**A Healthy Club Online Platform**

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**CISC3003 Course Team Project Report**

**Computer Science of FST**

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**A. Project Abstract**

In our end-of-semester project, our team developed a comprehensive web service system aimed at enhancing fitness and dietary management. The system includes a Meal Ordering System, Offline Fitness Facility Reservation Service, Online Fitness Tutorials, and a Fitness Membership Management System, all complemented by a Responsive Web Design to ensure usability across various devices. Despite our ambitions, certain limitations hindered the full realization of our project goals. We faced challenges integrating a complete online payment system, modifying or canceling bookings in our reservation system, and integrating with existing facility management software due to our limited timeframe, technical expertise, and resources as students. Additionally, our reliance on a local database restricted our ability to implement interactive features like user comments and ratings, and personal information updates across user sessions. These challenges underscored the complexities of developing a fully functional digital service platform within an academic setting.

**B. List of Services**

In the contemporary digital era, fitness and health management have become essential concerns for many individuals. To address these needs, our team has developed a comprehensive web service system designed to offer a complete fitness and dietary management solution. This system encompasses several core services:

**1. Meal Ordering System:**

* A digital menu for fitness nutritional meals, including online ordering and order management capabilities.

We have designed a digital menu focused on nutritious meals, allowing users to order online and easily track and manage their orders through our order management system. This service not only enhances the dining experience for users but also ensures that they can conveniently access healthy meals.

**2. Offline Fitness Facility Reservation Service:**

* An interface for users to view, book, and manage reservations for various club facilities.

Through our interface, users can view, book, and manage reservations for various club facilities. This service makes fitness more accessible, helping users effectively plan their fitness routines.

**3. Online Fitness Tutorials:**

* A repository of categorized fitness tutorials with video playback and interactive features.

We have created a repository of categorized fitness tutorials with video playback and interactive features. This allows users to select the appropriate fitness tutorials as per their needs, enhancing flexibility and interaction in learning.

**4. Fitness Membership Management System:**

* A system for handling member registrations, logins, and personal information updates, along with displaying membership benefits.

This system handles member registrations, logins, and personal information updates, while also displaying membership benefits. It provides a secure and convenient member management platform, enhancing users’ sense of belonging and satisfaction.

**5. Responsive Web Design:**

* An adaptive layout that ensures a seamless browsing experience across different devices.

To ensure a seamless browsing experience across different devices, we have employed an adaptive layout design. This guarantees that users enjoy a high-quality user interface and interactive experience, regardless of the device used to access our services.

**C. List of Tasks**

**Potential Tasks to deal with:**

1. **Meal Ordering System (SUN SHENGHE & LEE CHEOK HIN):**
   1. Design and implement a digital menu interface.
   2. Develop online ordering capabilities.
   3. Implement an order management system, including order tracking and status updating.
   4. Integrate a payment system for handling online transactions.
2. **Offline Fitness Facility Reservation Service (LIU YUCHEN & CHEN JING):**
   1. Design a user interface to display bookable facilities.
   2. Develop booking functionalities, including time and facility selection.
   3. Implement a reservation management system that allows users to modify or cancel bookings.
   4. Integrate the system with existing facility management software.
3. **Online Fitness Tutorials (LI WAI IAT & TAN HONGYE):**
   1. Create a repository for gym tutorials, including text description and dynamic viewing features.
   2. Implement tutorials playback functionality.
   3. Develop interactive features such as user comments and rating systems.
4. **Fitness Membership Management System (LEE CHEOK HIN & CHEN JING):**
   1. Implement member registration and login functionalities.
   2. Develop features for updating personal information.
   3. Integrate a database to store member information.
5. **Responsive Web Design and Styles (TAN HONGYE & LI WAI IAT):**
   1. Design and implement an adaptive layout for various devices.
   2. Test display effects on different devices to ensure compatibility.

**D. Project Accomplishments**

**1. Front-end Development:**

**Web Pages and User Interface Components:**  
We successfully developed several front-end web pages that are both functional and aesthetically pleasing. Key components include a dynamic digital menu for the Meal Ordering System, a user-friendly interface for the Offline Fitness Facility Reservation Service, and an interactive platform for Online Fitness Tutorials. Each page is designed with a responsive layout, ensuring optimal viewing across different devices and screen sizes.

**2. Back-end Development:**

**Database Connectivity and Management:**  
Our project effectively established database connectivity using PHP and MySQL. We implemented robust back-end logic that supports data population and retrieval operations essential for our services like meal ordering, facility reservations, and membership management.

**Functionality Implementation:**  
We successfully implemented essential functionalities such as user registration, login processes, and the basic booking system for our reservation service. These features are integral to the overall functionality and user experience of our system.

**3. Code Deployment:**

**Server Setup and Deployment:**  
Our code was deployed on a local server using XAMPP, which allowed us to test and refine our system in a controlled environment. This setup was crucial for simulating real-world operations and for conducting thorough testing before final deployment.

**Project Walkthrough:**  
We conducted a comprehensive project walkthrough to demonstrate the functionality of our system. This included detailed demonstrations of how each component works and how they integrate with each other to provide a seamless user experience.

**4. Testing and Optimization:**

**Cross-Device Compatibility:**  
We extensively tested our web pages and user interface components on various devices to ensure compatibility and responsiveness. This testing phase helped us identify and fix any issues related to layout and functionality across different platforms.

**5. Documentation and Reporting:**

**Effective Documentation and Version Control via GitHub:**

We managed our project documentation and file tracking through GitHub, which provided a centralized platform for version control and collaboration. This setup allowed us to maintain comprehensive documentation, including code updates, feature enhancements, and project progress, ensuring transparency and continuity throughout the development process.

**6. Learning and Development:**

**Skill Enhancement:**  
Throughout the project, our team significantly enhanced our technical skills in web development, database management, and system integration. This experience has provided us with a solid foundation for future software development projects.

**E. Installation Instructions**

**Installations and Instructions for this project:**

1. Install PHP, MySQL, and XAMPP properly.

2. Enter your SQL server username and password for the MySQL server in the `config.php`.

3. Start the MySQL service in MySQL Workbench and create a database named `cisc3003`.

4. Run the SQL content in the file named `DatabaseInsertion.md` in MySQL Workbench to set up the database content required for this project.

5. Start the XAMPP Apache service and do not start the MySQL service of XAMPP to prevent service conflict.

6. Use a web browser to open the localhost and the `index.php` for this project.

\*\*\* To use the admin system, just change the URL into “.../pages/admin/manage-account.php”, then it will automatically change to the administrator mode \*\*\*

**F. Project Incomplete**

**1.4 Integrate a payment system for handling online transactions.**

In our end-of-semester project, we were unable to successfully implement a complete online payment system primarily due to several challenges: Firstly, the time constraint was a significant factor, as just a few weeks were not sufficient to develop a complete payment system. Secondly, as students, we likely lacked the advanced technical skills required for handling the complex programming and security measures necessary for a payment system. Additionally, resource limitations also played a role, as we might not have had access to or could afford the necessary payment gateways or third-party services. Considering these limitations, we decided to focus our project on other functionalities that better suited our learning objectives and available resources.

**2.3 Implement a reservation management system that allows users to modify or cancel bookings.**

In our end-of-semester project, we successfully implemented the booking functionality in our reservation management system but were unable to add features for modifying or canceling bookings. The main challenges were the complexity of implementing these features, severe time constraints over just a few weeks, and our limited technical experience with advanced database operations. Given these constraints, we prioritized making the basic booking system robust and planned to tackle the modification and cancellation features in future project updates.

**2.4 Integrate the system with existing facility management software.**

In our end-of-semester project, we were unable to integrate our reservation management system with existing facility management software primarily due to our status as a student group, not a large company. We lacked access to the necessary enterprise-level software and the resources required to establish such complex integrations. This limitation, combined with our limited timeframe and technical experience, led us to focus on developing the standalone functionality of our system instead.

**3.3 Develop interactive features such as user comments and rating systems.**

In our end-of-semester project, we were unable to implement interactive features such as user comments and rating systems. The primary reason for this was our reliance on a local database setup rather than a server-based database. This configuration restricted our ability to collect and store comments and ratings from multiple users across different sessions effectively. Without a centralized server database, any data collected would be isolated to individual user sessions and not shared across the platform, making it impractical to implement global user interactions like comments and ratings.

**4.2 Develop features for updating personal information.**

In our end-of-semester project, we were unable to develop features for updating personal information on user profiles. Like the challenges we faced with implementing user comments and rating systems, the main issue here was our reliance on a local database. Without a centralized server-based database, we couldn't effectively collect and synchronize updates to personal information across different user sessions. Each user's data changes would remain confined to their local session, preventing any persistent global updates across the platform. This limitation made it impractical to implement a fully functional personal information update feature within our project's scope.

**G. Project Conclusion**

Throughout our CISC3003 team project at the University of Macau, our team has made significant strides in developing the "Healthy Club Online Platform," designed to enhance the management of fitness and dietary routines. Despite facing several challenges such as integrating a complete online payment system, modifying bookings in our reservation system, and linking with existing facility management software, we have successfully implemented key functionalities that contribute to a robust and user-friendly service.

Our project's accomplishments include the development of a meal ordering system, an offline fitness facility reservation service, online fitness tutorials, a fitness membership management system, and responsive web design. Each component was crafted with the aim to provide seamless and interactive experiences for users, promoting a healthier lifestyle through accessible and efficient digital solutions.

While we were unable to fully implement some features due to technical limitations and resource constraints, the project provided us with invaluable learning experiences in web development, database management, and system integration. These skills will undoubtedly aid us in our future academic and professional endeavors.

In conclusion, despite the setbacks, the "Healthy Club Online Platform" stands as a testament to our team's dedication and the practical application of our coursework in Computer Science. We are confident that with further development and resources, this platform can evolve to meet all its intended goals, serving as a comprehensive tool for fitness and dietary management.