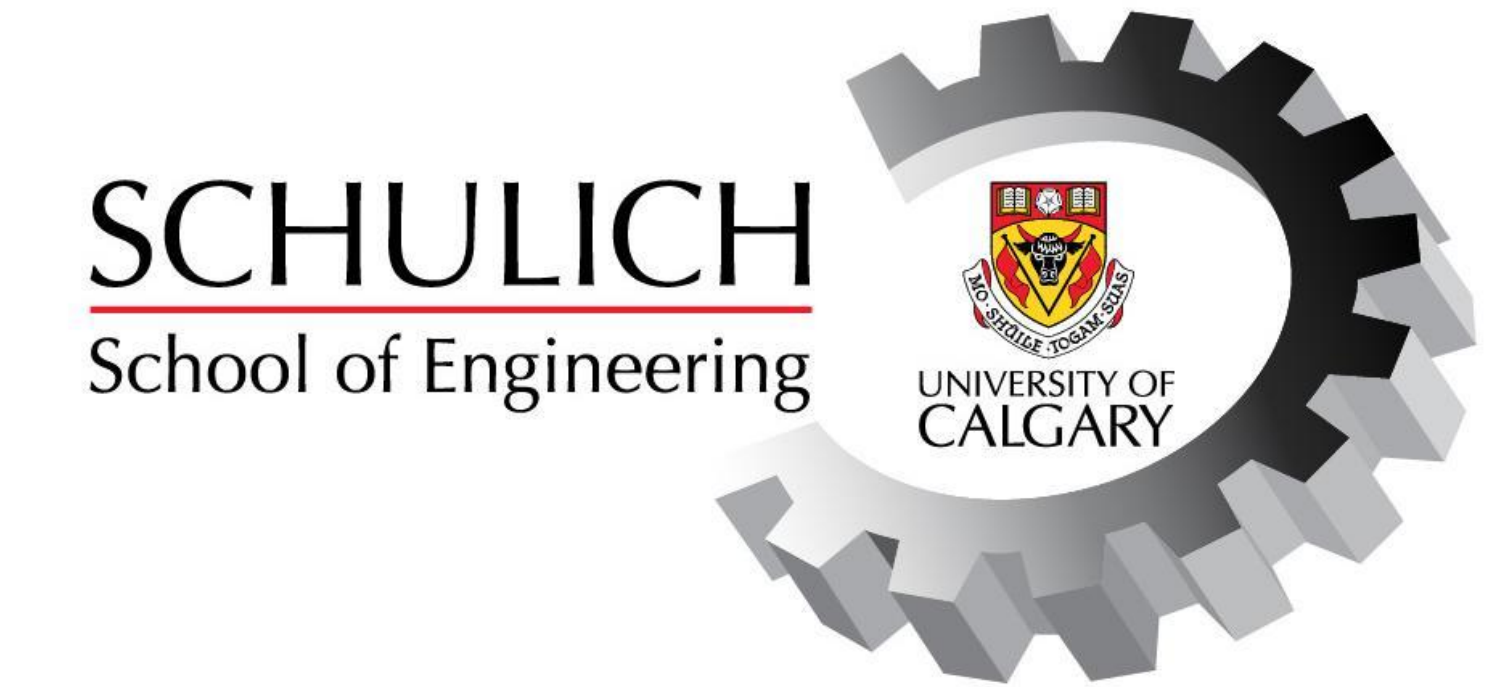# TrainWise AI: Automated Workout Logging using AI

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Connect with us!

66% of surveyed gym goers found that workout tracking was **tedious**[1].

53% of surveyed gym goers felt that gym app UIs were **unintuitive**[1].

44% of surveyed gym goers found it **difficult to view progression** in terms of weight lifted[1].

TrainWise AI is a solution that lets gym goers track their workouts with minimal effort. Just choose an exercise, press a button, and let our app's **AI driven tracker** count and record your reps in real time. Get started right away with our **user-friendly UI**. TrainWise AI provides a **seamless experience** for fitness enthusiasts of all levels, enhancing your workout experience with effortless logging and intuitive functionality.
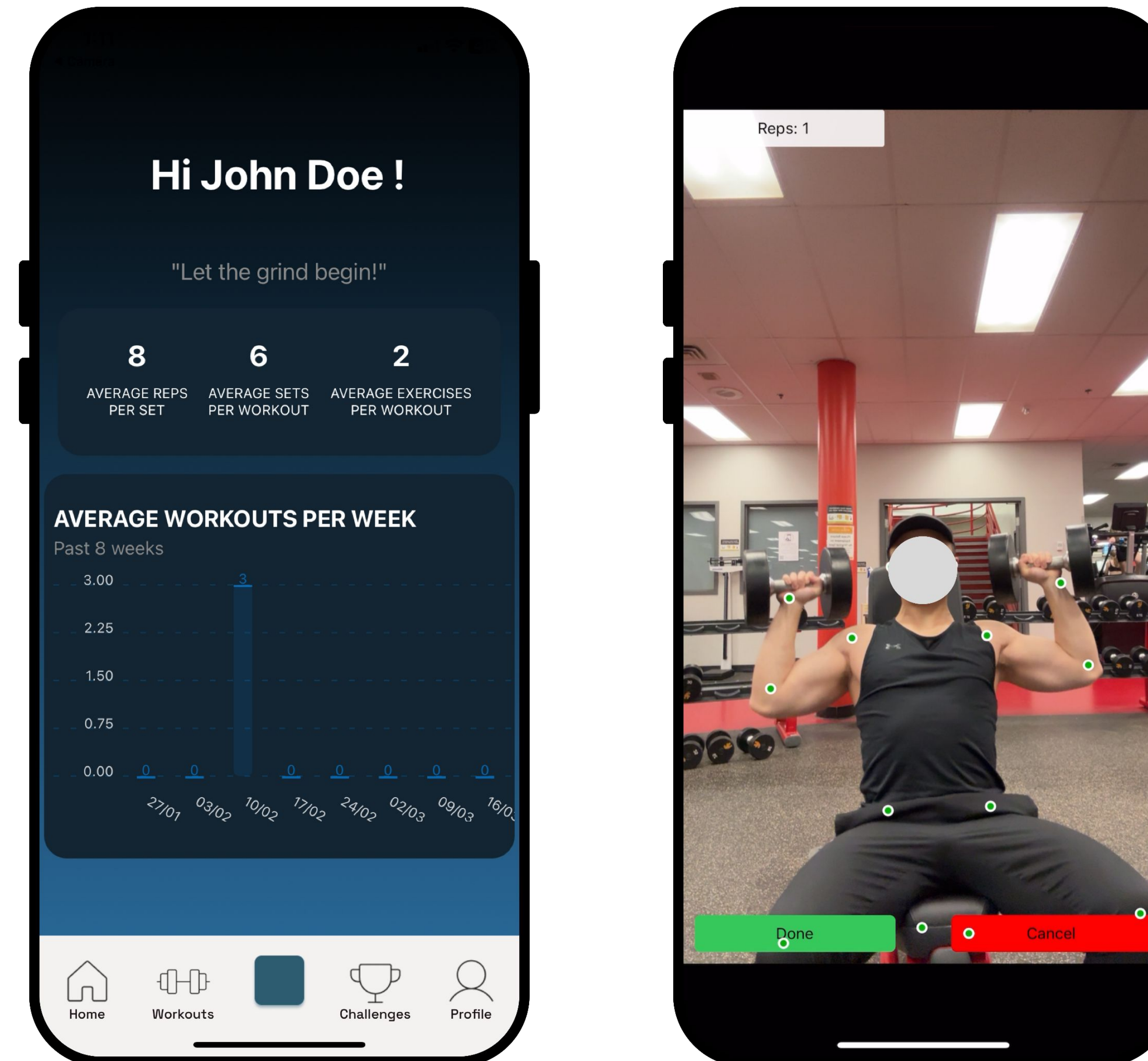
The Design

Powerful and Efficient AI
- TrainWise AI leverages Tensorflow's human pose estimation library to accurately and efficiently detect keypoints of the body. This library was designed to run on mobile devices, meaning we were able to keep the AI model local, enhancing the privacy of our app.

Smart Tracking Algorithm
- We developed an algorithm to use Tensorflow's keypoints to count exercise repetitions.
- In the future, we aim to develop a model that can automatically detect an exercise, making the experience even more seamless.

Customizable and Shareable Exercise Templates
- Users have the ability to create and share workout templates. This not only makes the experience more streamlined, but builds a sense of community between users.

Industry Standard Tech Stack
- Our application is built on modern frameworks and libraries, employing the MVC (Model-View-Controller) architecture pattern for robustness and scalability. Developed using TypeScript, React Native, Express.js, and MongoDB, our solution ensures efficiency in codebase management and execution

References and Notes

1. Based on a sample size of 30 gym goers with varying experience.
2. https://www.grandviewresearch.com/industry-analysis/fitness-app-market
3. https://www.kantar.com/north-america/inspiration/research-services/how-willing-are-consumers-to-pay-for-health-and-fitness-apps-pf.

Testing Solution

Automated Logging System
- We used manual testing to ensure that our exercises were being correctly counted by the AI. Various rep speeds and camera angles (within expected range) were tested.
- End to end testing was done to ensure the rep count from the tracker was logged for the user.
- The system was tested in real world settings to ensure the tracker could handle noisy video feeds.
- The system was ran for long periods of time to test performance and ensure no issues arrived (crashes, overheating, etc).

User Exercise Statistics
- Manual endpoint testing was done to ensure all user workout data is properly saved and retrieved from our database.

Business Viability

Global Fitness Tracker Market Size
- The global fitness app market size was valued at **USD 1.54 billion** in 2023 and is projected to grow at a compound annual growth rate (CAGR) of **17.7%** from 2024 to 2030[2].

Fitness-Related App Subscriptions
- "Of those who pay for health-related apps, **63%** hold paid-for subscriptions to fitness and exercise apps[3]."

Customer Discovery

Through our research, which included surveys, interviews, and discussions with gym-goers of all levels, we discovered a common challenge: difficulty in accurately logging and tracking workouts. Many users expressed frustration with existing apps that lacked intuitive features for recording workout details and monitoring progress over time.

"Tracking workouts is tedious."

"I dislike scrolling through long lists of exercises in tracking apps."
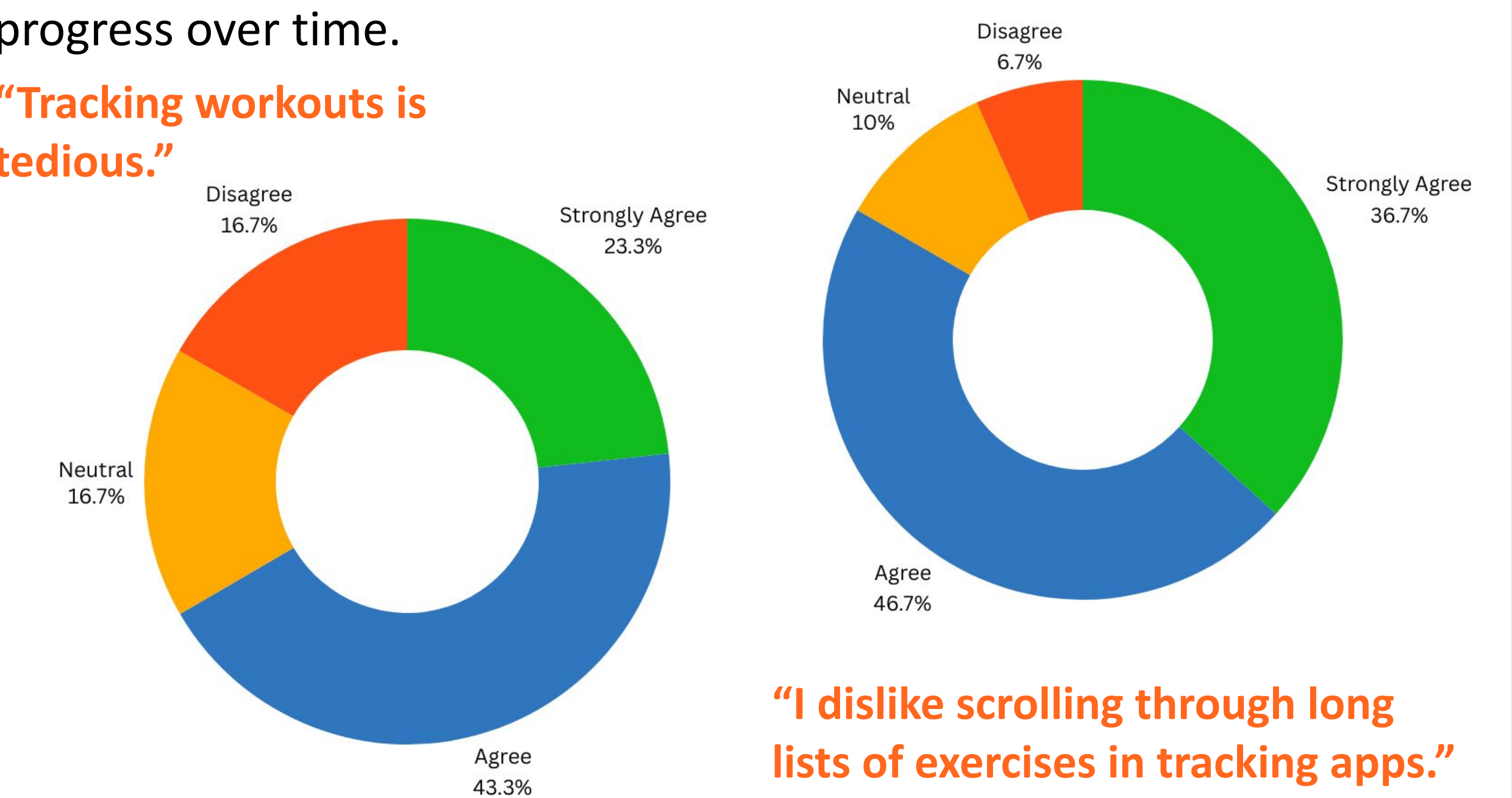
1. **Inefficient Workout Logging:** Users reported spending significant time manually inputting workout data, which often led to inconsistencies and inaccuracies in their fitness records.

2. **Lack of Customization:** Many users expressed a desire for more personalized tracking options, such as the ability to create custom workout routines tailored to their specific fitness goals and preferences.

3. **Limited Progress Tracking**: Existing apps often provided limited insights into long-term progress, making it challenging for users to track their fitness journey effectively and stay motivated.

Competitive Analysis

FEATURES	TRAINWISE AI	STRONG APP	TRAIN FITNESS INC	JEFIT GYM TRACKER
Automated Detection	✔	✘	✔	✘
Automated Rep Counting	✔	✘	✔	✘
Workout Templates	✔	✔	✔	✘
No Equipment Required	✔	✔	✘	✔
Data Tracking & Analytics	✔	✔	✔	✔
Cost	$	$$	$$	$$$