Industrial Training Project Report On

DOM Based Progress Tracker

Submitted in the partial fulfilment of the requirement for the award of degree of BACHELOR OF TECHNOLOGY IN COMPUTER SCIENCE BATCH (2023-2027)

Submitted to:-

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DECLARATION

I, AMIT KUMAR hereby declare that the work which is being presented in this project/training titled "DOM Based Progress Tracker" by me, in partial fulfilment of the requirements for the award of Bachelor of Technology (B.Tech) Degree in "Computer Science and Engineering" is an authentic record of my own work carried out under the guidance of Dr. Ridhi Kapoor to the best of my knowledge, the matter embodied in this report has not been submitted to any other University/ Institute for the award of any degree or diploma.

AMIT KUMAR, 12300357

ACKNOWLEDGEMENT

The completion of " DOM Based Progress Tracker" stands as a testament to the collective dedication and collaborative effort. I extend my heartfelt appreciation to all those who contributed significantly to this project.

My sincere gratitude goes to MR. Kulwinder Singh for her invaluable guidance, unwavering support, and profound insights throughout the development journey. His mentorship played a pivotal role in steering the project in the right direction and fostering an environment conducive to innovation and excellence. I express my appreciation to him for his unwavering commitment and collaborative spirit throughout the project's lifecycle. His perspective played a crucial role in shaping and refining the project's concepts and execution.

Special thanks go to my family and friends for their unwavering encouragement and understanding during the challenging phases of this Endeavour. Their support was a constant source of motivation.

Lastly, I am grateful to all those individuals who, directly or indirectly, contributed to this project. Your support has been instrumental, and I am truly thankful for your contributions.

Training Certificate

ARG Technologies

Certificate

OF TRAINING

This is to certify that Mr/Ms

Mr. Amit Kumar

has successfully completed training in ARG Technologies

dated from 5th June 2025 to 31st July 2025 at our company.

during this training tenture, he/ she was found to

diligent and hardworking.

Kulwinder Singh

Director

COMPANY PROFILE

ARG Technologies

ARG Technology is a dynamic, mid-sized technology firm operating from the thriving IT hub of Chandigarh. We specialize in creating scalable, data-driven web applications and custom software solutions for both domestic and international clients. Our mission is to bridge the gap between complex business processes and seamless digital experiences by focusing on modern, high-performance technology.

We pride ourselves on a culture of continuous learning, agile methodology, and delivering products that are not only functional but also elegantly designed and highly performant.

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PROJECT REPORT: ASCENSION TRACKER

Developed by: ARG Technology

Project Name: Ascension: Personal Gym Progress System

Date: December 02, 2025

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1. PROJECT INTRODUCTION

Company Profile

ARG Technology is a dynamic, mid-sized technology firm operating from the thriving IT hub of Chandigarh. We specialize in creating scalable, data-driven web applications and custom software solutions for both domestic and international clients. Our mission is to bridge the gap between complex business processes and seamless digital experiences by focusing on modern, high-performance technology. We pride ourselves on a culture of continuous learning, agile methodology, and delivering products that are not only functional but also elegantly designed and highly performant.

Project Overview

In line with our mission to create digital experiences that enhance daily life, ARG Technology presents **"Ascension."** This project is a specialized, web-based application designed to assist fitness enthusiasts in tracking their physical progress with precision and ease.

The fitness industry is increasingly data-driven. Athletes and casual gym-goers alike require tools that allow them to monitor their trajectory—specifically weight fluctuations and body composition changes—without the friction of complex, bloated software. Ascension serves as a lightweight, focused, and secure solution to this problem.

The "Ascension" Philosophy

The project is built around the core philosophy of "Progress, not Perfection." It is designed to be a daily companion for the user, offering not just data storage, but immediate statistical feedback and motivational reinforcement. By leveraging client-side technologies, Ascension ensures that user data remains private and instantly accessible, reflecting ARG Technology’s commitment to high-performance, user-centric design.

2. PROJECT OBJECTIVE

Primary Objective

The primary objective of the Ascension project is to develop a robust, responsive, and persistent Single Page Application (SPA) that allows users to log, view, edit, and analyze their gym progress (specifically weight and body fat percentage) over time.

Specific Goals

1. **Frictionless Data Entry:** To create a User Interface (UI) that minimizes the steps required to log daily stats. The system must recognize returning users and bypass login screens to allow for rapid data entry.
2. **Data Persistence & Privacy:** To implement a storage solution that keeps data secure on the user's device. By utilizing the LocalStorage API, we aim to provide a "serverless" experience that ensures data privacy and offline capability.
3. **Statistical Insight:** To automatically calculate and display key performance indicators (KPIs) such as "Total Weight Change" and "Latest Weight" instantly upon loading, giving the user immediate feedback on their journey.
4. **Motivational Architecture:** To integrate psychological reinforcement into the technical architecture. The application aims to keep user retention high by serving dynamic motivational quotes upon every session entry.
5. **CRUD Functionality:** To provide full control over data. Users must have the objective ability to Create new logs, Read historical data, Update previous entries (in case of errors), and Delete records.

Alignment with Company Mission

Ascension aligns with ARG Technology’s goal of delivering "elegantly designed" solutions. The objective was not just to build a form, but to build an *experience*. The dark-mode aesthetic and neon-green accents were chosen specifically to evoke energy and focus, matching the psychological state of a user engaged in self-improvement.

3. PROJECT DESCRIPTION

Functional Overview

Ascension is a browser-based application that serves as a digital ledger for physical health metrics. It is divided into two distinct views: the **Authentication Layer** and the **Tracker Dashboard**.

Key Features

1. **Secure Entry System:** The application is protected by a client-side authentication gate. Users must enter a specific access key (configured as "1234") to gain access. This ensures that personal health data is not immediately visible to casual observers. Once authenticated, the system remembers the user via a session token (`gymAuth`), preventing the need for repetitive logins.
2. **The Dashboard:** Upon entry, the user is greeted by the "Hero" section, displaying the brand identity and the "Logout" functionality.
    - **Dynamic Quote Engine:** A JavaScript-based engine selects a random motivational quote from a curated array (e.g., *"Strive for progress, not perfection"*) to set the tone for the session.
3. **Data Management Module:**
    - **Input Form:** A clean, validated form accepts Date, Weight (kg), and Body Fat (%).
    - **Smart Editing:** The form serves a dual purpose. It creates new entries and transforms into an "Edit Mode" when a user selects a past log to modify, changing visual cues (button colors) to indicate the change in state.
4. **Analytics Panel:** The application features a "Progress Snapshot" grid.
    - **Latest Weight:** Pulls the most recent entry based on date sorting.
    - **Total Change:** Algorithms calculate the difference between the very first log and the most recent log, applying conditional formatting (Red for gain, Green for loss/neutral) to visualize the trend.
    - **Total Logs:** A counter for consistency tracking.
5. **History Log:** A scrollable list displays every entry, sorted by date (newest first). Each entry includes action buttons (Edit/Delete) with icon-based triggers for intuitive interaction.

4. TECHNOLOGY IN USE

ARG Technology selected a "Vanilla" technology stack for this project to ensure maximum performance, zero dependencies, and complete control over the DOM.

1. HTML5 (HyperText Markup Language)

- **Role:** Structure and Semantics.
- **Implementation:** We utilized semantic tags (`<header>`, `<main>`, `<section>`, `<footer>`) to ensure accessibility and proper document flow. Input types such as `type="date"` and `type="number"` are used to leverage native browser validation and mobile keyboards.

2. CSS3 (Cascading Style Sheets)

- **Role:** Styling and Responsive Design.
- **Implementation:**
    - **Flexbox & Grid:** Used for the layout of the "Stats Grid" and "History List" to ensure they adapt seamlessly to mobile and desktop screens.
    - **Variables:** Although not explicitly defined in `:root`, the color palette is consistently applied (#0d0d0d for background, #00ff7f for accents).
    - **Transitions:** Smooth hover effects on buttons and list items enhance the user experience (UX).
    - **Font:** The 'Montserrat' font family is imported via Google Fonts for a modern, geometric look.

3. JavaScript (ES6+)

- **Role:** Application Logic and State Management.
- **Implementation:**
    - **DOM Manipulation:** Direct selection and modification of elements (e.g., `document.getElementById`, `innerHTML`).
    - **Event Handling:** Listeners for `submit`, `click`, and window loading events.
    - **JSON Handling:** Parsing and stringifying data objects for storage.
    - **Array Methods:** Extensive use of `.sort()`, `.filter()`, `.map()`, and `.findIndex()` to manage the data logs efficiently.

4. LocalStorage API (Web Storage)

- **Role:** Database / Persistence.
- **Implementation:** The application uses `localStorage.setItem` and `getItem` to store the user's progress logs (`gymProgressLogs`) and authentication status (`gymAuth`) directly in the browser. This eliminates the need for a backend database for single-user scenarios.

5. DESIGNING AND ANALYSIS WORKFLOW

Design Philosophy

At ARG Technology, we believe design dictates function. For Ascension, we adopted a "Dark UI" approach. Dark interfaces are preferred in fitness apps as they save battery life on mobile devices and reduce eye strain.

- **Color Theory:** We used a vivid Neon Green (`#00ff7f`) against a Deep Black (`#0d0d0d`). Green psychologically signifies "Go," "Growth," and "Success."
- **Hierarchy:** The "Latest Weight" and "Change" stats are the largest elements on the screen, adhering to visual hierarchy principles—users want to see results first.

Analytical Logic Workflow

The application follows a strict logical flow to ensure data integrity:

1. **Initialization:**
    - On load, the script checks for the `gymAuth` key.
    - If missing, the Login View is rendered. If present, the Tracker View is rendered.
    - Data is fetched from `gymProgressLogs` and parsed from JSON.
2. **Data Analysis Loop (The `renderProgress` Function):**
    - *Step 1: Clean.* Clear the current HTML list to prevent duplicates.
    - *Step 2: Sort.* The array of logs is sorted by Date (Descending). This ensures the math for "Latest Weight" always pulls index `[0]`.
    - *Step 3: Calculate.*
        - `Current Weight` = `Array[0].weight`
        - `Starting Weight` = `Array[last].weight`
        - `Delta` = `Current` - `Start`.
    - *Step 4: Visualize.* The logic determines if the Delta is positive or negative and assigns the appropriate color class (Red/Green) to the display element.
3. **State Management (CRUD):**
    - **Create:** A new object is pushed to the array.
    - **Update:** The logic searches for a unique ID (Timestamp). If found, it replaces the object at that index.
    - **Delete:** The array is filtered to exclude the matching ID, and the new array is saved.

6. CONCLUSION

Project Summary

The "Ascension" Personal Gym Progress Tracker stands as a testament to ARG Technology's ability to deliver high-quality, functional software without unnecessary complexity. By utilizing standard web technologies (HTML, CSS, JS) and the LocalStorage API, we have created an application that is fast, responsive, and immediately useful to the end-user.

The project successfully meets all objectives: it secures data via a passkey, persists data across sessions, provides instant mathematical analysis of weight trends, and offers a motivational user interface. It is a perfect example of a "Zero-Latency" application, as it requires no server round-trips to function.

Future Scope

To further align with ARG Technology's vision of scalable solutions, the following enhancements are proposed for future iterations:

1. **Data Visualization:** Integrating `Chart.js` to render a line graph of weight trends over time.
2. **Cloud Sync:** Migrating from LocalStorage to a cloud-based database (like Firebase) to allow users to sync data across multiple devices.
3. **PWA Implementation:** Converting the web app into a Progressive Web App (PWA) to allow it to be installed on mobile home screens and work completely offline.