Wingfit: Self-Hosted Fitness Server

Project Report Submission using LaTeX

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1. Introduction

Wingfit is a self-hosted, privacy-focused fitness management platform that enables users to manage, track, and personalize their health and fitness activities on their own servers rather than relying on cloud-hosted services. This approach eliminates dependency on third-party providers and ensures that sensitive fitness and health data remain within the user's control.

The project was implemented and deployed on an Ubuntu-based local environment, allowing full ownership of the deployment pipeline and data management processes. Wingfit promotes the philosophy of data sovereignty, modular architecture, and personalized wellness through open-source principles.

1.1 Objective

The main objectives of the project are:

- To install, configure, and host the Wingfit server locally on an Ubuntu system.
- To understand and demonstrate open-source project contribution workflows, including Pull Requests (PRs).
- To explore self-hosting concepts for data security, privacy, and flexibility.
- To test and verify user registration, blog management, and personalization features in a locally hosted environment.

2. Project Description

2.1 System Overview

The self-hosted Wingfit server replicates the functionality of a full-featured fitness web platform, entirely under the user's control. It provides an interface where individuals can:

- Register and sign in using local authentication.
- Create and manage personalized fitness blogs.
- Customize interface preferences and activity goals.
- Store and retrieve data securely on the local Ubuntu server.

The system eliminates the need for external APIs or cloud databases by using locally hosted components, making it ideal for private, secure usage or institutional deployment.

2.2 Importance of the Open Source Self-Hosted Server

The project is built as an open-source, self-hosted server platform designed to empower users with full control over their data and application environment. By allowing local deployment and customization, it ensures transparency, privacy, and flexibility compared to traditional cloud-based solutions.

- **P**rovides a self-hosted platform that gives users full control over their data and deployment environment.
- **E**liminates dependency on third-party cloud services, ensuring independence and flexibility.
- **E**nables customization and scalability, allowing organizations or individuals to tailor features to specific needs.
- **P**romotes community collaboration through open-source contributions, encouraging shared learning and improvement.
- **E**nhances data security and transparency, as all code and operations are open for review.
- **S**upports modular design for easier maintenance, updates, and feature integration.

3. Conclusion

This project demonstrates a practical understanding of open-source collaboration, local server deployment, and self-hosted architecture. Hosting the Wingfit Fitness Server on Ubuntu reinforced the importance of privacy-first design and the benefits of owning the deployment stack.

The project showcases how open-source technologies can empower individuals and institutions to maintain control over their data while encouraging community-driven innovation.

References

- Wingfit Demo: https://wingfit.fr/
- Wingfit GitHub Repository: https://github.com/itskovacs/wingfit
- Self-Hosted Open Servers Reference: https://github.com/awesome-selfhosted/awesome-selfhosted

Acknowledgment

The successful completion of this project would not have been possible without the guidance and encouragement of **Dr. Sripath Roy Koganti** and **Dr. Arunekumar Bala**, whose valuable insights, constant support, and mentorship greatly contributed to the successful execution of this work. Their expertise and constructive feedback have been instrumental in shaping this project to its final form.