



Mahidol University

**Project Phase 0, Semester 1/2023**

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**ITCS371\_Introduction to Software Engineering**

## Phase 0

"Ansible" is a forward-thinking business center strategically located on Saturn Road in the heart of the city. At Ansible, our primary goal is to revolutionize the fitness industry by providing a comprehensive software solution designed to enhance the management and experience of fitness centers. Our project centers around the development of cutting-edge Customer Relationship Management (CRM) software, primarily catering to fitness enthusiasts.

Our software caters to two main user groups: fitness center customers and administrators. For customers, Ansible offers a streamlined experience, providing information about fitness promotions, locations, and membership costs. Customers can easily register for membership, choosing between two options: the free membership, which grants access to select courses without any registration fee, and the payment membership, which unlocks a wide range of features and functions. Payment membership can be availed on a monthly or yearly basis, with convenient payment options including credit cards, PayPal, and True Money Wallet.

On the backend, our software empowers administrators with powerful tools to manage and optimize fitness center operations. Administrators can create and manage course offerings, including specifying course details such as instruction, maximum attendance, and course cost. The system also ensures efficient resource allocation, checking equipment availability and preventing course schedule conflicts. Moreover, the software keeps a detailed record of course attendance.

Membership management is a key feature, allowing administrators to monitor the entry and exit times of fitness center members, track membership IDs, and generate reports for backend analysis. Real-time data on fitness center occupancy helps ensure a smooth flow of members and visitors throughout the day.

Our payment system is a cornerstone of Ansible, ensuring seamless and secure transactions for customers. It enables automatic monthly payments for subscription-based members and supports various payment methods, guaranteeing convenience and security.

To provide accessibility, Ansible is available through multiple platforms, including mobile apps on App Store and Play Store, as well as a user-friendly website. Security is paramount, with robust password protection and encryption to safeguard user data.

One standout feature is the capability for private training sessions, where backend staff can manage instructors, assign roles, and access instructor profiles

using unique IDs. A dedicated team of 100 trainers is committed to maintaining a comprehensive database of fitness instructors, ensuring the best possible fitness experience for our customers.

For our staff, Ansible offers exclusive access to our badminton courts, with a smart system preventing double bookings and ensuring court availability at all times. Backend staff can also schedule maintenance for individual courts, ensuring top-notch facilities round the clock.

At Ansible, we understand the importance of flexibility and round-the-clock service, which is why we operate 24 hours a day. Our mission is to transform the fitness industry, making it more accessible, efficient, and enjoyable for fitness enthusiasts while providing fitness center administrators with the tools they need to thrive. With our innovative software, we're taking fitness management to new heights, and we invite you to be a part of this exciting journey.

#### **Table of functional requirements**

Function		Comments
1	Admin can access and can organize the event	
2	Admin can publish the content for member	
3	Admin have the function to generate the report for the membership	
4	Admin can check customer course attendance	
5	Cost management for the membership	
6	backend staff to create the course	
7	Backend staff can add instructor	
8	Backend staff can see max attendance/maximum capacity of the course.	
9	backend staff can edit cost of the course	
10	Backend staff can review the course.	
11	Backend staff can check the equipment	

	available .	
12	Backend staff can save the record of the attendance	
13	Backend staff will be able to detect prevent course conflict schedule	
14	maintain the record of the fitness member time leave and time in	
15	Can save the membership ID	
16	Can report back to backend staff	
17	current usage of the fitness center, how many people use the fitness center, to remind the flow in the fitness	
18	payment system: Credit card , paypal , true money wallet.	
19	backend staff must be able to fix and cancel the course in the software if they need to	
20	the Software must be available online : appstore and play store or website	
21	The backend can only do fitness with 2 devices.	
22	Software must have the security :password protection , encryption	
23	staff don't need to provide the court for the badminton	
24	The court don't have the overlap cort number of cort and the available time that member booked	
25	backend staff can add set the maintenance schedule for individuals court	
26	Batminton software must be online 24/7	

### Table of non-functional requirements

Requirement Number	Requirement Description	comment
1	<b>Availability:</b> The software must be available 24/7 through mobile apps (App Store and Play Store) and a website.	
2	<b>Security:</b> The software must have robust password protection and data encryption to ensure the security of user data.	
3	<b>Performance:</b> The software should provide a responsive and fast user experience, ensuring quick data retrieval and processing.	
4	<b>Scalability:</b> The software must be capable of handling a growing number of fitness center members and course registrations without performance degradation.	
5	<b>Payment System Reliability:</b> The payment system should be highly reliable and available for smooth, error-free transactions.	

6	<b>Data Privacy:</b> The software should adhere to data privacy regulations and maintain the confidentiality of user information.	
7	<b>Cross-Platform Compatibility:</b> The mobile apps (iOS and Android) and website should be compatible with various devices and browsers.	
8	<b>Maintenance Scheduling:</b> Backend staff must be able to schedule maintenance for individual courts and ensure uninterrupted service.	
9	<b>Resource Management:</b> The software should efficiently manage fitness center resources, including equipment and course schedules, to prevent conflicts.	
10	<b>User Training:</b> The software should have an intuitive user interface, minimizing the need for extensive user training and support.	

## Identifying actors – at least 2 requirements

### **1. Fitness Center Customer:**

- **Role:** The fitness center customer is an individual who seeks fitness services at the Ansible fitness center. They are interested in accessing information about fitness courses, memberships, promotions, and making payments.

### **2. Backend Administrator:**

- **Role:** The backend administrator is responsible for managing the fitness center's operations and ensuring the smooth functioning of the Ansible software. They need access to various tools and reports for effective management.

**Customer :** 2 type of membership

- Free membership : Access to limited course on the fitness center

Paid membership : 2 types of the membership

- monthly membership : will deduct the cost of the membership automatically every month.
- yearly membership : will deduct the money 1 times a year.

**Admin :**

- Cost management
- membership management
- payment system
- instructor management
- software accessibility
- resource management maintenance scheduling

**Additional requirement statements that involve the integration or utilization of cutting-edge technologies.**

- **AI-Powered Personalized Recommendations**
- **Biometric Access Control**
- **IoT Integration for Equipment Monitoring**
- **Virtual Fitness Classes and Training**
- **Machine Learning for Predictive Maintenance**
- **Mobile Health Tracking Integration**
- **Voice Command Assistance**
- **Virtual Assistant for Member Support**
- **Blockchain for Secure Member Data**
- **Augmented Reality Tours**