



INTERNSHIP REPORT

Development and Implementation of a
Management Application for ANALOG Play Zone

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Dedication

This internship report is dedicated to my loving parents, whose unwavering support and encouragement have been the driving force behind my pursuit of knowledge and personal growth.

Their sacrifices, guidance, and belief in my abilities have been a constant source of inspiration throughout my educational journey.

I am forever grateful for their unwavering love and for instilling in me the values of perseverance, dedication, and continuous learning.

Acknowledgments

I would like to express my heartfelt gratitude to the team at ANALOG Play Zone for granting me the opportunity to undertake this internship and for their unwavering support throughout the entire duration. Their commitment to excellence and passion for innovation have provided me with a stimulating environment to learn and grow.

I extend my sincere appreciation to my supervisor, RAHMOUNI Oussama for their guidance, mentorship, and professional insights. Their expertise and constructive feedback have played a pivotal role in shaping my skills and knowledge in web development. I am truly grateful for their patience, dedication, and for entrusting me with challenging tasks that have allowed me to stretch my abilities.

I would like to acknowledge the invaluable contributions of my fellow colleagues at ANALOG Play Zone. Their collaborative spirit, willingness to share knowledge, and teamwork have greatly enriched my internship experience. Their support and encouragement have made me feel part of a dynamic and inspiring community.

I am deeply grateful to my educational institution for providing me with a solid foundation and equipping me with the necessary tools and knowledge to excel in my field. The comprehensive curriculum and dedicated instructors have prepared me well for the challenges encountered during this internship.

I would also like to express my appreciation to my family and friends for their unwavering support, understanding, and encouragement throughout this journey. Their belief in me and their constant motivation have been instrumental in my success.

Finally, I would like to extend my gratitude to all the individuals who have contributed to my growth and development. Whether through their guidance, inspiration, or simply being there to lend a listening ear, their presence has made a significant impact on my professional journey.

To everyone mentioned above and those who have played a part in my internship experience, I offer my sincerest thanks. Your support, mentorship, and belief in my abilities have been invaluable, and I am truly honored to have had the opportunity to work with such exceptional individuals and be part of a remarkable community.

1. Introduction

1.1 Overview

This internship report provides a comprehensive account of the development and implementation of a management application for ANALOG Play Zone. The report encompasses an in-depth analysis of the company's requirements, the selection of appropriate technologies, the development process, and the evaluation of the application's performance. It aims to showcase the knowledge, skills, and experiences gained during the internship period, highlighting the significance of effective management systems in enhancing the tracking process and streamlining operations in modern businesses. The report also delves into the methodologies, tools, and techniques utilized throughout the project, emphasizing the practical application of web development concepts and showcasing the successful delivery of a robust and scalable application.

1.2 Objectives

The primary objectives of this internship were to analyze the requirements of ANALOG Play Zone, design and develop a management application, and evaluate its performance.

Specifically, the internship aimed to:

- a. Understand the specific needs of ANALOG Play Zone: Conduct a thorough analysis of the company's management requirements, including client management, machine management, and subscription tracking.
- b. Develop a comprehensive user management application: Utilize industry-standard web development technologies and frameworks to design and implement a user-friendly and efficient application that addresses the identified requirements.
- c. Enhance user experience and operational efficiency: Implement intuitive user interfaces, streamlined workflows, and automated processes to optimize the management of clients, machines, and subscriptions, leading to improved customer satisfaction and operational effectiveness.
- d. Evaluate the application's performance and reliability: Conduct rigorous testing to ensure the application's functionality, security, and stability, and gather feedback from stakeholders to make necessary refinements.
- e. Gain practical experience in full-stack web development: Apply theoretical knowledge acquired during the training program to real-world scenarios, further honing skills in programming languages, databases, and frameworks.

By achieving these objectives, this internship aimed to contribute to the digital transformation of ANALOG Play Zone, providing them with a robust management application that meets their specific needs and supports their business growth.

1.3 Significance of the Management Application

The development and implementation of a management application hold immense significance for ANALOG Play Zone. This application plays a vital role in optimizing their operations, enhancing customer experience, and driving business growth.

The following are the key areas where the management application brings significant value:

- a. Streamlined Client Management: The application enables ANALOG Play Zone to efficiently manage client information, including personal details, subscription status, and stay duration. With streamlined client management, the company can provide personalized experiences, track customer preferences, and ensure smooth interactions with clients.
- b. Efficient Machine Management: The application facilitates the effective management of gaming machines within ANALOG Play Zone. It allows the company to track machine availability, perform maintenance scheduling, and generate usage reports. By ensuring the smooth operation of machines, the management application contributes to an enhanced gaming experience for customers.
- c. Improved Data Analysis and Reporting: The management application empowers ANALOG Play Zone with robust reporting and data analysis capabilities. It generates insightful reports on client demographics, machine utilization, and subscription trends. These reports provide valuable business intelligence, enabling informed decision-making, targeted marketing strategies, and continuous improvement of services.
- d. Enhanced Security and Privacy: The application incorporates robust security measures to protect client data and ensure privacy. It includes features such as user authentication, secure password storage, and role-based access control. By prioritizing data security, the management application instills trust and confidence among clients, strengthening the company's reputation.

Overall, the management application brings significant value to ANALOG Play Zone by centralizing and automating critical business processes. It streamlines client management, facilitates efficient machine operations, enables proactive subscription tracking, provides valuable insights through data analysis, and prioritizes security and privacy. With the implementation of this application, ANALOG Play Zone can achieve operational excellence, deliver exceptional customer experiences, and drive sustainable business growth.

4. Company Presentation

4.1 Background of ANALOG Play Zone

ANALOG Play Zone is a dynamic and innovative startup that has recently emerged in the board gaming industry. Established in [year], the startup is driven by a passion for games and a vision to create unique and immersive gaming experiences for enthusiasts of all ages.

As a startup, ANALOG Play Zone brings a fresh and exciting perspective to the gaming landscape. The startup's founders, inspired by their love for games and their desire to share that passion with others, identified a gap in the market for a modern and inclusive gaming center. With a strong emphasis on creativity, community-building, and exceptional customer service, ANALOG Play Zone aims to become a go-to destination for board game enthusiasts and casual players alike.

With its focus on fostering a sense of community and delivering memorable gaming experiences, ANALOG Play Zone has quickly gained recognition and a loyal following. The startup's commitment to excellence and continuous improvement drives its mission to create an unparalleled gaming environment that captivates and engages customers.

4.2 Importance of User Management for ANALOG Play Zone

To support its rapid growth and optimize its operations, ANALOG Play Zone recognizes the need for a comprehensive user management application. This application will serve as a central hub for client management, machine administration, and subscription tracking. By harnessing the power of technology, ANALOG Play Zone aims to enhance efficiency, streamline processes, and provide an exceptional user experience for its growing customer base.

As an intern, I am thrilled to contribute to the development and implementation of the user management application for ANALOG Play Zone. By leveraging my skills in full-stack web development, I have the opportunity to support the startup in realizing its vision, optimizing operations, and delivering seamless user experiences. Through this internship, I aim to make a meaningful impact on the success and growth of ANALOG Play Zone as it establishes itself as a lead in the gaming industry on a local scale.

4.3 Contribution to the User Management Application

During my internship at ANALOG Play Zone, I had the privilege of making a significant contribution to the development and implementation of the management application. With a focus on creating a comprehensive solution that caters to the unique needs of the gaming center, my role encompassed various key areas that were vital to the success of the application.

I played a pivotal role in implementing the core functionalities of the application. This included the development of features such as client management, machine administration, and subscription tracking. Through coding, testing, and continuous refinement, I ensured that the application provided robust and reliable functionality, meeting the specific requirements and objectives set by ANALOG Play Zone.

In addition to the front-end development, I also contributed to the back-end infrastructure of the application. Leveraging my expertise in Laravel and MySQL, I designed and implemented a secure and scalable database structure that efficiently stores and retrieves user data. By optimizing database queries and implementing proper data modeling techniques, I aimed to enhance the overall performance and responsiveness of the application.

Throughout the development process, I actively collaborated with the team, incorporating feedback and making iterative improvements to the application. I also documented the development process, including the system architecture, database design, and codebase, to ensure future maintainability and scalability.

5. Part 1: Analysis

5.1 Need Analysis

Before embarking on the development of the user management application for ANALOG Play Zone, a comprehensive need analysis was conducted to understand the specific requirements and challenges faced by the gaming center. This need analysis served as the foundation for designing and implementing a solution that would effectively address the identified needs and streamline operations.

The need analysis began by examining the existing processes and systems in place at ANALOG Play Zone. This involved conducting interviews with key stakeholders, including management, staff, and clients, to gain insights into the pain points and limitations of the current manual management methods. Through these discussions, it became evident that there was a pressing need for a centralized and automated system to manage client data, machine administration, and overall tracking.

The analysis also considered the evolving landscape of the gaming industry and the increasing demand for a seamless user experience. With competition on the rise, ANALOG Play Zone recognized the importance of providing efficient services and personalized experiences to its clients.

Overall, the need analysis served as a crucial step in identifying the specific requirements and challenges faced by ANALOG Play Zone. It provided valuable insights into the gaps in the existing management processes and guided the development of a user management application that would streamline operations, enhance user experience, and address the unique needs of the gaming center and its clients.

5.2 Backlog and User Stories

To ensure efficient administration and management of the user management application, a dedicated set of user stories were identified and prioritized specifically for the admin role. These user stories encompassed a range of essential functionalities that empowered the admin to oversee and control various aspects of the application. Here are some examples:

User Story 1:

User Story Description: As an admin, I want to be able to log in to the application securely.
Priority: High

User Story 2:

User Story Description: As an admin, I want to be able to log out of the application and end my session.

Priority: High

User Story 3:

User Story Description: As an admin, I want to be able to view a list of all users registered in the system.

Priority: High

User Story 4:

User Story Description: As an admin, I want to be able to add new users and provide them with login credentials.

Priority: High

User Story 5:

User Story Description: As an admin, I want to be able to edit user information, such as their name, email, and role.

Priority: Medium

User Story 6:

User Story Description: As an admin, I want to be able to delete users who are no longer authorized to access the application.

Priority: Medium

User Story 7:

User Story Description: As an admin, I want to be able to assign specific roles and permissions to users based on their responsibilities.

Priority: High

User Story 8:

User Story Description: As an admin, I want to be able to add new services offered by ANALOG Play Zone.

Priority: High

User Story 9:

User Story Description: As an admin, I want to be able to edit service details, such as name, description, and pricing.

Priority: Medium

User Story 10:

User Story Description: As an admin, I want to be able to delete services that are no longer available or relevant.

Priority: Medium

User Story 11:

User Story Description: As an admin, I want to be able to view a list of all clients registered in the system.

Priority: High

User Story 12:

User Story Description: As an admin, I want to be able to add new clients and capture their relevant information.

Priority: High

User Story 13:

User Story Description: As an admin, I want to be able to edit client information, such as contact details and subscription status.

Priority: Medium

User Story 14:

User Story Description: As an admin, I want to be able to delete client records if necessary.

Priority: Medium

User Story 15:

User Story Description: As an admin, I want to be able to manage subscriptions and view them in a calendar format for better tracking and scheduling.

Priority: High

These user stories reflect the crucial functionalities required for efficient administration and user management within the application. By prioritizing these features, the admin can effectively log in, manage user accounts, assign roles and permissions, add, edit, view, and delete services, manage client information, and handle subscriptions with ease. These capabilities empower the admin to maintain control and streamline operations within ANALOG Play Zone.

5.3 Diagrams and Models

UML (Unified Modeling Language) and Merise are two commonly used modeling techniques in software engineering to visualize and document the structure, behavior, and relationships of a system. Both techniques offer distinct advantages and serve different purposes.

5.3.1 UML Diagrams

UML:

UML is a standardized modeling language used to represent and communicate software designs. It provides a set of diagrams that allow developers, designers, and stakeholders to understand the architecture, components, interactions, and behavior of a system. UML

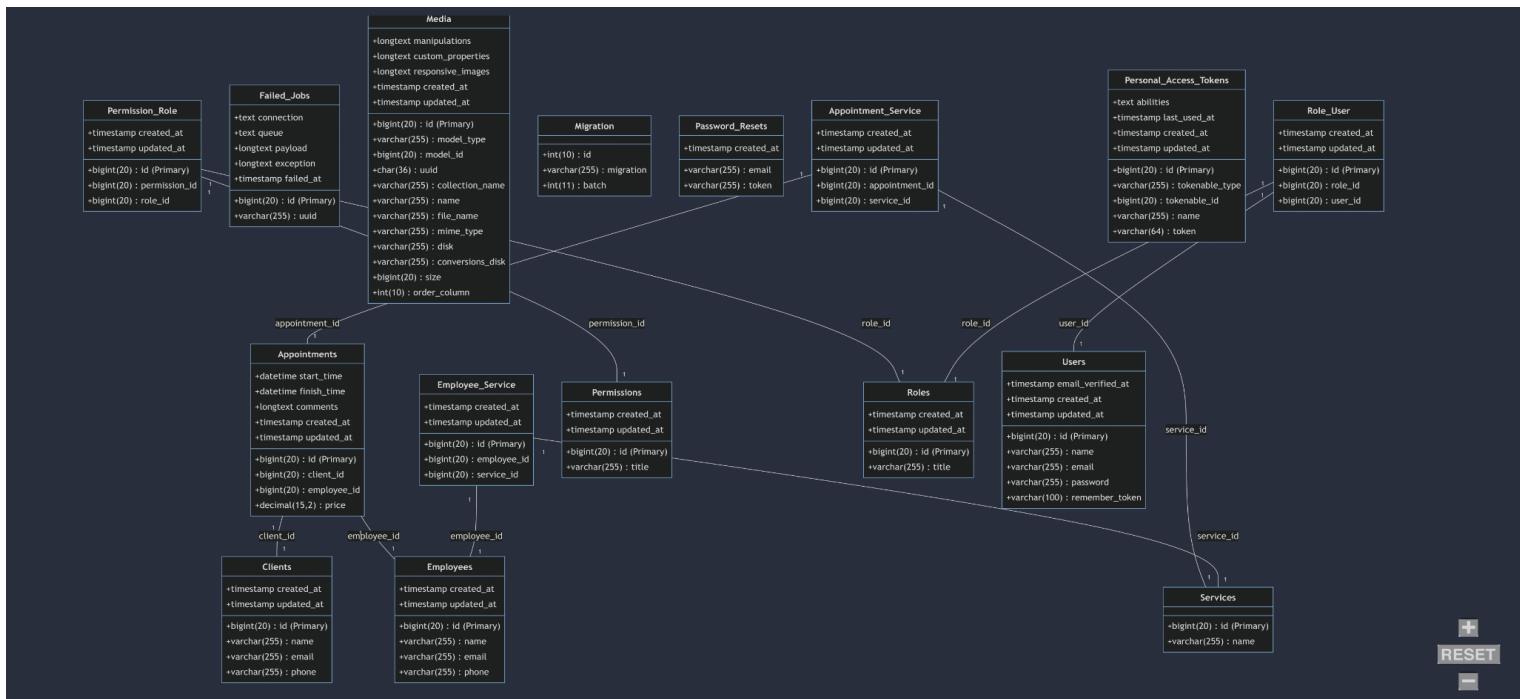
diagrams can range from high-level conceptual models to detailed implementation models. Some common types of UML diagrams include:

- Class Diagram: It represents the static structure of the system, showing classes, attributes, methods, and their relationships.
- Use Case Diagram: It illustrates the functional requirements of the system by capturing interactions between actors (users) and use cases (system functions).
- Sequence Diagram: It depicts the dynamic behavior of the system by illustrating the sequence of interactions between objects over time.
- Activity Diagram: It models the flow of activities within the system, representing the steps and decision points in a process.
- State Machine Diagram: It represents the different states and transitions of an object or system over time.

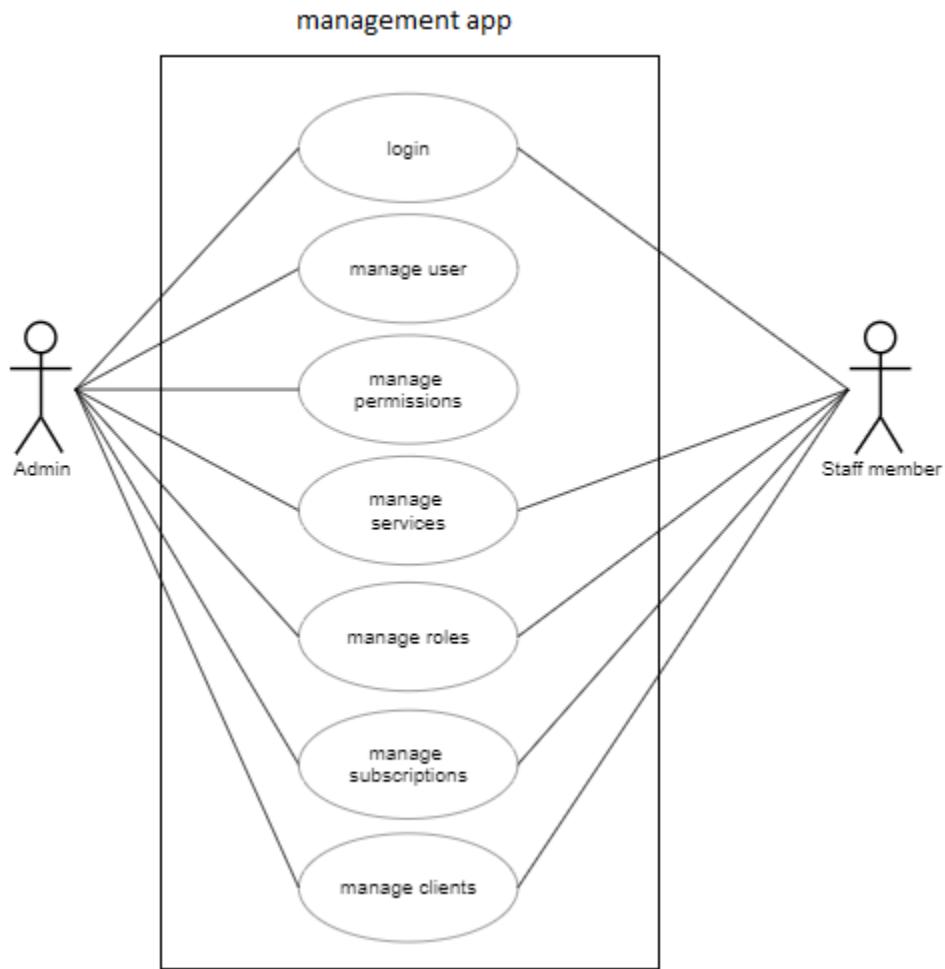
Benefits of UML:

- Visual Representation: UML provides a visual representation of system components, relationships, and behaviors, making it easier to understand and communicate complex software designs.
- Standardization: UML is a standardized language, allowing developers and stakeholders from different backgrounds to share a common understanding of the system.
- Documentation: UML diagrams serve as documentation that can be used to analyze, maintain, and enhance the system throughout its lifecycle.
- Analysis and Design: UML supports both high-level analysis and detailed design, enabling developers to capture requirements, design structures, and model interactions effectively.

CLASS DIAGRAM



USE CASE DIAGRAM:



5.3.2 Data Dictionary

A comprehensive data dictionary is created to document the structure and definitions of all data entities used in the management application. The data dictionary provides an overview of the database tables, their attributes, and the relationships between them. It serves as a valuable resource for developers and stakeholders to understand the data structure and ensure data integrity.

In this case here is the data dictionary of the management system:

appointments

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
client_id	bigint(20)	Yes	NULL	clients -> id		
employee_id	bigint(20)	Yes	NULL	employees -> id		
start_time	datetime	No				
finish_time	datetime	No				
price	decimal(15,2)	Yes	NULL			
comments	longtext	Yes	NULL			
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	1	A	No	
appointments_client_id_foreign	BTREE	No	No	client_id	1	A	Yes	
appointments_employee_id_foreign	BTREE	No	No	employee_id	1	A	Yes	

appointment_service

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
appointment_id	bigint(20)	No		appointments -> id		
service_id	bigint(20)	No		services -> id		
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	
appointment_service_appointment_id_foreign	BTREE	No	No	appointment_id	0	A	No	
appointment_service_service_id_foreign	BTREE	No	No	service_id	0	A	No	

clients

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
name	varchar(255)	Yes	NULL			
email	varchar(255)	Yes	NULL			
phone	varchar(255)	Yes	NULL			
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	1	A	No	

employees

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
name	varchar(255)	Yes	NULL			
email	varchar(255)	Yes	NULL			
phone	varchar(255)	Yes	NULL			
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	1	A	No	

employee_service

Column	Type	Null	Default	Links to	Comments	Media type		
id (Primary)	bigrnt(20)	No						
employee_id	bigrnt(20)	No		employees -> id				
service_id	bigrnt(20)	No		services -> id				
created_at	timestamp	Yes	NULL					
updated_at	timestamp	Yes	NULL					
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	
employee_service_employee_id_foreign	BTREE	No	No	employee_id	0	A	No	
employee_service_service_id_foreign	BTREE	No	No	service_id	0	A	No	

media

Column	Type	Null	Default	Links to	Comments	Media type		
id (Primary)	bigrnt(20)	No						
model_type	varchar(255)	No						
model_id	bigrnt(20)	No						
uuid	char(36)	Yes	NULL					
collection_name	varchar(255)	No						
name	varchar(255)	No						
file_name	varchar(255)	No						
mime_type	varchar(255)	Yes	NULL					
disk	varchar(255)	No						
conversions_disk	varchar(255)	Yes	NULL					
size	bigrnt(20)	No						
manipulations	longtext	No						
custom_properties	longtext	No						
responsive_images	longtext	No						
order_column	int(10)	Yes	NULL					
created_at	timestamp	Yes	NULL					
updated_at	timestamp	Yes	NULL					
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	
media_model_type_model_id_index	BTREE	No	No	model_type	0	A	No	
				model_id	0	A	No	

migrations

Column	Type	Null	Default	Links to	Comments	Media type		
id (Primary)	int(10)	No						
migration	varchar(255)	No						
batch	int(11)	No						
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	15	A	No	

password_resets

Column	Type	Null	Default	Links to	Comments	Media type		
email	varchar(255)	No						
token	varchar(255)	No						
created_at	timestamp	Yes	NULL					
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
password_resets_email_index	BTREE	No	No	email	0	A	No	

failed_jobs

Column	Type	Null	Default		Links to	Comments	Media type
id (Primary)	bigint(20)	No					
uuid	varchar(255)	No					
connection	text	No					
queue	text	No					
payload	longtext	No					
exception	longtext	No					
failed_at	timestamp	No	current_timestamp()				

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	
failed_jobs_uuid_unique	BTREE	Yes	No	uuid	0	A	No	

permissions

Column	Type	Null	Default		Links to	Comments	Media type
id (Primary)	bigint(20)	No					
title	varchar(255)	No					
created_at	timestamp	Yes	NULL				
updated_at	timestamp	Yes	NULL				

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	25	A	No	

permission_role

Column	Type	Null	Default		Links to	Comments	Media type
id (Primary)	bigint(20)	No					
permission_id	bigint(20)	Yes	NULL	permissions -> id			
role_id	bigint(20)	Yes	NULL	roles -> id			
created_at	timestamp	Yes	NULL				
updated_at	timestamp	Yes	NULL				

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	26	A	No	
permission_role_permission_id_foreign	BTREE	No	No	permission_id	26	A	Yes	
permission_role_role_id_foreign	BTREE	No	No	role_id	4	A	Yes	

personal_access_tokens

Column	Type	Null	Default		Links to	Comments	Media type
id (Primary)	bigint(20)	No					
tokenable_type	varchar(255)	No					
tokenable_id	bigint(20)	No					
name	varchar(255)	No					
token	varchar(64)	No					
abilities	text	Yes	NULL				
last_used_at	timestamp	Yes	NULL				
created_at	timestamp	Yes	NULL				
updated_at	timestamp	Yes	NULL				

Indexes								
Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	
personal_access_tokens_token_unique	BTREE	Yes	No	token	0	A	No	
personal_access_tokens_tokenable_type_tokenable_id_index	BTREE	No	No	tokenable_type	0	A	No	
				tokenable_id	0	A	No	

roles

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
title	varchar(255)	No				
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	2	A	No	

role_user

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
role_id	bigint(20)	Yes	NULL	roles -> id		
user_id	bigint(20)	Yes	NULL	users -> id		
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	
role_user_role_id_foreign	BTREE	No	No	role_id	0	A	Yes	
role_user_user_id_foreign	BTREE	No	No	user_id	0	A	Yes	

services

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
name	varchar(255)	No				
price	decimal(15,2)	Yes	NULL			
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	0	A	No	

Users

Column	Type	Null	Default	Links to	Comments	Media type
id (Primary)	bigint(20)	No				
name	varchar(255)	No				
email	varchar(255)	No				
email_verified_at	timestamp	Yes	NULL			
password	varchar(255)	No				
remember_token	varchar(100)	Yes	NULL			
created_at	timestamp	Yes	NULL			
updated_at	timestamp	Yes	NULL			

Indexes

Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comment
PRIMARY	BTREE	Yes	No	id	2	A	No	
users_email_unique	BTREE	Yes	No	email	2	A	No	

6. Part 2: Technology Selection and Comparative Analysis

6.1 Overview of Technologies Used

6.1.1 PHP

PHP, which stands for Hypertext Preprocessor, is a widely-used open-source scripting language for web development. It is renowned for its flexibility, ease of use, and vast community support. PHP enables developers to build dynamic and interactive web applications, making it a popular choice for server-side scripting.

6.1.2 Frameworks:

A framework is a software tool or platform that provides developers with a foundation for building applications. It offers a set of pre-written code, libraries, and functionalities that facilitate the development process by abstracting complex tasks and providing a structured approach. Frameworks enforce coding standards, promote code reuse, and help ensure the scalability, maintainability, and security of the application. By leveraging a framework, developers can focus more on the specific logic and requirements of their application rather than reinventing the wheel.

6.1.3 Examples of PHP Frameworks:

Laravel: Laravel is a widely popular PHP framework that has gained significant traction since its release in 2011. It offers a rich feature set, including a robust routing system, ORM (Object-Relational Mapping), authentication, caching, and more. Laravel follows the Model-View-Controller (MVC) architectural pattern and promotes modern development practices. It is known for its expressive syntax, elegant API design, and extensive documentation, making it a top choice for building web applications.

Symfony: Symfony is a powerful PHP framework known for its flexibility and scalability. It is highly regarded for its adherence to industry standards and best practices. Symfony provides a comprehensive set of reusable components, which can be used independently or collectively to build applications. With its modular architecture, Symfony allows developers to customize and extend functionality based on project requirements. It emphasizes code quality, maintainability, and testability, making it a preferred choice for large-scale enterprise applications.

After careful consideration, we have chosen to utilize both Laravel and Symfony in our project for specific reasons:

Symfony: We opted for Symfony due to its maturity, reliability, and robust architecture. Symfony follows best practices and promotes modular development using reusable components. Its adherence to standards and extensive testing tools ensure high-quality code. Symfony's rich ecosystem provides a wide range of libraries, bundles, and extensions, enabling developers to build complex applications efficiently. Furthermore, Symfony's recent release of version 6.0 introduced significant improvements, particularly in terms of scalability and security, further solidifying our choice.

Laravel Framework

We selected Laravel for its wide adoption and popularity within the PHP community. Laravel offers a comprehensive ecosystem with a vibrant and active community, providing abundant resources, packages, and extensions. Its elegant syntax and intuitive API enable rapid application development. Laravel's extensive documentation and user-friendly features, such as Artisan CLI (Command-Line Interface) and Blade templating engine, enhance developer productivity. Additionally, Laravel's focus on performance optimization, security measures, and scalability aligns well with our project requirements.

Advantages of Laravel:

- a. Robust and secure
- b. Elegant syntax and code organization
- c. Extensive built-in features and libraries
- d. Strong community support
- e. Integration with third-party libraries and services

By combining the strengths of Laravel and Symfony, we aim to leverage Laravel's developer-friendly features and Symfony's enterprise-level capabilities to create a powerful and scalable application that meets our project objectives.

6.1.2 MySQL

MySQL is a popular open-source relational database management system. It provides a scalable and reliable solution for storing and retrieving data. MySQL is compatible with various platforms and programming languages, including PHP. It offers advanced data manipulation capabilities, efficient query execution, and strong data security features.

Advantages of MySQL:

- a. High performance and scalability
- b. Support for complex queries and transactions
- c. Reliable data storage and retrieval
- d. Compatibility with various platforms

- e. Active community support

6.1.3 HTML and CSS

HTML (Hypertext Markup Language) and CSS (Cascading Style Sheets) are fundamental technologies for building web pages. HTML is used for creating the structure and content of web pages, while CSS is used for styling and layout. Both HTML and CSS are essential for creating visually appealing and responsive user interfaces.

6.1.4 SB Admin:

SB Admin is a popular admin dashboard template built on Bootstrap, a widely used front-end framework. It provides a ready-to-use interface for designing and developing administrative panels or dashboards for web applications. SB Admin offers a range of pre-built components, responsive layouts, and sleek visual elements, allowing developers to create visually appealing and user-friendly admin interfaces with minimal effort.

6.2 Testing and Quality Assurance

Rigorous testing is performed to ensure the functionality, reliability, and security of the user management application. Various testing techniques, including unit testing, integration testing, and user acceptance testing, are employed to identify and address any issues or bugs.

For example here's a list of the tests conducted during the coding process for some functionalities of the app:

a. User Authentication Test:

- Test user login with valid credentials.
- Test user login with invalid credentials.
- Test user logout functionality.

b. User Management Test:

- Test creating a new user with valid data.
- Test creating a new user with invalid data.
- Test viewing a user's details.
- Test editing a user's details.
- Test deleting a user.
- Test assigning roles and permissions to a user.

c. Service Management Test:

- Test adding a new service with valid data.
- Test adding a new service with incomplete/invalid data.
- Test editing a service's details.
- Test deleting a service.
- Test viewing a list of services.

d . Client Management Test:

- Test adding a new client with valid data.
- Test adding a new client with incomplete/invalid data.
- Test editing a client's details.
- Test deleting a client.
- Test viewing a list of clients.

e. Subscription Management Test:

- Test adding a new subscription with valid data.
- Test adding a new subscription with incomplete/invalid data.
- Test editing a subscription's details.
- Test deleting a subscription.
- Test viewing a list of subscriptions.
- Test viewing subscriptions in a calendar view.

f. Dashboard Functionality Test:

- Test the display of relevant data and statistics on the dashboard.
- Test the responsiveness and layout of the dashboard on different devices.
- Test the navigation and functionality of dashboard widgets.
- Test any interactive elements or charts present on the dashboard.

h. Integration Test:

- Test the integration of user authentication with other modules.
- Test the integration of user roles and permissions with the application's functionalities.
- Test the integration of services, clients, and subscriptions with related modules.
- Test the integration of the dashboard with data from different modules.

6.3 Strengths of the application:

The code used in the management application has several strong points that contribute to its quality and effectiveness:

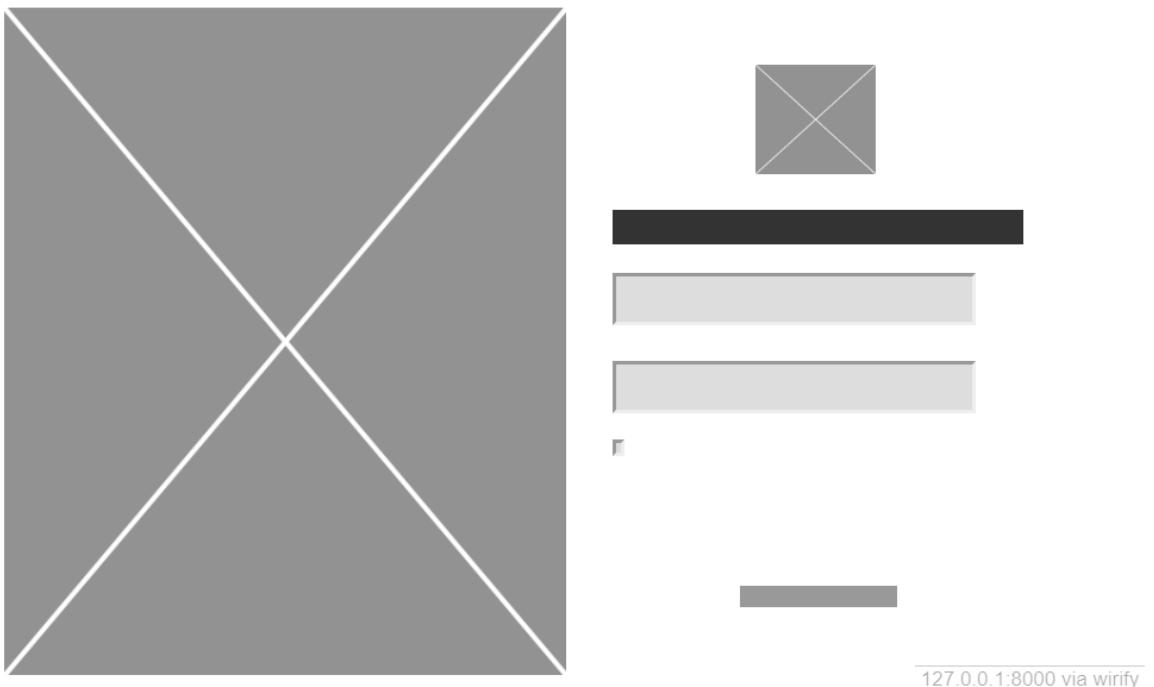
- a. **User-Friendly Interface:** The code incorporates a user-friendly interface that enhances the overall user experience. It focuses on intuitive navigation, clear instructions, and visually appealing design, making it easy for users to interact with the application and perform tasks without any confusion or difficulties.
- b. **Seamless Integration:** The code is designed to seamlessly integrate with external systems or APIs, allowing for smooth data exchange and interoperability. This facilitates the integration of third-party services or modules, enabling the application to leverage additional functionalities or data sources.
- c. **Cross-Platform Compatibility:** The code is designed to be compatible with multiple platforms and devices, allowing users to access the application from various devices such as desktops, laptops, tablets, and smartphones. This ensures a seamless experience regardless of the device being used.
- d. **Scalability and Extensibility:** The code is built with scalability and extensibility in mind. It follows best practices for modular design and adheres to coding principles that allow for easy integration of new features or enhancements. This flexibility enables the application to grow and evolve as business requirements change over time.

7. Part 3: User Manual

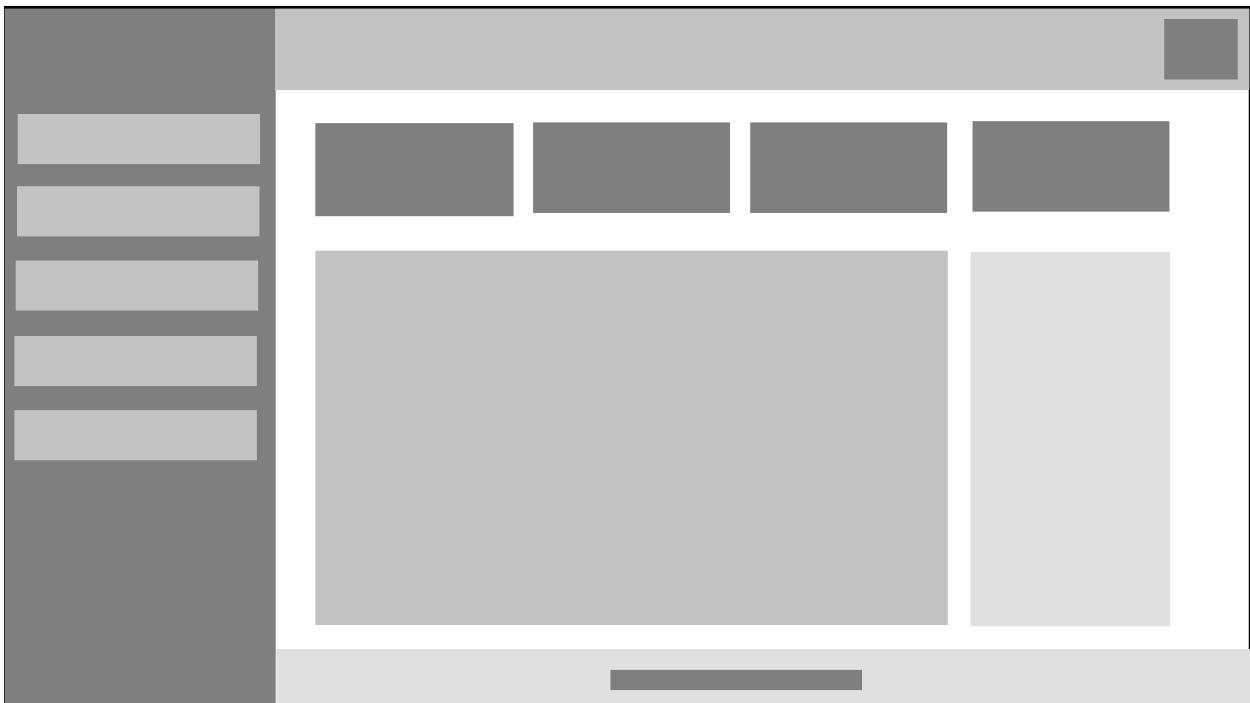
7.1 Initial Wireframe:

The initial wireframe serves as a blueprint for the management application, outlining the layout and basic structure of the user interface. It provides a visual representation of the application's screens and their general arrangement. The wireframe focuses on the placement of key elements such as navigation menus, buttons, forms, and data displays. It helps stakeholders and designers to visualize the application's overall structure and facilitates discussions about the user experience and functionality. The wireframe acts as a starting point for the design and development process, ensuring that the application meets the desired requirements and aligns with the project's vision.

Login page



Dashboard

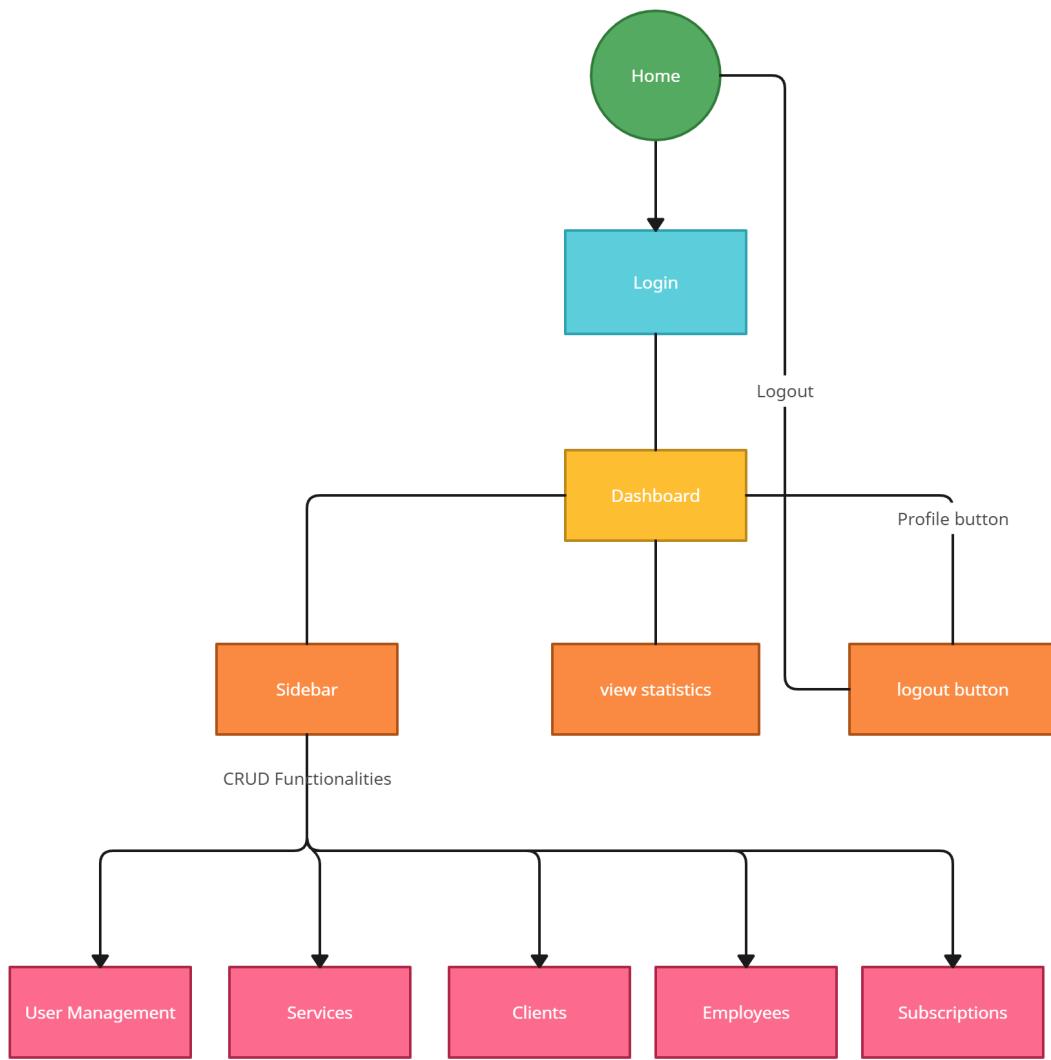


CRUD Functionalities:



7.2 Navigation Diagram:

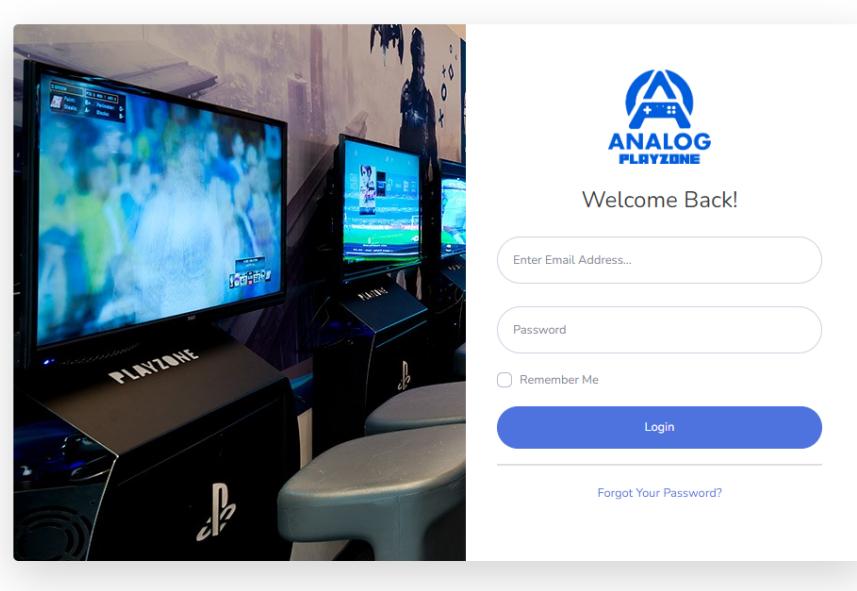
The navigation diagram illustrates the flow and structure of the application's navigation system. It presents a visual representation of the different screens and their relationships, depicting how users can navigate between them. The diagram outlines the various paths users can take within the application, including primary navigation menus, secondary menus, links, and buttons. It helps in understanding the overall user journey and ensures a logical and intuitive navigation experience. By mapping out the navigation flow, the diagram enables designers and developers to identify any potential bottlenecks or usability issues and make necessary adjustments to enhance the user experience.



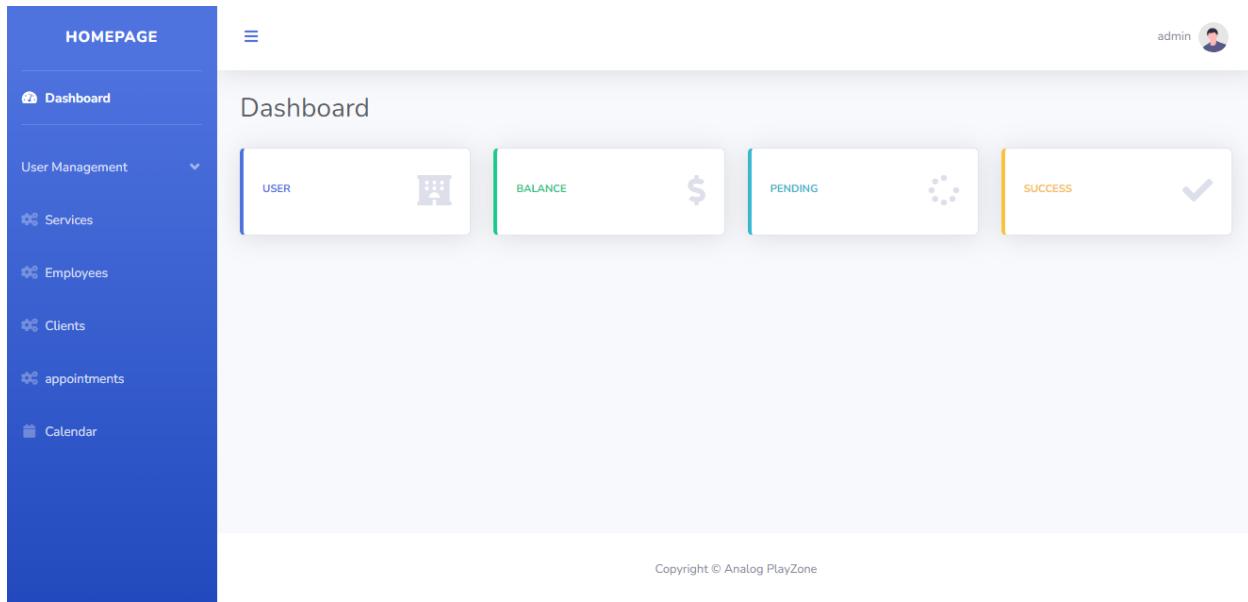
7.3 Final Screens:

The final screens showcase the polished and refined user interface of the management application. These screens represent the visual design, layout, and interaction elements that users will experience when using the application. They reflect the incorporation of branding elements, color schemes, typography, and graphical assets, providing a visually appealing and cohesive user interface. The final screens also highlight the implemented functionality, including forms, tables, charts, and other interactive components. These screens act as a reference point for developers, ensuring the accurate implementation of the user interface design. Additionally, stakeholders can review the final screens to validate that the application meets their expectations and aligns with the project's objectives.

Login



Dashboard



Permissions/Roles CRUD Functionality

The screenshot shows the "Permission" management page. The sidebar on the left includes the "User Management" section with "Permissions" selected, along with other options like "Roles" and "Users".

The main content area is titled "Permission" and features a table listing permissions:

No	Title	Action
1	user_management_access	
2	user_management_create	
3	user_management_edit	
4	user_management_view	
5	user_management_delete	
6	permission_access	
7	permission_create	

At the top right of the table, there is a blue button labeled "+ New permission". Above the table, there are buttons for "copy", "csv", "excel", "pdf", "print", and "delete selected". There is also a "Search:" input field.

<input type="checkbox"/>	17	user_create	
<input type="checkbox"/>	18	user_edit	
<input type="checkbox"/>	19	user_view	
<input type="checkbox"/>	20	user_delete	
<input type="checkbox"/>	21	service_access	
<input type="checkbox"/>	22	service_create	
<input type="checkbox"/>	23	service_edit	
<input type="checkbox"/>	24	service_view	
<input type="checkbox"/>	25	service_delete	

Showing 1 to 25 of 25 entries

Previous | 1 | Next

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HOME PAGE

Dashboard

User Management

- Services
- Employees
- Clients
- appointments
- Calendar

edit permission

Title

Save

Copyright © Analog PlayZone

HOME PAGE

Dashboard

successfully deleted !

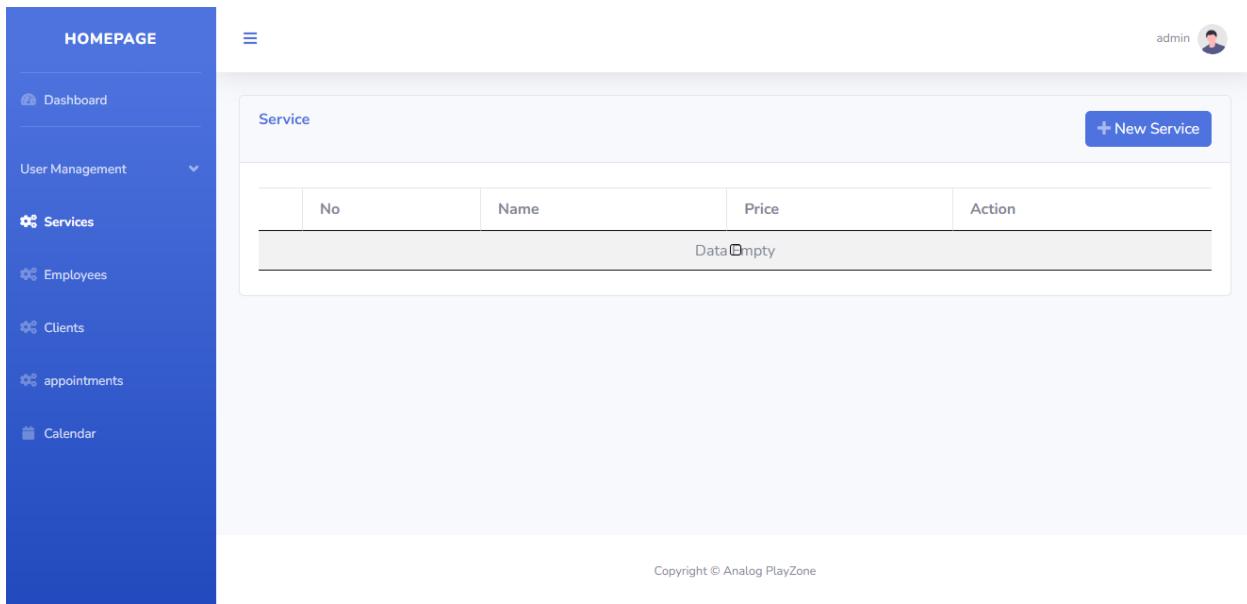
User CRUD Functionality

The screenshot displays two pages of a user management application. On the left, a sidebar menu lists 'Dashboard', 'User Management' (selected), 'Services', 'Employees', 'Clients', 'Subscriptions', and 'Calendar'. The 'User Management' section has a dropdown arrow.

Edit User Page: The top part shows a form titled 'edit user' with fields for Name (test1), Email (test1@gmail.com), Password (\$2y\$10\$q7VBGnDYxiuV2kGf8DrQnOM5eWMRyW06NmGGxuSS1k0jbsb.8L/5.), and Role (admin, user). A 'Save' button is at the bottom. A 'Go Back' button is in the top right corner.

Homepage / User List Page: The bottom part shows a table titled 'Users' with columns: No, Name, Email, Roles, and Action. It lists two entries: one for 'admin' (Email: admin@example.com, Roles: admin) and one for 'test1' (Email: test1@gmail.com, Roles: user). Each row has edit and delete icons. Navigation buttons for 'Previous', '1', and 'Next' are at the bottom. A success message 'successfully updated!' is displayed above the table. A header bar shows 'HOME PAGE' and a user profile for 'admin'.

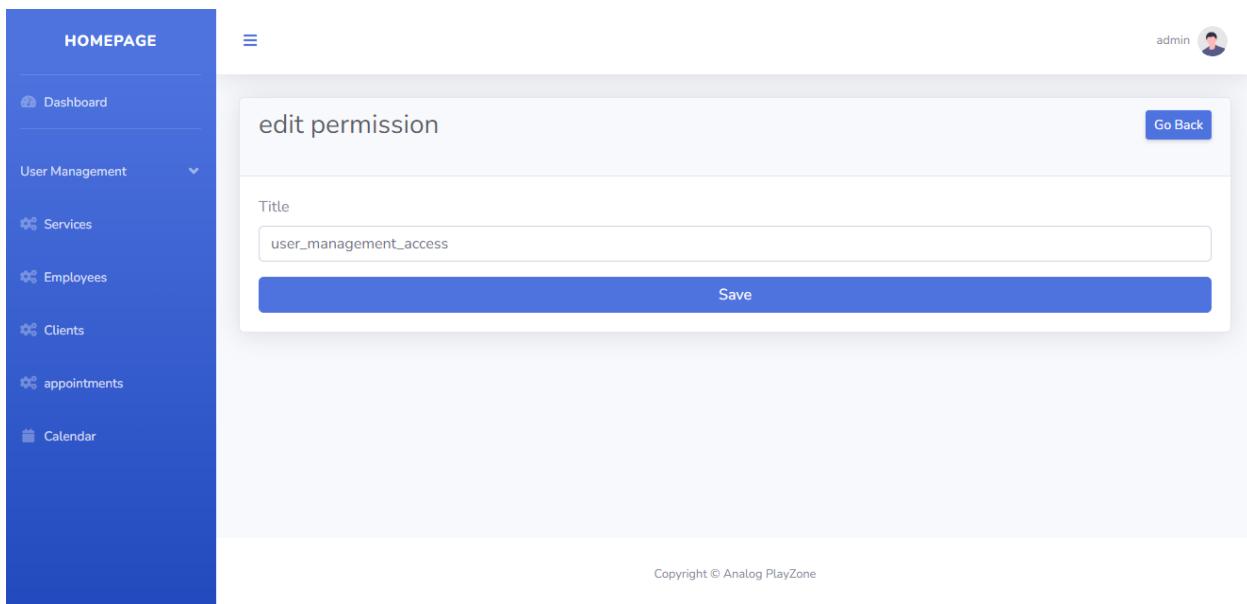
Services CRUD Functionality



The screenshot shows the 'Service' management page. On the left, a sidebar menu lists 'Dashboard', 'User Management' (with 'Services' selected), 'Employees', 'Clients', 'appointments', and 'Calendar'. The main content area has a header 'Service' with a 'New Service' button. A table with columns 'No', 'Name', 'Price', and 'Action' is shown, containing the message 'Data Empty'.

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Employees CRUD Functionality



The screenshot shows the 'edit permission' page. The sidebar menu is identical to the previous screenshot. The main content area has a header 'edit permission' with a 'Go Back' button. It contains a 'Title' input field with the value 'user_management_access' and a large blue 'Save' button.

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Client CRUD Functionality

The screenshot shows a client management system interface. On the left is a blue sidebar menu with the following items:

- Dashboard
- User Management
 - Services
 - Employees
 - Clients**
 - appointments
- Calendar

The main content area has a header "Client" and a "New Client" button. Below it is a table with columns: No, Name, Email, Phone, Photo, and Action. A single row is shown with values: No 1, Name test client, Email test1@gmail.com, Phone 0688855522, and Action buttons (edit and delete). Above the table, a green banner says "successfully created!". At the bottom right of the table, there are "Previous", "1", and "Next" buttons.

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This screenshot is similar to the one above, showing the client list page after a new entry was created. It includes the same sidebar and table structure. A green banner at the top says "successfully created!". In the top right corner, there is a notification bar for a PDF download: "Admin Page (1).pdf Download complete". At the bottom right of the table, there are "Previous", "1", and "Next" buttons.

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127.0.0.1:8000/admin/clients#

This screenshot shows the generated PDF file titled "Admin Page (1).pdf". The PDF contains a table with the following data:

No	Name	Email	Phone	Photo	Action
1	test client	test1@gmail.com	0688855522		

The PDF also features a watermark "Analog PlayZone" and a page number "1". At the top of the PDF viewer, there are navigation controls: 1 / 1, zoom, and print.

Subscription CRUD Functionality

The screenshot shows a web application interface. On the left is a sidebar with a blue header "HOMEPAGE" and a list of navigation items: Dashboard, User Management (with sub-items Services, Employees, Clients), Subscriptions (selected), and Calendar. The main content area has a header "subscription" with a search bar and a button "+ New subscription". Below is a table with columns: No, Client, Employee, Start Time, Finish Time, Price, Comments, Services, and Action. A single entry is listed: No 1, Client test client, Employee test emp, Start Time 2023-06-05 16:40:00, Finish Time 2023-06-28 16:40:00, Price \$300.00, Comments (empty), Services (empty), and Action (with edit and delete icons). At the bottom, it says "Showing 1 to 1 of 1 entries" and includes navigation buttons Previous, 1, Next.

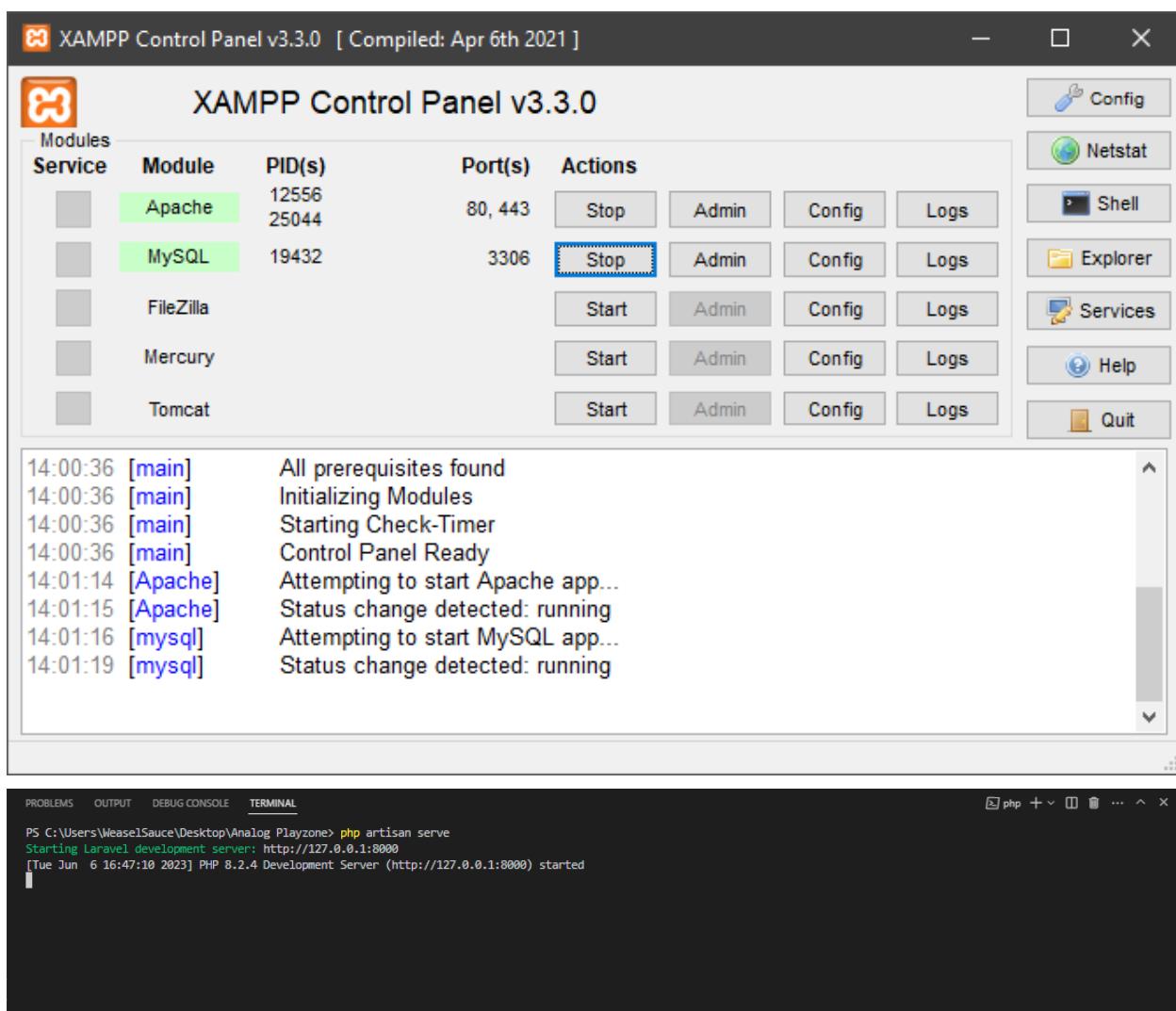
Sidebar

The screenshot shows the same sidebar as the previous image, but the "User Management" item is expanded, revealing sub-items: Permissions, Roles, and Users. The other items in the sidebar remain collapsed.

8. Part 4: Technical Specifications for the Administrator

8.1 Execution Environment:

The management application is designed to run in a specific runtime environment that provides the necessary infrastructure for its operation. The chosen runtime environment for the application is a web server such as Apache, along with a PHP runtime environment. The PHP runtime provides the necessary resources and libraries for executing PHP code, enabling the application to function properly. The application also relies on a backend database system, such as MySQL, to store and retrieve data. Additionally, the application requires a compatible operating system, such as Linux, Windows, or macOS, to host the runtime environment.



Conclusion

The development and implementation of the user management application for ANALOG Play Zone is not yet to be completed but, throughout the internship, significant knowledge and practical experience in full-stack web development has been acquired.

The user management application offers robust features for managing clients, machines, and subscriptions, improving operational efficiency and enhancing the overall customer experience at ANALOG Play Zone. The use of Laravel as the underlying framework, along with the chosen technologies, ensures a secure and scalable solution.

In conclusion, this internship has provided valuable insights into the world of web development and has equipped me with the necessary skills to tackle future challenges in this field. The user management application developed during this internship serves as a testament to the knowledge gained and the ability to deliver practical solutions.

Thank you for the opportunity to work on this project. I look forward to further enhancing my skills and contributing to future projects.