

Module: ACCA5033 :
Changemakers: Creativity and
Value Creation
Component 2 : Project
Management & Innovation
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Introduction

This report describes the implementation and development of a gym membership management system. I selected this project because most small gyms still rely on manual processes and a web-based system could make memberships, bookings and customer records much easier to manage. The proposed web-based system is a secure digital platform that allows members to register, manage their accounts and book fitness classes online while allowing staff to manage memberships, payments and customer information efficiently.

The report applies project management principles [1] by stating the project scope, technologies, development methodologies, project schedule and design documentation. It also looks at enterprise concepts via business analysis and legal and ethical issues [3], [4] with an assessment of the skills acquired, the potential benefits of the project and challenges that could arise during implementation. It is a case study of how management of projects can be done well and how strategic planning and innovation are to be done to achieve the delivery of a modern computing solution.

Task 1 - Project Management

1.1 Project Overview.

Project Title - Gym Membership Management System

Project Aim

The aim of this project is to build and plan a gym membership management system that will better manage memberships, class bookings and customer records of gyms. The proposed system will replace the manual and paper-based processes with a secure digital platform for members to register, manage their accounts and book fitness classes online. It will also provide gym staff with tools to manage memberships, the payment process and access member information efficiently.

The goals of this project are to:

- Create a secure online system for managing gym memberships.
- Let members create accounts and log in securely.

- Let members book and cancel fitness classes online.
- Provide staff with a dashboard for managing memberships, payments and bookings with members in a central database for them to access.
- Improve the efficiency of daily gym operations while providing the best customer service.

1.2 Project Scope

In Scope

The Gym Membership Management System will have the following features:

- User registration and secure login.
- Member profile management.
- Membership package selection and renewal.
- Fitness class booking and cancellation.
- Payment record management.
- Staff administration dashboard.
- Member database and reporting.

Out of Scope

The following features are not included in the first version of the system:

- Mobile application development.
- Integration with wearable fitness devices.
- Live personal trainer videos.
- AI fitness coaching.
- Nutrition planning.

The proposed solution is the web-based gym membership management system for gym members and staff. Members will be able to register, book their gym

membership, get information about their personal training and reserve fitness classes via an intuitive interface. The staff will have access to the administrative systems to track memberships, manage bookings and generate reports. By centralising the whole operation in one secure system, this gym will manage paperwork, reduce booking errors and improve customer service.

1.3 Technologies and Resources

I built the system using a combination of reliable web technologies that are widely used to work on secure and responsive web applications. HTML5 [9], CSS3 and JavaScript are the main technologies to build the user interface, while PHP [7] will manage the application business logic and communicate with a MySQL database [8] to store member details, bookings and payment records.

Development will be done with Visual Studio Code, with XAMPP providing a local Apache server and MySQL for testing. GitHub will be used for version control to back up project files and manage changes throughout development.

You have got to have a desktop or laptop computer with internet access, Visual Studio Code, XAMPP, GitHub, a modern web browser, a MySQL database and project planning software such as Microsoft Excel or Project Libre to produce the Gantt chart. Together, all these resources provide a practical environment to design, develop and test the system before being deployed.

Resources

. The project would require the following resources:

- A desktop or laptop computer with internet access.
- Visual Studio Code.
- XAMPP. • GitHub.
- A modern web browser (Google Chrome or Microsoft Edge).
- MySQL database.
- Project planning software like Microsoft Excel or Project Libre for creating the Gantt chart. These are great resources to design, develop and test the gym membership management system before deployment.

1.4 Project Constraints

As with any software project, there are certain limitations to be considered before development begins. The gym membership management system has several constraints that must be considered when planning.

It also is guided by several project constraints. The system needs to be completed within the assignment timeframe and needs to be well planned and managed. As an academic project with a limited budget, free tools such as Visual Studio Code, XAMPP and MySQL will be used.

The system will be implemented as a web application and will not include mobile apps or wearable device integration. As personal information will be stored, security measures like user authentication, password protection and secure database management are essential.

I chose to use the Agile software development methodology [2] as it allows for smaller steps in the design of the project so that the development of each feature is easier and that is the first step: to test and iterate on the features.

The development will start with requirements gathering and system design and then follow with the database, user interface, member registration, booking and administration dashboard as well. Each feature is tested before moving on to the next stage and the system is evaluated at that stage. Agile is a process for continuous improvement, reduces development risk, and also ensures a project is delivered properly [2].

1.6 Project Schedule (Gantt Chart)

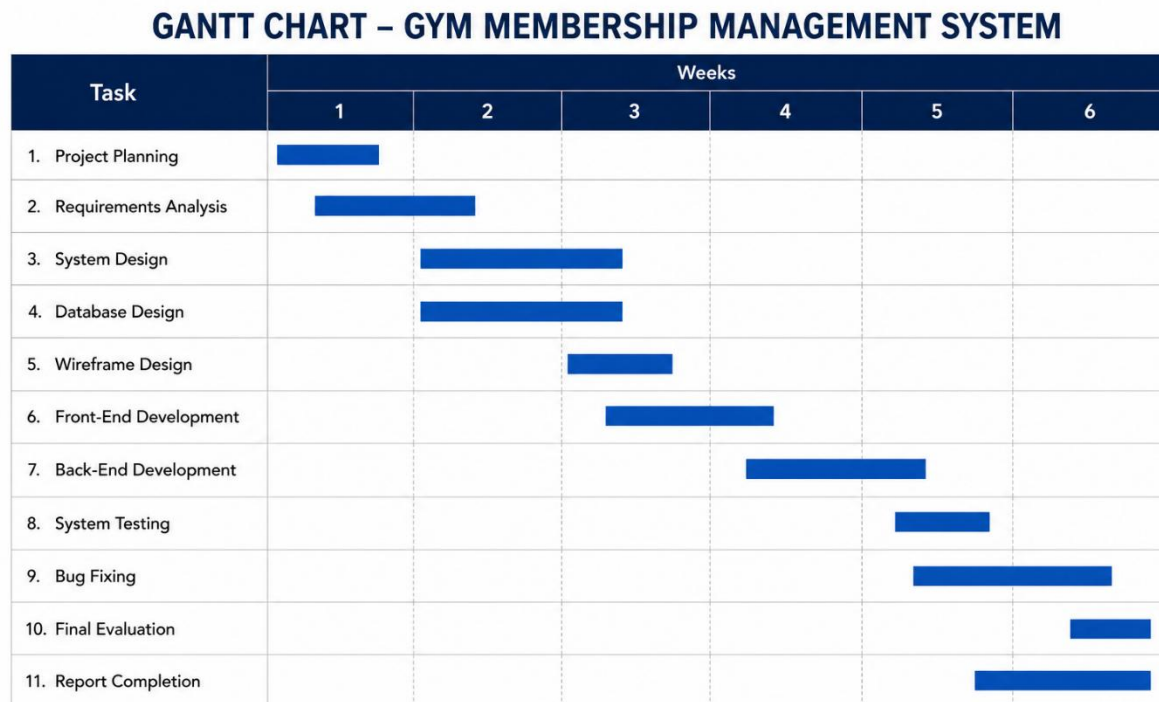


Figure 1 - Gantt Chart for Gym Membership Management System:

The Gantt chart provides a timeline of the development of the gym membership management system. It lists the important phases of the project, tasks and dependencies and helps to get the project completed in the timeframe.

The Gantt chart shows the planned schedule of the gym membership management system development. The project is organised into the sequence of requirements and project planning. System design, database development, user interface design, coding, testing and evaluation are taken into account in the process. I have planned each activity to have a realistic finish date and timeline to complete the work. Project progress is tracked in a Gantt chart which helps identify dependencies between various tasks and manages time effectively during the development process.

1.7 Project Design

1.7.1 Homepage Wireframe

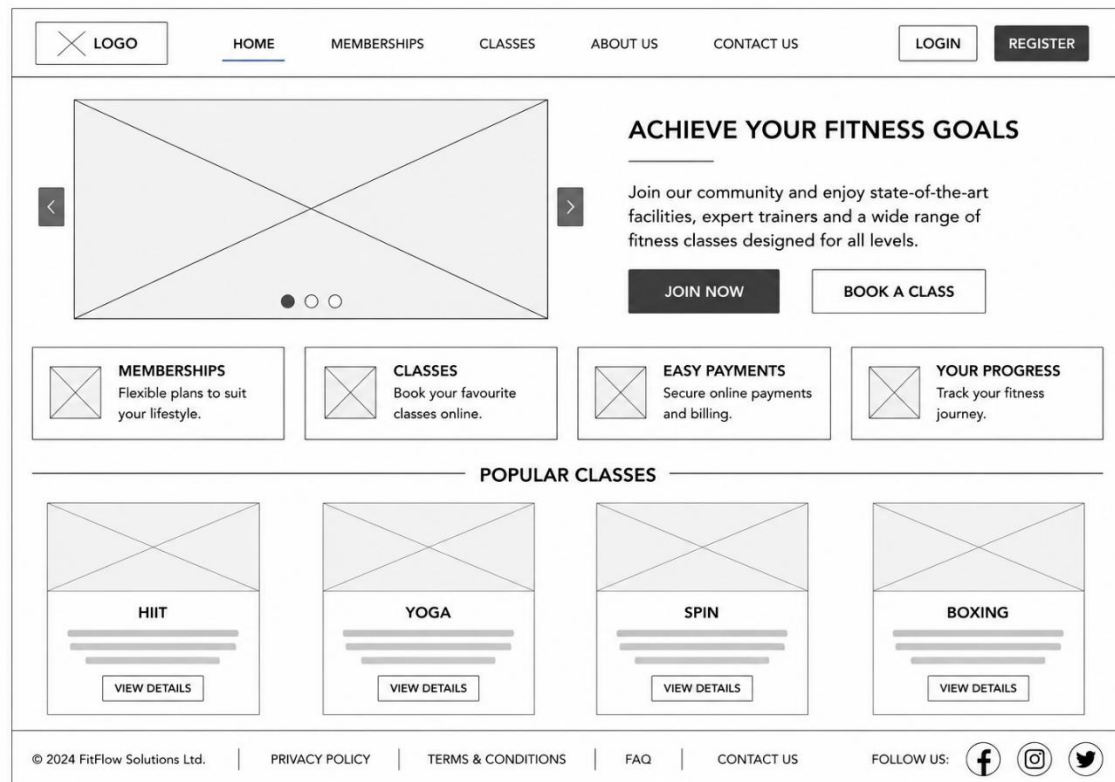


Figure 2 - Homepage Wireframe:

Figure 2 shows the proposed homepage wireframe for the gym membership management system. The wireframe shows the layout and navigation structure, and usability issues can be identified before the development starts. The homepage wireframe is the visual manifestation of the proposed gym membership management system as it is currently being developed. It has a navigation menu, login and registration screen, membership information, fitness classes and contact info. When developing the wireframe, it helps to make the design and user experience easy to see at the beginning of the planning stage, and help identify design issues and meet user needs early.

1.7.2 System Flowchart

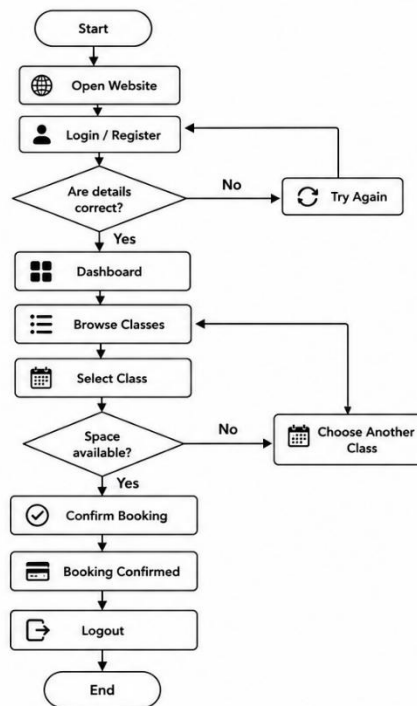


Figure 3 – Member Booking Process Flowchart

Figure 3: Member booking process flowchart.

Figure 3 shows the member booking process flowchart with the logical sequence of actions from user login to booking confirmation. The flowchart shows the functionality of the system before implementation.

Description

The system flowchart shows the member booking process from login to booking confirmation. After signing in, members browse for available classes, choose a session and the system checks if spaces are available. If spaces are available, it confirms the booking; otherwise, the member is contacted and told to choose another class. The flowchart gives a clear idea of how the system works and is useful for developers in implementing the system.

Task 2 - Enterprise & Innovation.

2.1 PEST Analysis.

For this report, PureGym has been chosen as an example of a technology-enabled fitness company that uses digital membership systems and online booking services [10].

Political Factors

The system must comply with UK legislation including data protection, consumer rights and health and safety regulations [3], [4]. Changes in legislation may require software updates to ensure compliance.

Economic Factors

Gym membership demand may be affected by economic conditions. Digital management systems will improve customer retention with the use of a membership and payment system.

Social Factors

Growing interest in health and fitness has increased the demand for online services. Members are expecting to be able to manage bookings, memberships and account management online and they want that service.

Technological Factors

Cloud computing and online booking systems continue to enhance gym operations. Mobile apps, contactless access and wearable devices would be the most likely future applications.

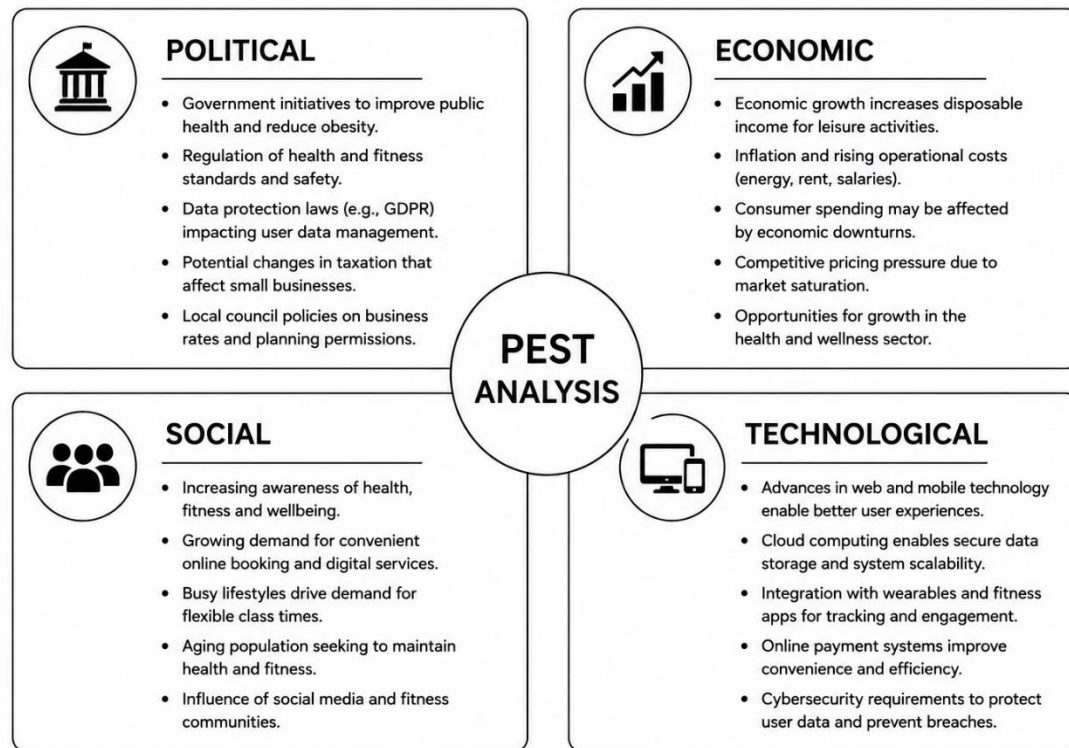


Figure 4 - PEST analysis for PureGym

Figure 4 shows PEST analysis to evaluate the external political, economic, social and technological factors that could influence the success of the proposed Gym Membership Management System and its business environment.

2.2 SWOT Analysis

Strengths

The system centralizes memberships, bookings and customer records and minimizes administrative errors.

Weaknesses

The system relies on internet connection, regular maintenance and staff training for implementation, so costs are likely to be higher.

Opportunities

Future improvements such as mobile application development, online payments, wearable device integration, etc would be beneficial.

Threats

Cybersecurity risks, data breaches, competition and changes in legislation may require ongoing updates and investment.

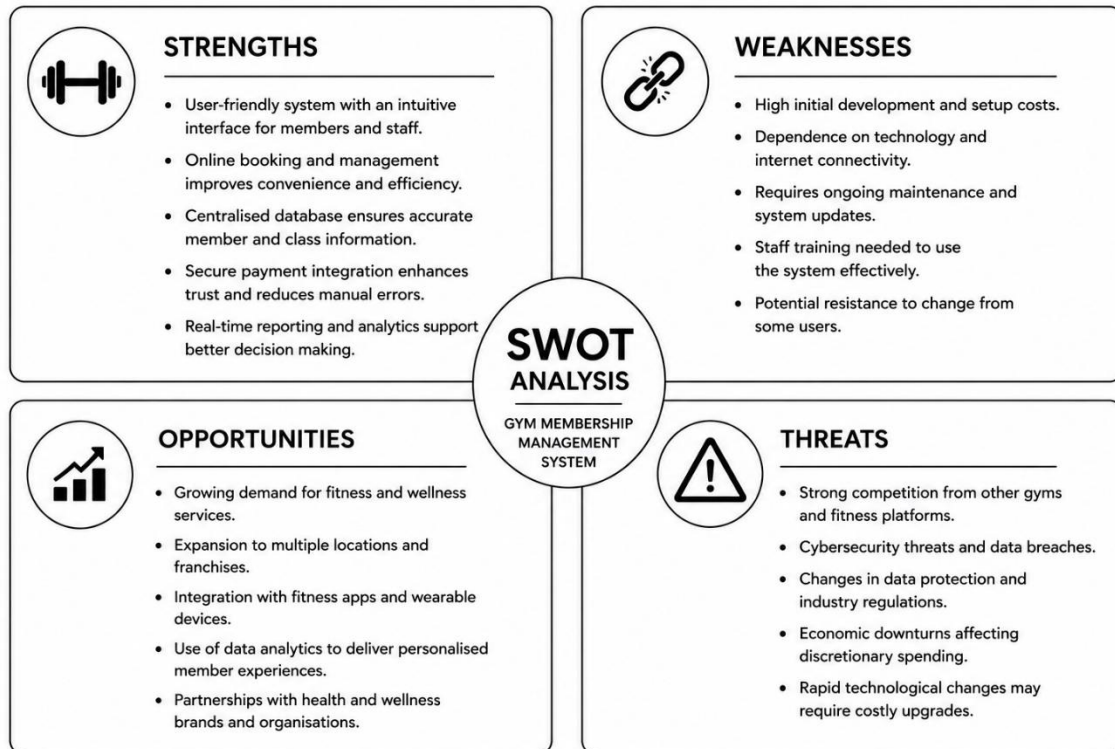


Figure 5 - SWOT Analysis for the Gym Membership Management System

The strengths, weaknesses, opportunities and threats of the gym membership management system are provided in Figure 5. This analysis will help us to determine our internal and external strengths and weaknesses which will influence the success of the project.

2.3 Legal and ethical considerations

The Gym Membership Management System will be storing personal information, member details, payment records and so will need to be in compliance with relevant legal and ethical requirements.

The system will comply with the UK General Data Protection Regulation (UK GDPR) [3] and the Data Protection Act 2018 [4] by collecting only necessary data and storing it securely and using it for legitimate business purposes. Members' data should be made available to them, and they should be allowed to exercise their data protection rights.

The system has to comply with the Computer Misuse Act 1990 [5] by means of secure authentication, encrypted passwords and regular software updates to prevent unauthorized access, following the OWASP Top Ten in cybersecurity [6]. From an ethical point of view, privacy must be protected and personal information should not

be shared without consent. And the system should also be accessible to users with disabilities with recognized accessibility guidelines helping to ensure equal access for all users.

2.4 Proposed Tech Start-up

Business Name: Fit Flow Solutions Ltd

Business Type

The business is a Private Limited Company (Ltd) and will offer a professional image to customers and investors in the form of limited liability.

Business Mission

FitFlow Solutions Ltd will deliver affordable and reliable gym management software that is efficient and will improve the customer experience.

Business Strategy

The company will be targeting independent gyms in the UK, with a subscription-based model with software updates and technical support from the providers. Marketing will focus on a professional website and social media, email campaigns, demonstration videos and SEO. Mobile applications, online payment integration and fitness tracking could be future expansion opportunities.

Funding Opportunities

Funding opportunities could be from personal savings, UK Start Up Loans, business grants, bank loans, angel investors and subscription revenue.



Figure 6: FitFlow Solutions Ltd logo as proposed for FitFlow Solutions Ltd. Branding a professional business identity is important for marketing and for establishing a brand within the fitness technology industry.

Task 3 Project Reflection.

3.1 Skills Development.

The gym membership management system has deepened my technical, organisational and professional skills. I learned more about project management in terms of objectives and planning tasks and which is the best development methodology.

And I also learned how to develop web applications with technologies like HTML, CSS, JavaScript, PHP and MySQL. The writing of this report enhanced my research, academic writing, critical thinking and reference skills so I can be in a position to work one day possibly in a computing workplace.

3.2 Positive impact on society

The proposed system will benefit gym operators and members by improving the management of memberships, booking and payments. Users can access services online, increasing convenience and encouraging more physical activity. The use of

paper-based records with secure digital data also enhances efficiency and accuracy and environmental sustainability.

3.3 Risks and Challenges

The main risks are data security, delays in the project and user acceptance. Such risks can be mitigated with secure authentication, encrypted data, proper planning and regular testing (Agile methodology) [2]. Staff training as well as constant maintenance will also help in ensuring the security of the system, reliability and ability to adapt to future technology.

Summary

The project has expanded the technical and professional skills and the practical application of the best planning ability to deliver a Gym Membership Management System. It also shows the social advantage and how project risk can be managed.

Conclusion

I have shown how project management and enterprise analysis and innovation can be integrated in the design of Gym Membership Management System. The proposed solution solves a genuine business need by facilitating the management of membership, booking and customer record management through a secure website. My project showed how good planning, proper technology and continuous development can go a long way to delivering a practical computing solution that can be beneficial for gym operators and their members.

References

- [1] Project Management Institute, *A Guide to the Project Management Body of Knowledge (PMBOK® Guide)*. [Online]. Available: <https://www.pmi.org/standards/pmbok>.
- [2] Agile Alliance, *What is Agile?* [Online]. Available: <https://agilealliance.org/agile101/>.
- [3] GOV.UK, *The UK's data protection legislation*. [Online]. Available: <https://www.gov.uk/data-protection/the-data-protection-act>.
- [4] UK Government, *Data Protection Act 2018*. [Online]. Available: <https://www.legislation.gov.uk/ukpga/2018/12/contents>.
- [5] UK Government, *Computer Misuse Act 1990*. [Online]. Available: <https://www.legislation.gov.uk/ukpga/1990/18/contents>.
- [6] OWASP Foundation, *OWASP Top Ten*. [Online]. Available: <https://owasp.org/www-project-top-ten/>.
- [7] PHP Documentation Group, *PHP Manual*. [Online]. Available: <https://www.php.net/docs.php>.
- [8] Oracle Corporation, *MySQL Documentation*. [Online]. Available: <https://dev.mysql.com/doc/>.
- [9] WHATWG, *HTML Living Standard*. [Online]. Available: <https://html.spec.whatwg.org/>.
- [10] PureGym Ltd, *PureGym UK*. [Online]. Available: <https://www.puregym.com/>.