



LiftSmart: A Comprehensive Lifting Platform

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OVERVIEW

People go to the gym for various reasons, but there is a big, unaddressed problem in the gym community. While people of all ages and backgrounds can go to the gym, without proper guidance, injuries caused by lack of proper form, overuse, or overtraining can occur. According to data from the National Electronic Injury Surveillance System (NEISS), in 2023 over 27% of participants reported at least one weightlifting injury in the previous six months. Furthermore, new members of the gym can feel discouraged or embarrassed and may stop returning ever again.

We have identified a need for more collaborative and accessible gym education. Our goal is to find a solution to alleviate these fears and hindrances, and give gym-goers the encouragement and support they may need to develop a safe and comprehensive knowledge base of the gym and working out. Our audience includes gym-goers of all ages and backgrounds, with an emphasis on users who are new to the gym.

Learning Objectives:

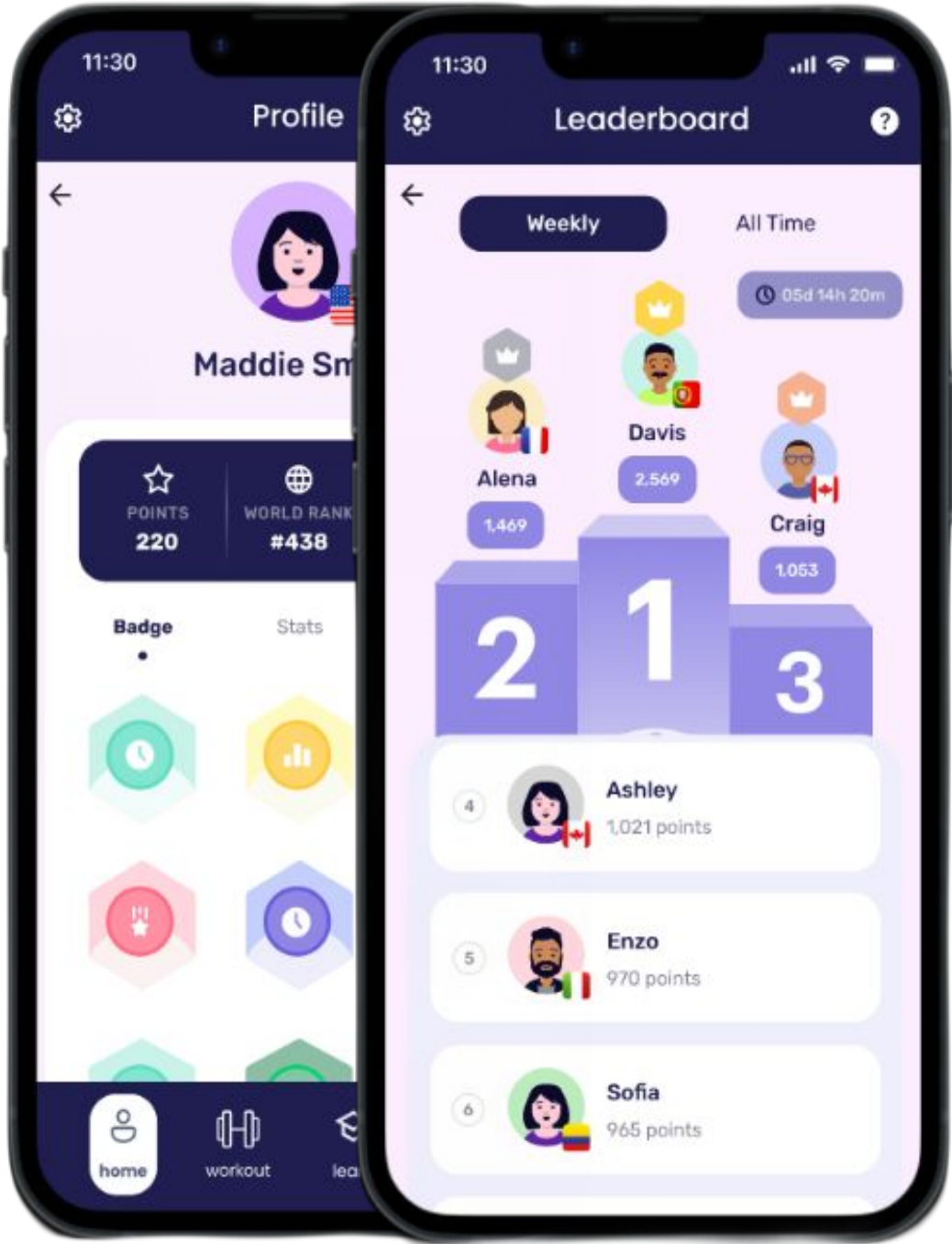
- Learners will be able to achieve their fitness goals safely and reasonably while using LiftSmart to learn and master new exercises that cater to them as individuals.
- Learners will be able to connect with other members of the gym community to ask questions and receive feedback.
- Learners will become motivated to return to the gym long-term.

DESIGN REQUIREMENTS

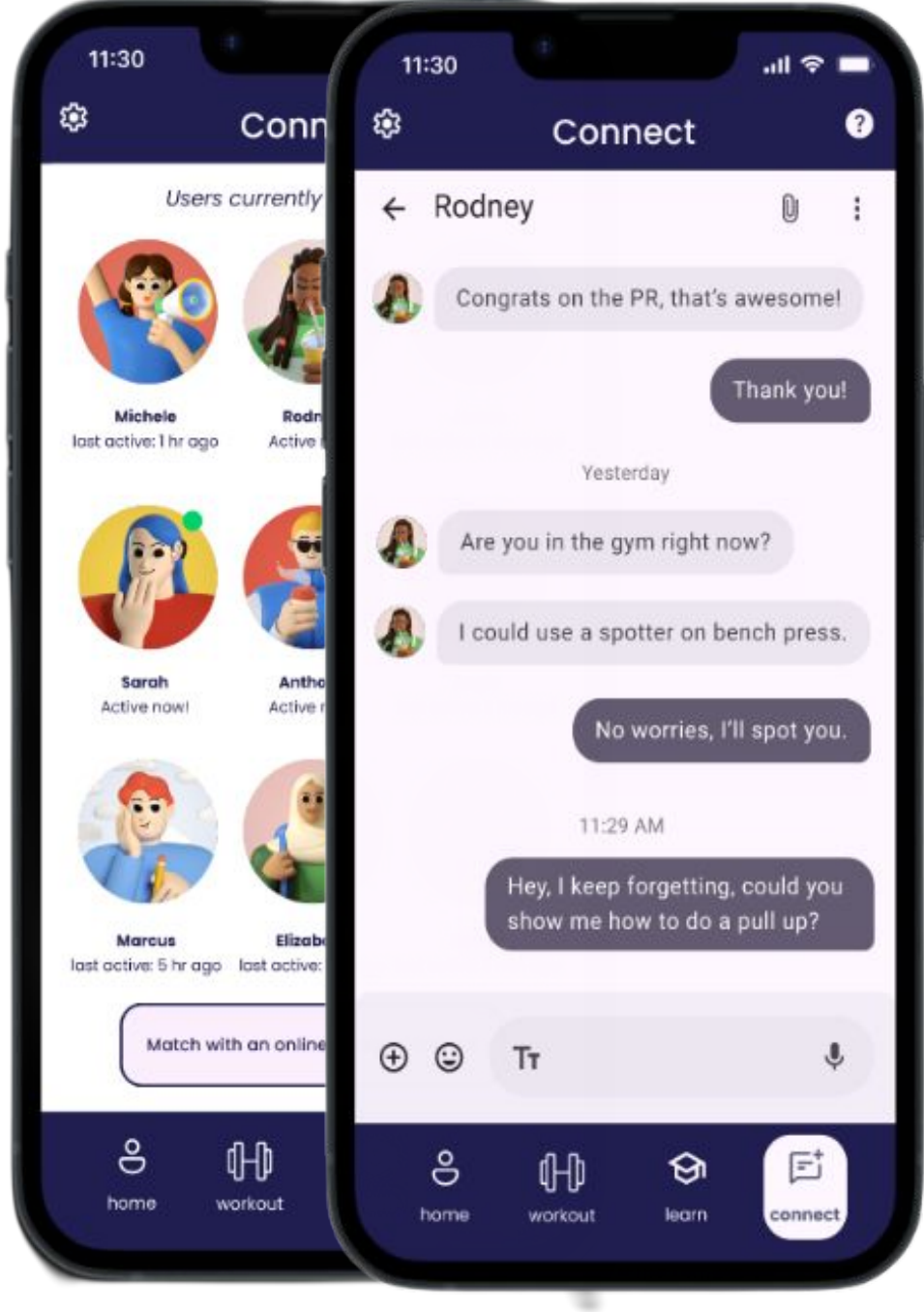
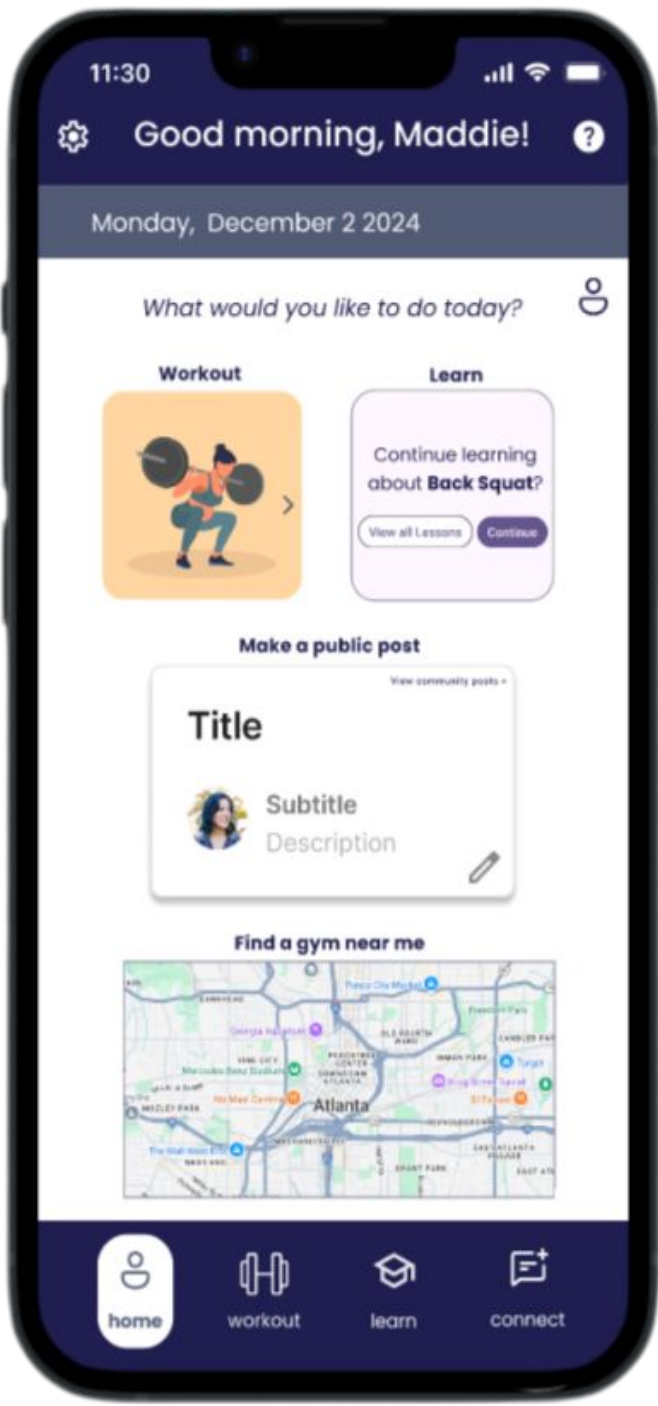
Feature	Justification
Users can discover and explore innumerable different exercises within the Learning Portal.	Similar to Sugata Mitra's concept of self-organized learning environments where students can learn more without supervision, the Learning Portal offers unstructured, user-centered education, where users are able to explore the world of lifting education at their own pace. To prevent learners from becoming overwhelmed by an influx of information, the Learning Portal also recommends new exercises for users to learn based on their prior data.
Users can record their workouts and receive an AI Analysis Report providing feedback on their form. Users can also collect feedback by making public posts and messaging with local community members as well as real, online personal trainers.	Socioculturalism is a theory of learning that emphasizes how learning happens through talk and interactions with others. Vygotsky's Zone of Proximal Development describes how learners can do more when given help. On their own, users learning a new workout will likely struggle to perform it and lose motivation due to a lack of support. This is why it is of the utmost importance to promote genuine interaction with other users on the app, as well as AI feedback that allows for users to receive personalized guidance that enables them to achieve more.
Users gain points for each new exercise and workout they complete. With these points, users can collect intangible rewards such as badges for each achievement they accomplish, as well as real, monetary rewards offered from partnerships with athletic companies and brands.	This implementation of gamification adds a Behaviorist perspective to the app. Skinner's Behaviorism states that behaviors change because of rewards and punishments, and that learning occurs due to these changes in behavior. Users are motivated to earn as many badges and rewards as possible, which they collect with each new exercise they learn and workout they perform.

FINAL DESIGN

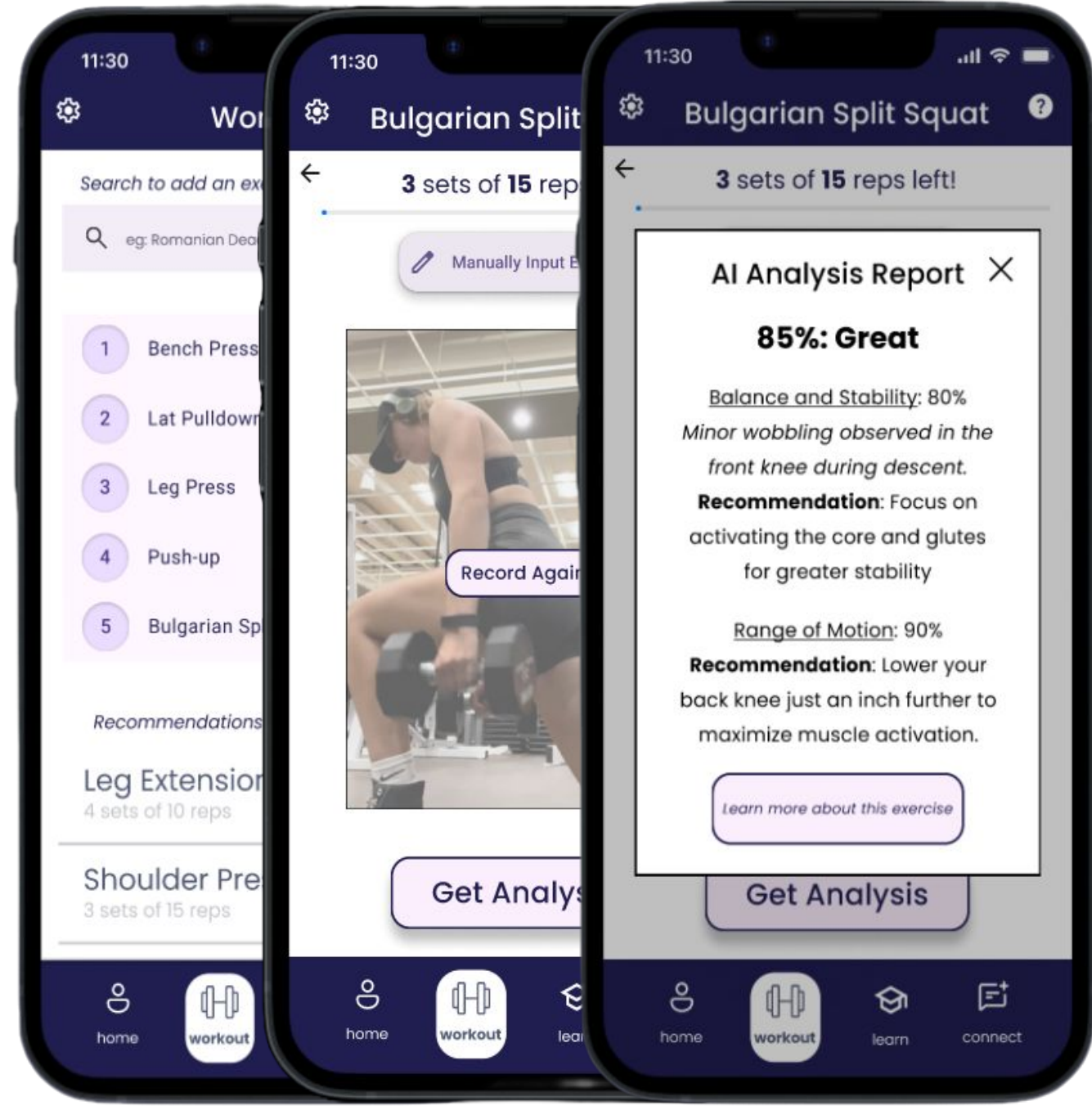
Our final design incorporates physical training, learning, AI feedback, and social collaboration and companionship. Users no longer need multiple resources to familiarize themselves with the gym; LiftSmart is an all-encompassing, holistic gym platform built for users of all experience levels.



The **Profile** and **Leaderboard** pages allow users to gain points for each new exercise and workout they complete, collect badges for each achievement they accomplish, view their stats and progression, and compete with other users both locally and internationally. The app offers both intangible rewards such as badges as well as real, monetary rewards offered from partnerships with athletic companies and brands to encourage the realization of long-term goals.

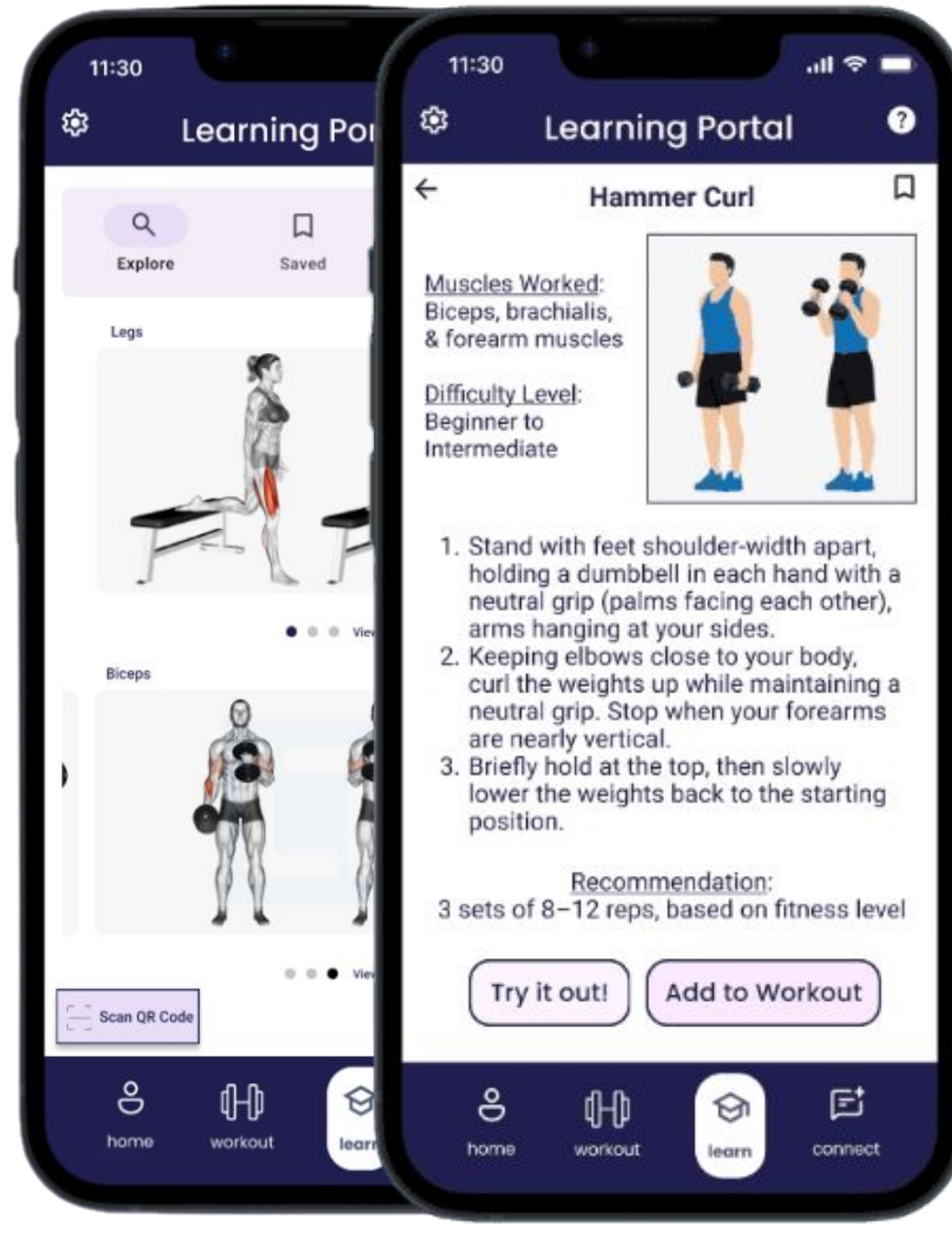


It can be discouraging returning to the gym with seemingly no support or encouragement from others. LiftSmart remedies this by including a **Connect** page where users can make public posts and message with local community members as well as real, online personal trainers. Users are also able to opt out of this feature within the privacy settings.



Users are able to add a wide variety of exercises to their workouts. They can then record their sets and receive an **AI Analysis Report** providing feedback on their form.

Within the **Learning Portal**, users can discover and explore innumerable different exercises that they may be unfamiliar with.



FINDINGS

We collected feedback from several different college students coming from varying backgrounds in the gym. We instructed each learner to step through the prototype, and noted where any confusion may have arisen. Upon analyzing our user feedback, we recognized that LiftSmart excels in facilitating different workouts for users. Our learners felt comfortable with the layout of the app and performed each user task successfully. Specifically, users appreciated the addition of workout recommendations, as it can be difficult to incorporate new and unfamiliar exercises into every workout.

However, our learners pointed out that LiftSmart doesn't inherently provide any motivation for users to continue using the app, and rather relies on the motivation of each user as an individual. They expressed a desire for gamification aspects that encourage users to continue using the app each day. One such gamification feature we implemented in our final design is a rewards system, which grants users both intangible and monetary prizes for each milestone they reach on the app. We also implemented a community leaderboard for each workout to induce healthy competition.

KEY TAKEAWAYS

According to the extensive testing we conducted, the Learning Portal was one of the greatest successes of our proposal. It offers structured, user-centered guidance, where users are able to explore the world of lifting education at their own pace. In addition, the integration of AI feedback for exercise form and a connect page for community interaction supports gym-goers' diverse needs, thereby reducing barriers for beginners and promoting long-term engagement.

However, we recognized that without incorporating aspects of gamification and socioculturalism, LiftSmart was unable to effectively motivate users long-term. To remedy this, we implemented a rewards system and community leaderboard to encourage users to continue on their educational and athletic journey. With these features, users now work towards collecting badges that acknowledge their accomplishments, achieving challenges on the app, and unlocking new intangible and monetary rewards. This adds both intrinsic and extrinsic motivators, fostering consistent usage and goal realization, and leveraging healthy competition to maintain engagement.

Ultimately, throughout this project we learned about the process of creating a solution to better the lives of others. We conducted a thorough investigation into the problem, designed multiple versions of a prototype, and evaluated the proposed solution with real people. However, there is still much more room for improvement—one future idea we considered is creating a social network within LiftSmart. Social media is a powerful way to keep users engaged, hence we could implement a similar concept as TikTok and Instagram Reels, where users could scroll through entertaining pictures and videos related to the gym.