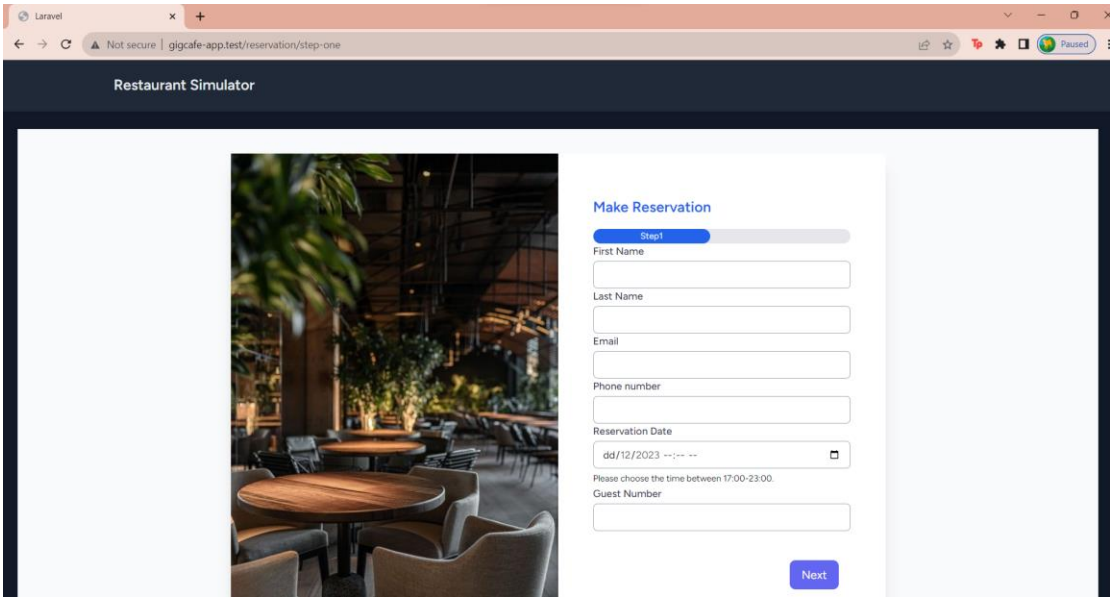

Figure 20. User Panel

Figures 19 and 20 illustrate the feature a user have control over. User panel enables easy reservation-making, providing a seamless and user-friendly

experience for planning dining events. Users can easily book virtual tables through the user panel, enhancing the realism and planning aspects of the simulation.

CHAPTER 5. CONCLUSION AND RECOMMENDATION

In this section, conclusions and recommendations are observed. Researchers summarize the findings, draw conclusions based on the study, and provide recommendations for further research or practical applications.

Conclusion

The development of the hotel and restaurant booking simulator for the College of Bachelor of Science in Hospitality Management has been a significant undertaking, guided by a set of well-defined objectives. In this comprehensive exploration, we delve into the accomplishments and implications of each objective, highlighting how the simulator has transformed the educational landscape in hospitality. One of the primary objectives was to create a simulator mode that allows users to practice and enhance their skills, particularly in multitasking scenarios. In achieving this goal, the simulator provides a dynamic environment where users can engage in various tasks concurrently, simulating real-world challenges faced in hotel and restaurant management. The ability to communicate with clients while simultaneously entering information into the system fosters a hands-on

experience, allowing users to identify and improve areas where their skills may need development. This aspect of the simulator aligns closely with the practical demands of the hospitality industry, where multitasking is a crucial skill for success. The second objective focused on making the system accessible on multiple platforms, ensuring that users can replicate real-time restaurant and hotel reservations from any location and on any device with internet access. This objective addresses the evolving nature of education and work, emphasizing flexibility and adaptability. By enabling users to engage with the simulator at their convenience, the system facilitates a more personalized and user-centric learning experience. Students and instructors alike can immerse themselves in the world of hospitality management without being bound by the constraints of a traditional classroom setting. This adaptability enhances the relevance and applicability of the simulator, preparing users for the dynamic and mobile nature of the hospitality industry. The provision of two simulator modes catering to restaurant reservations and hotel bookings constitutes the third objective. This bifurcation acknowledges the diverse career paths within the hospitality sector, allowing

users to specialize and concentrate on specific aspects of the industry. Whether a student is inclined towards restaurant management or hotel administration, the simulator provides a tailored learning experience. This not only enhances the depth of knowledge but also facilitates a more targeted and meaningful educational journey. The versatility offered by the dual simulator modes ensures that users can align their learning objectives with their career aspirations, making the educational experience more relevant and purposeful. A pivotal aspect of the development was the design of a simple and user-friendly interface, as outlined in the fourth objective. This objective recognizes the diverse range of users with varying levels of computer literacy within the hospitality management program. The interface's simplicity ensures that even those with limited technological proficiency can navigate the system with ease. This inclusivity is crucial in fostering an environment where every student, regardless of their background, can actively participate and benefit from the simulator. The user-friendly design promotes accessibility, reducing barriers to entry and encouraging a broader adoption of the educational tool. The fifth and final objective

sought to provide an alternative modern way of teaching, aligned with the contemporary age and overcoming the limitations of traditional methods. The simulator's introduction represents a paradigm shift in the approach to hospitality education. Traditional teaching methods can often be outdated, limiting the scope of learning possibilities. The simulator, by embracing modern technology and pedagogy, introduces a dynamic and engaging method of teaching basic knowledge about hospitality education. Through the incorporation of simulation and real-world scenarios, it bridges the gap between theory and practice, preparing students for the challenges they will face in their professional careers.

In summary, the hotel and restaurant booking simulator has not only met but exceeded its objectives, ushering in a new era for hospitality education. The immersive simulator mode addresses the practical demands of the industry, providing users with valuable hands-on experience. Accessibility across multiple platforms caters to the evolving nature of education and work, promoting flexibility and adaptability. The dual simulator modes offer a specialized learning experience, allowing users to focus on their specific

areas of interest within the hospitality sector. The user-friendly interface ensures inclusivity, making the simulator accessible to users of all computer literacy levels. Finally, the adoption of modern teaching methods through simulation aligns the educational approach with the contemporary age, breaking away from the limitations of traditional methodologies.

As the hospitality industry continues to evolve, the hotel and restaurant booking simulator stands as a testament to the College of Bachelor of Science in Hospitality Management's commitment to providing its students with a cutting-edge and relevant education. The simulator not only equips students with the necessary skills but also instills a mindset of adaptability and innovation, preparing them for success in a dynamic and ever-changing professional landscape. In essence, the simulator serves as a bridge between academic knowledge and real-world application, empowering students to excel in their chosen careers within the vibrant and challenging field of hospitality management.

Recommendation

For Students. The researchers recommend for the students are encouraged to actively engage with the

hotel and restaurant booking simulator by participating in its multitasking scenarios, honing practical skills crucial for success in hospitality management. Take advantage of the simulator's flexibility to practice and refine skills at your own pace and convenience. The specialized modes for restaurant reservations and hotel bookings allow you to tailor your learning path to align with your specific career aspirations. Embrace the user-friendly interface to ensure a smooth learning experience, providing valuable feedback for ongoing improvements.

For Administrators and Instructors. The researchers recommend that administrators and instructors are advised to integrate the simulator into the curriculum, supplementing traditional teaching methods with practical, real-world experiences. Utilize the simulator as a tool for tracking and assessing student progress in multitasking scenarios and specialized modes, adapting instructional strategies accordingly. Encourage instructors to undergo training on the simulator, fostering a collaborative environment for sharing best practices and innovative teaching methods. Consider the simulator as a means for professional development within the field of hospitality education.

For Workers in the Hospitality Industry. The researchers recommend that professionals who are currently working in the hospitality industry should view the simulator as an opportunity for continuous skill enhancement. Apply multitasking scenarios and specialized modes to refine skills and stay updated with industry best practices. Embrace the technological advancements presented by the simulator, aligning your skills with the modern demands of the industry. Advocate for the integration of similar tools in workplace training programs to ensure a workforce is adept at leveraging simulation technology for ongoing learning and development.

For Future Researchers. The researchers recommend that future researchers are encouraged to conduct studies evaluating the impact of the simulator on student learning outcomes and skill development within the context of hospitality education. Investigate user experience aspects, focusing on the effectiveness of the interface design for users of varying computer literacy levels. Identify opportunities for interface improvements based on user feedback to enhance overall usability. Explore the broader implications of integrating simulation technology in hospitality

education, contributing to the field's understanding of pedagogical innovations and strategies for optimizing the learning experience through simulation. By following these recommendations, stakeholders across various roles can contribute to the ongoing improvement and understanding of simulation technology in hospitality management education.

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