Application Development: Muscle Mind

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December 1, 2025

Introduction

In a developing world of AI agents and chatbots, it is unclear why there is not a market leader or innovator of AI within the Health and Fitness industry. Muscle Mind was created for users to have an AI agent they can actively communicate with in real time of their workout. Before developing the UI/UX for Muscle Mind, there were a few critical success factors that were deemed essential for the app. The first was that the app had to have a comprehensive database of lifts the user could choose from to receive pre-set mental cues and post-set feedback from our AI trainer. Secondly, we needed to include a feature that would allow the user to select the current gym location they are working out at that day and for the library to show each machine available in that selected location. Next, we wanted an open-ended chatbot experience the user could openly talk to for any specific questions they might have during an active training session. Lastly, we wanted to build an app that includes specific features that would excite the user to return to the app for each workout.

Application Demonstration

Upon launching Muscle Mind, they will be shown the homepage, which has an array of different statistics based on how frequently they workout, how much weight they are moving during their workouts, one of their personal best lifts, and lastly their most recent workouts logged with Muscle Mind in case they would like to repeat one on a later date. Retaining these statistics quantifies the user's workout which gives them a perspective and keeps them mindful of how consistent they have been and how well they have been performing throughout the year. These statistics are also compared with other users to let them know their standing relative to their peers to keep them motivated. The next critical feature is the Exercise Library, which allows the user to choose from a list of workouts to either start their session or just get tips on a certain lift.
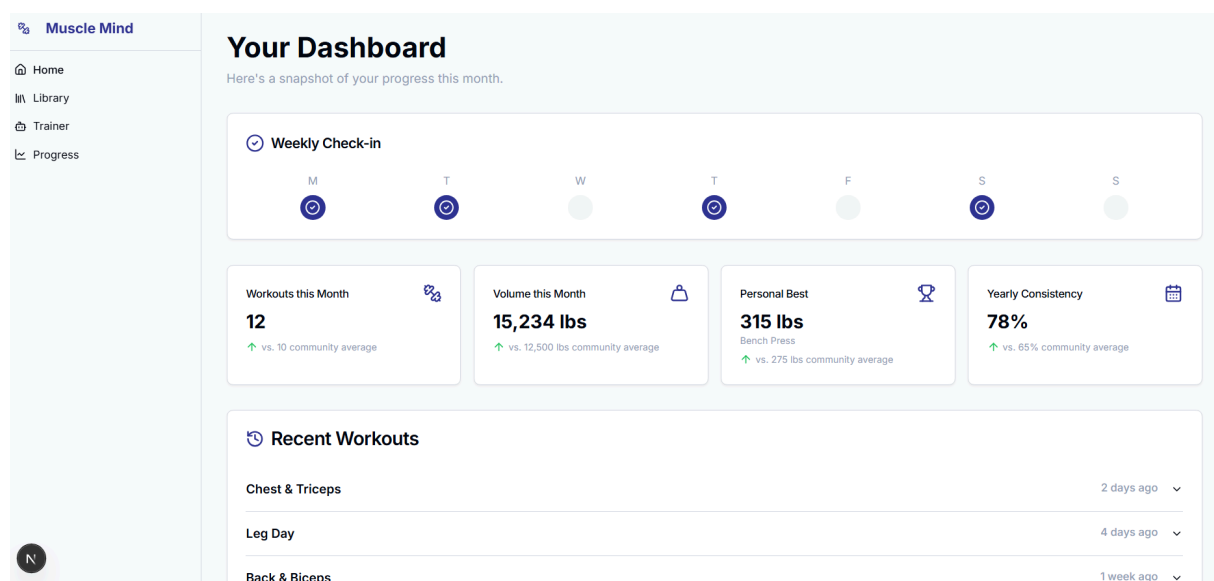

Figure 1: Muscle Mind Homepage Dashboard

The Exercise Library is a comprehensive database that allows the user to either follow a workout generated by our AI agent or choose single lifts throughout their workout to receive tips and log sets. The AI-generated workouts are targeted for specific goals that the user may have, which will typically cater toward beginner lifters to show them exercises they may not know about, or to show them how to target certain muscles. The main component of the library is the Exercises section, which allows the user to select the specific gym they are at; this helps the library provide lifts and machines that that specific gym has. If a user does not wish to input their gym location, they can still utilize the library to its entirety by selecting or searching for a specific exercise they are looking to perform. They may need tips from our AI trainer to perfect the movement before they begin recording their sets.
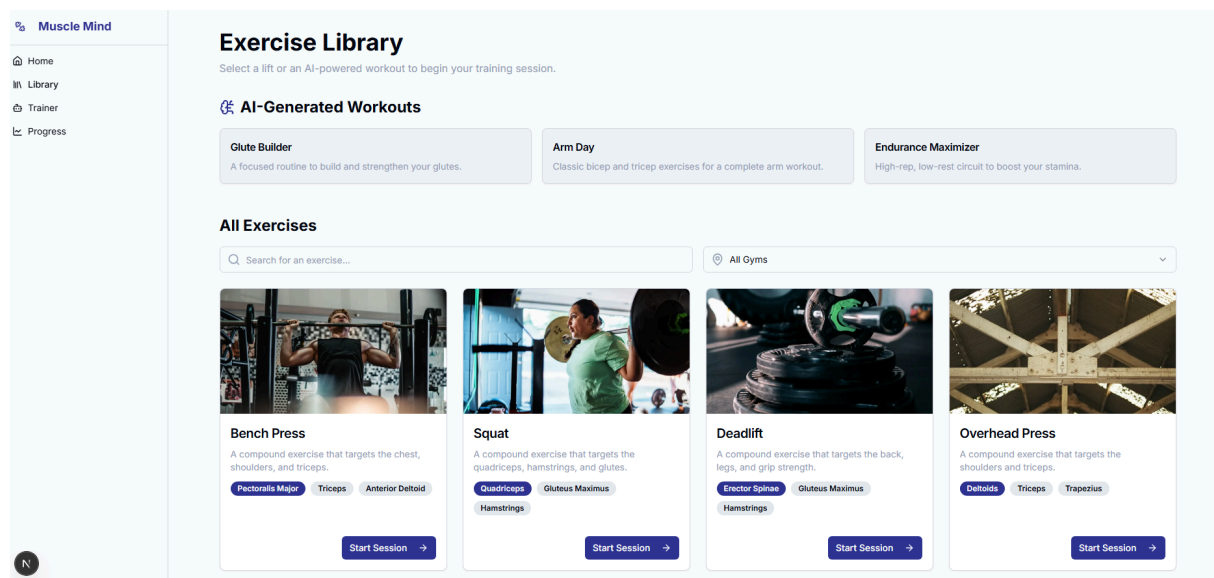

Figure 2: Exercise Library Interface

Once the user selects a specific workout from the Library, they will be directly taken to the AI Trainer interface that will provide two pre-set mental cues that the user can visualize and focus on during their set to ensure they are performing the lift with correct form. This interface is also the primary hub for logging sets. Once the user finishes a set, they will provide the weight and reps performed during the set for Muscle Mind to store for the progress charts, and to be viewed in their past workout history. This gives the user quantified data to encourage them to achieve progressive overload during each workout. The AI Trainer interface can also be used as an open chatbot the user can use for any question they may have. This feature will allow the user to plan workouts, solve niche form issues, or think critically about a certain lift or their entire workout alongside our AI agent.
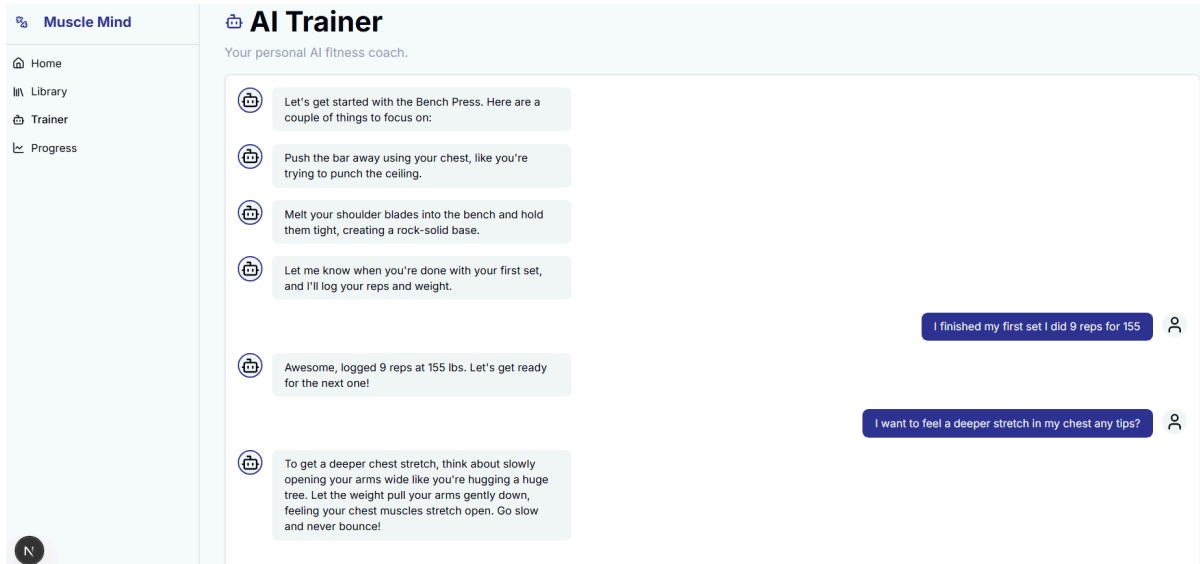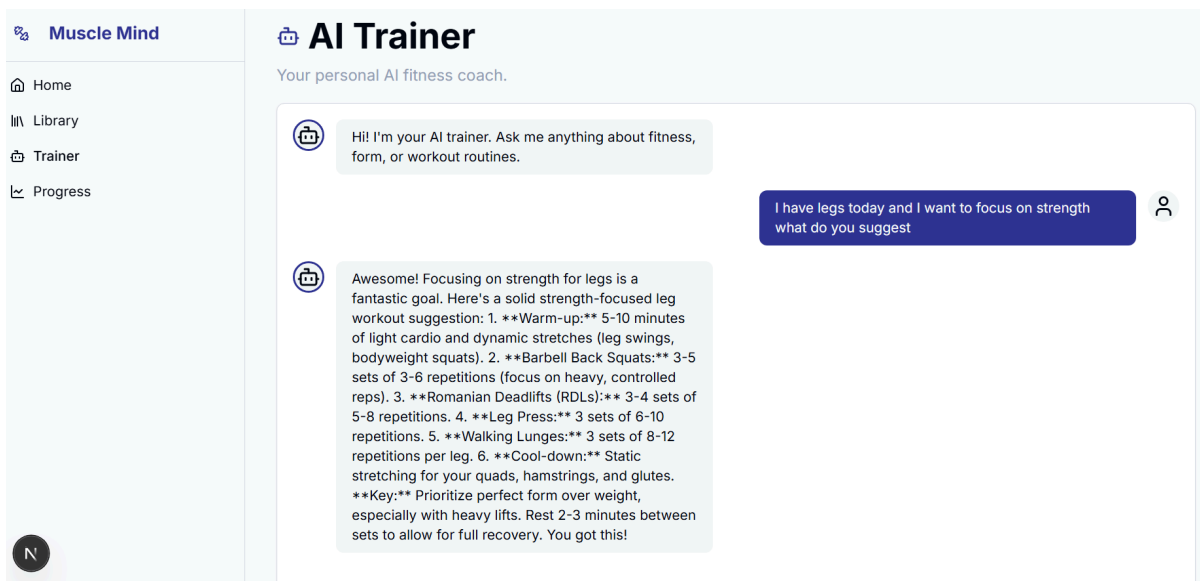
Figure 3: AI Trainer and Logging Screen

Figure 4: AI Trainer and Logging Screen

While the AI Trainer is active in assisting the user through their workout and is a key component to the app, the Progress Tab is the main component that will draw users to keep coming back. The Progress Tab has weekly charts based on the volume of weight lifted each day, and a chart that can be linked with health services like Apple Health that will display the calories burned during each workout. Along with weekly charts, there is a personal bests section that shows the user's top lifts compared to the community average to give them a tangible incentive to continuously improve. Finally, this is where all the previous workouts recorded by the users will be stored. This will allow the user to revisit past workouts, view their progress, and also give them the ability to repeat past lifts they enjoyed.
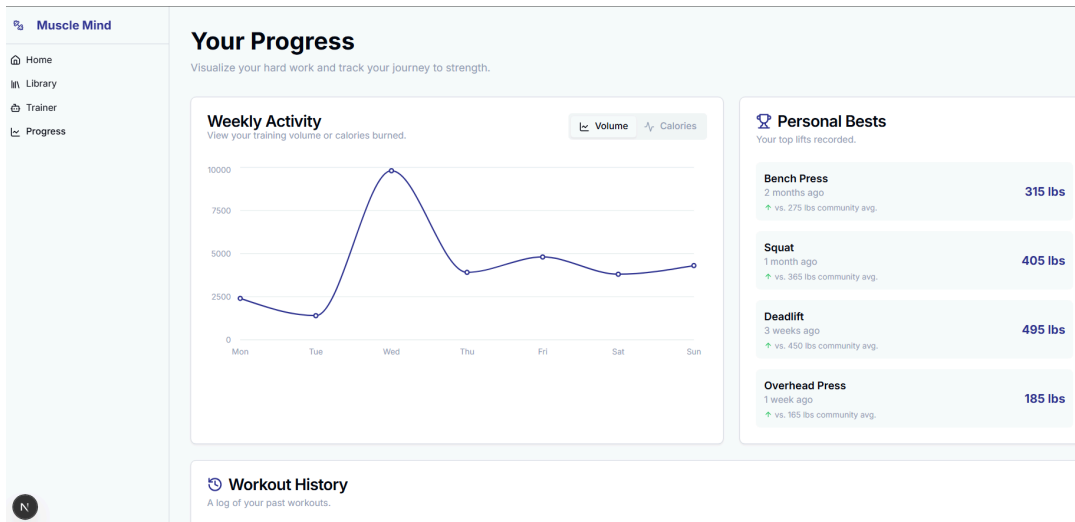
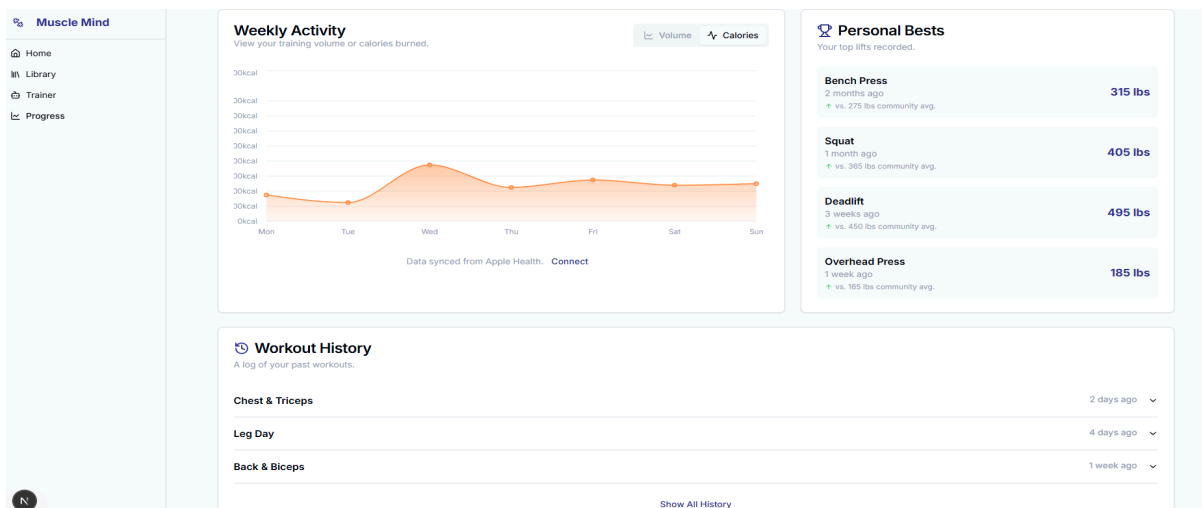*Figure 5: User Progress and History Charts*

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Conclusion

In conclusion, the creation of Muscle Mind successfully meets the critical success factors that were established in subset one of this project. The Exercise Library gives the user the comprehensive database needed to choose any lift they look to perform and may need help with during their workout. Our AI Trainer section allows the user to receive pre-set mental cues and post-set feedback that helps the user perfect their form and improve the efficiency of each lift. Finally, the welcoming homepage and user progress section keeps the user engaged with the application by quantifying their performance and giving them motivation to keep striving toward their goals. In the future, the next phase of development will be to train our AI agent to become specialized in resistance training to give it a competitive advantage compared to the rest of the market. Along with the refinement of our AI agent there are future plans to deepen our exercise

library to include an even more comprehensive range of movements. We will also incorporate a first-person point of view walk-through for each lift in the exercise library to assist the users with the setup of each lift. Lastly, we will continuously aim to enhance the visual interface.