AI Fitness Trainer

*Progress Report #12 (Midterm)*

# TL; DR

**On track (*Github:***[*AI-FitnessTrainer*](https://github.com/aminuabdusalam/AI-FitnessTrainer)*)***.** Reviewed plans to build frontend (UI) and backend storage system this spring.

# Project Goals (Recap)

The goal of the project can be summarized as developing an **AI fitness trainer** embedded with **storage and recommender systems** and an **AI virtual mouse**.

The AI fitness trainer will help the user lose weight, gain muscle, and accomplish other fitness goals. In addition, it'd attempt to understand the client goals, develop a fitness routine, recommend a healthy eating plan, and ensure all exercises are performed correctly.

# Highlights

* Completed build of service (AI Personal Trainer) last Fall by **11/21**.
  + Trainer works for curls, pushups, and squats
* Reviewed plans for this spring
  + Updated project features and timeline
    - Major features left to implement are UI (Webapp) and storage system.
  + Cleaned up Trainer
    - Generated “requirements.txt” file that tracks all requirements for the project
    - Added License to control copying of the projec and git .ignore to avoid committing irrelevant files.
    - Removed all sound & threading to streamline process of embedding model in a webapp

**Click Windows Media to Watch Demo:**

 A picture containing text, person, indoor

Description automatically generated

# Lowlights

None

# Next Steps

* Kickstart UI build
  + Complete FigJam design for the Web app by **01/22**
  + Build Web app with only one exercise type option by **01/22**
  + Augment website with multi pages to allow for selection of exercise choice by **02/05**
  + Implement “about developer and project” page including instructions on how to use product by **02/12**
  + Develop a “report” page that showcases details about their fitness sessions at the end of each session including an option to send these details to their mail by **02/20**
  + Add authentication/login capabilities by **03/05**

# Timeline

This section lists the milestones of the project spread across two semesters (Fall 2022 and Spring 2023).

|  |  |  |  |
| --- | --- | --- | --- |
| **Milestones** | | **ETA** | **Status** |
| **Requirements Gathering** (Project Idea, Project Proposal) | | 08/22 | Completed |
| **Design Exploration** (Setup and Installation of necessary technologies, Addition of Project to remote repo, Skill Preparation, Framework Project) | | 08/29 | Completed |
| **Implementation** | Complete Pose Estimation Build | 09/19 | Completed |
| Complete AI Personal Trainer for **Curls** | 10/11 | Completed |
| Complete AI Personal Trainer for **Pushups** | 10/18 | Completed |
| Complete AI Personal Trainer for **Squats** | 10/25 | Completed |
| Complete speech-to-text et text-to-speech | 10/31 | Completed |
| **Quality Testing** | | 11/7 | Completed |
| **Midpoint Presentation Draft** | | 11/14 | Completed |
| **Midpoint Demo & Report** | | 11/21 | Completed |
|  | **WINTER BREAK** | | |
| **Project Review** (Current status and Re-evaluation of Next Steps as Needed) | | 01/16 | Completed |
| **Implementation** | Complete UI/Web-app Build | 01/30 |  |
| Complete Storage System Build (Login/Auth, Report) | 02/20 |  |
| Complete Hand Tracking Build (Stretch Goals) | 03/13 |  |
| Complete AI Virtual Mouse Build (Stretch Goals) | 03/27 |  |
| **Quality Testing** | | 04/3 |  |
| **Final Presentation Draft** | | 04/10 |  |
| Final Demo & Report | | 04/17 |  |