



Hi-Fi Midway Report

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Value Proposition

Get fit with anyone, anywhere

Team Members

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Problem/Solution Overview

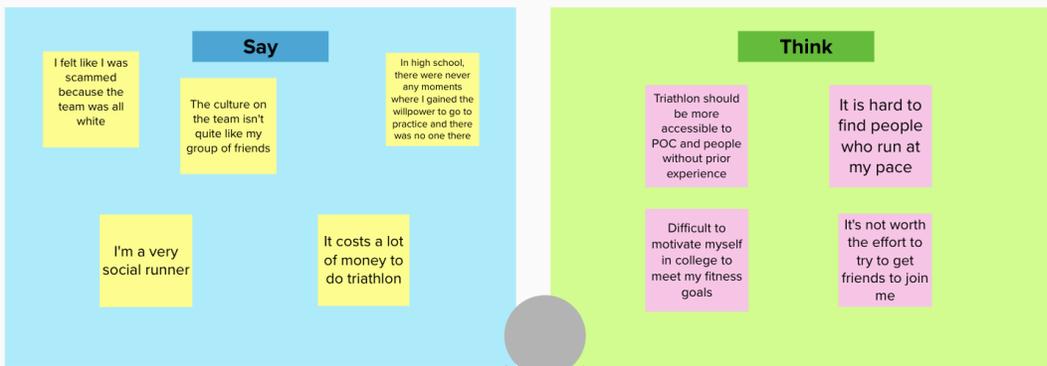
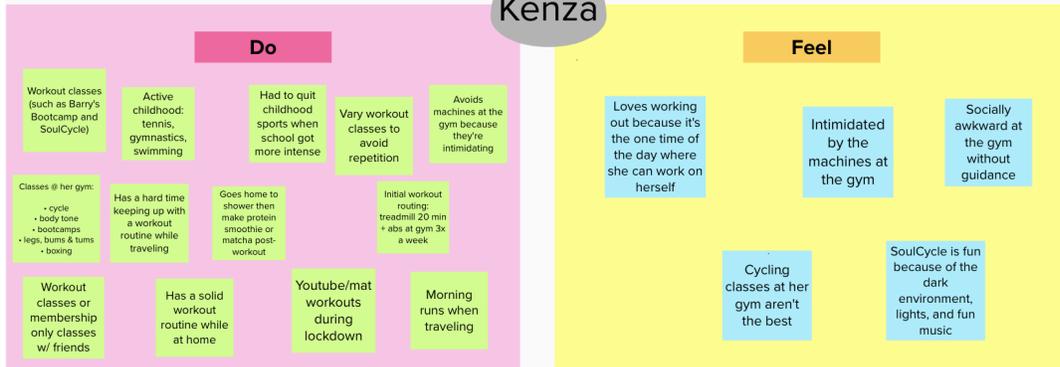
Lots of people find motivation and joy in working out with others and getting feedback from instructors. However, it can be difficult to find consistent work out classes and regular exercise partners that match your skill level if you are busy or travel regularly. With MetaGym, our vision is to make working out fun and accessible for everyone. MetaGym elevates the workout experience by providing a strong sense of community and high-caliber instruction—all in an immersive experience.

Needfinding Interviews

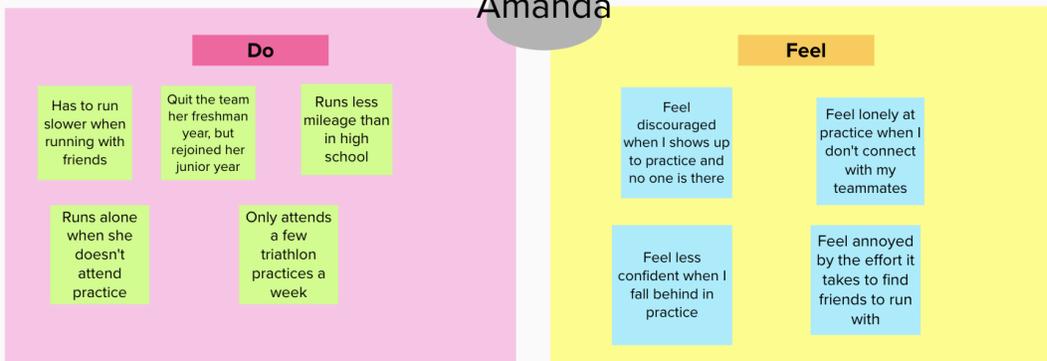
We interviewed six participants in total, with a diversity of ages ranging from 19-52 years old, male and female participants, and extreme users (D1 athletes and beginners in working out). We took away a few key insights from our first round of interviews. 1) Regimen accountability: users are more incentivized to workout consistently when they have some sort of reward system, whether incentivized through peers or an internal streak system. 2) Social/ community: users are willing to pay more for community-based fitness classes that are costly than for a gym membership, pointing directly to users' desire for community while learning. 3) Economic accessibility: workout classes can be quite costly, thus limiting accessibility for certain users. 4) Locational accessibility: for users who travel or cannot access a consistent workout base, it's difficult to find a consistent workout regimen. From our second round of interviews, we interviewed more extreme and diverse users, and deepened our learning that 1) learning and working out in a community is a large motivator, and explored the 'learning' aspect of the theme more to find that 2) consistency is difficult when there is a lack of tailored instruction and a lack of partners of a similar level.



Kenza



Amanda



POVs & Experience Prototypes

Final POVs:

1. We met... **Oscar**, a 52-year old self-employed father/husband living in Los Angeles who enjoys sports but struggles to stay consistent. We were surprised to notice... it's hard to stay consistent with sports because lack of partners of similar level tailored instruction/feedback We wonder if this means... he would improve faster and stay more consistent with his regimen if he had instruction/friends that matched his skill level. It would be game-changing to... Give Oscar the opportunity to learn/improve sports from legends and experts
2. We met...**Khalil**, a 19 year old workout beginner who is an undergrad student at Howard University. We were surprised to notice...how he felt like quitting sometimes because he wasn't getting the instant gratification he got from video games We wonder if this means...he would feel more motivated to keep exercising if there were other noticeable changes he could see other than changes in his body It would be game-changing to...help him see changes more quickly by making him aware of the skills that he obtained during his workout session.
3. We met...**Kenza**, a 21-year old student at London School of Fashion who's a workout class enthusiast & frequent traveler. We were surprised to notice...how much more she was willing to pay to go to workout classes rather than just going to the gym We wonder if this means...that her motivation to work out stems from quality instruction and community. It would be game-changing to...offer her consistent quality of instruction and community no matter where she is in the world.

HMWs:

Oscar: How might we incorporate instruction from sports legends/experts while tailoring the lessons to his skill level?

Khalil: How might we provide Khalil the repetition required for gaining muscle but also give him the gratification of learning something new?

Kenza: How might we give Kenza a constant and/or new community and the same high caliber of teaching offered in real-life to an online experience?

Top Three Solutions

1. VR weightlifting game that teaches different skills to attack monsters
2. VR fitness class rooms with different skill levels
3. Fitness classes + online community with achievement badges, leaderboard, and shareable fitness insights

Four Experience Prototypes

From our top three solutions, we came up with four experience prototypes, as outlined below.

1. Weightlifting in VR

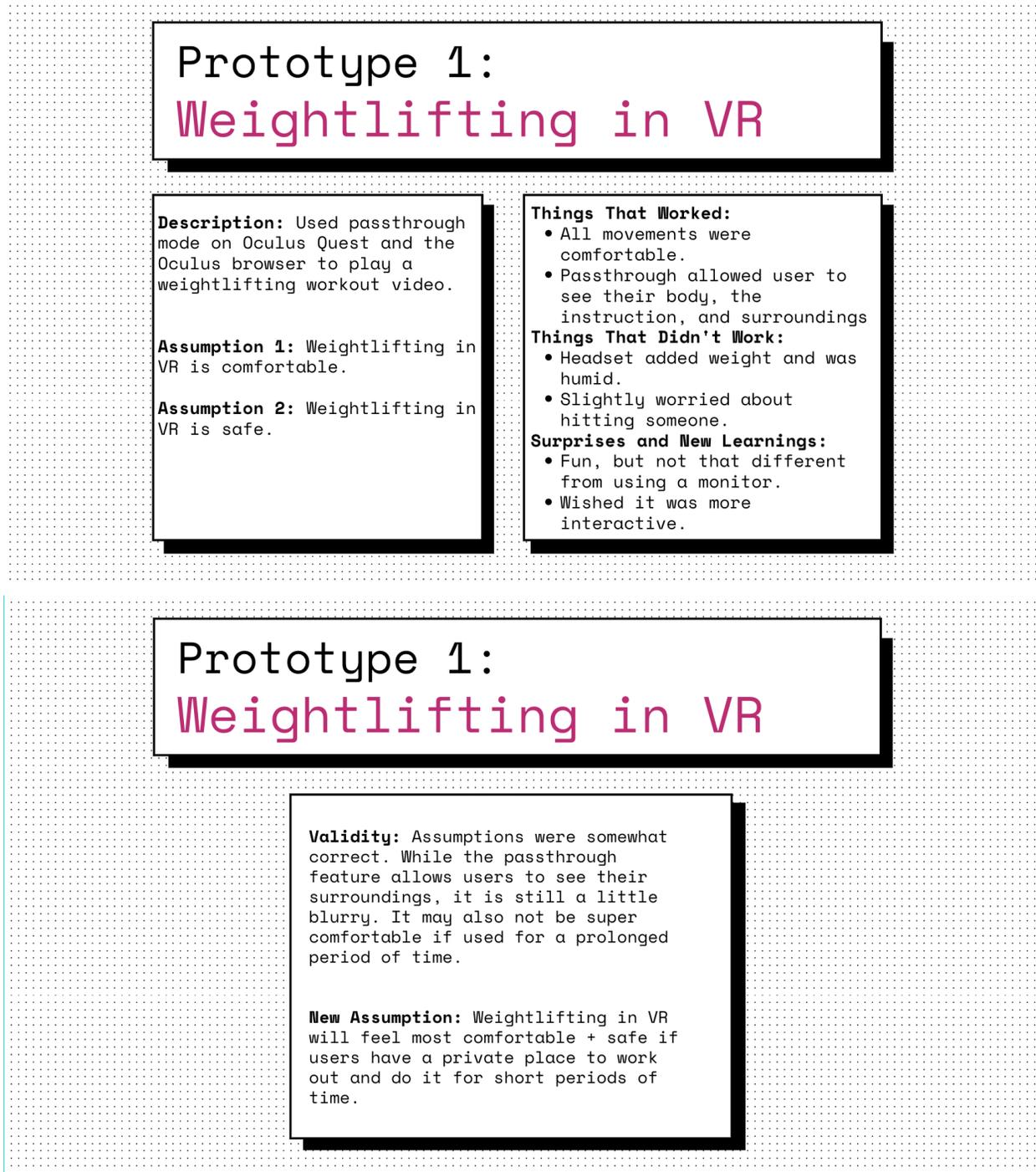


Figure 1A.

2. Workout Session in VR

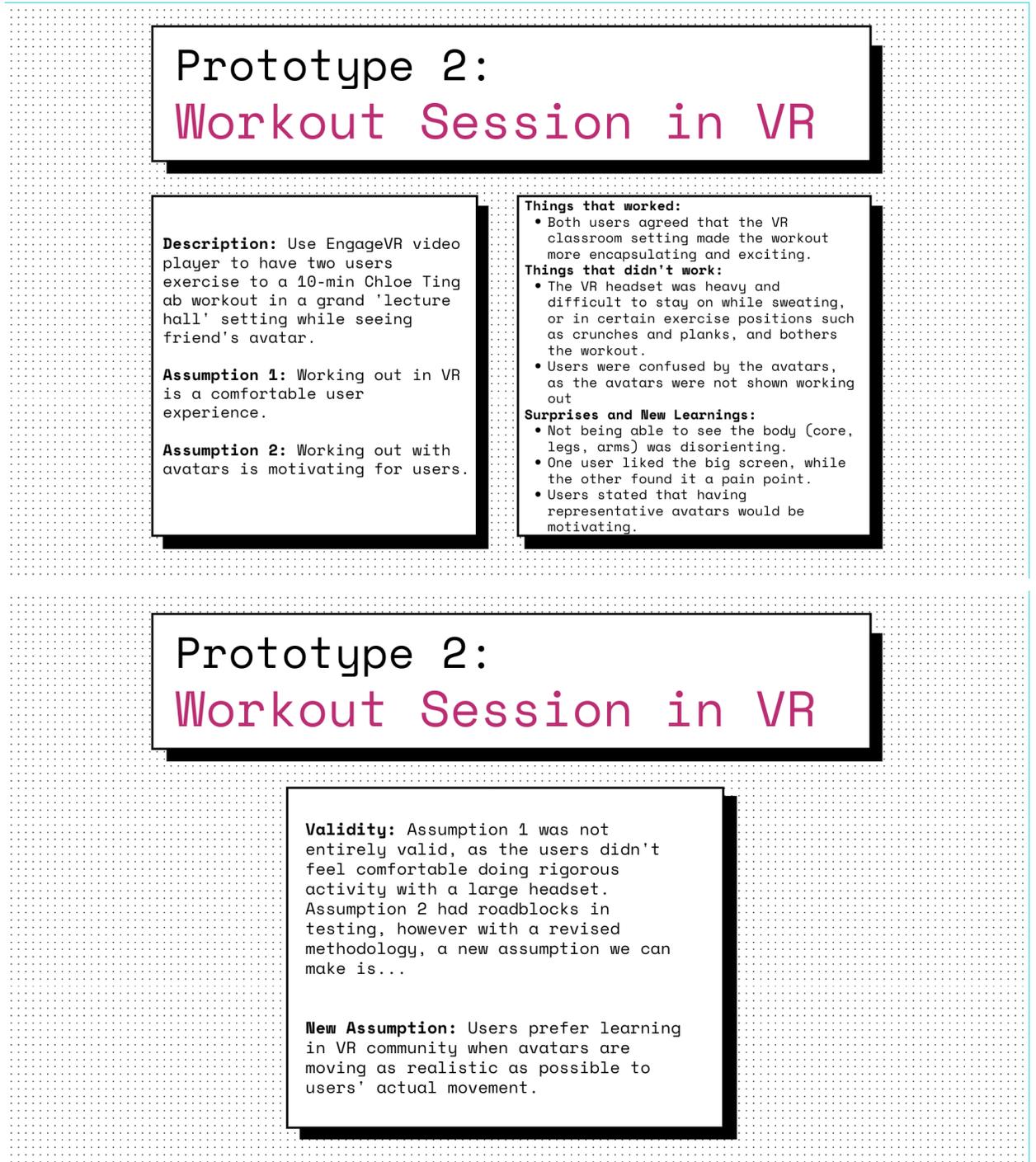


Figure 1B.

3. Workout Streak

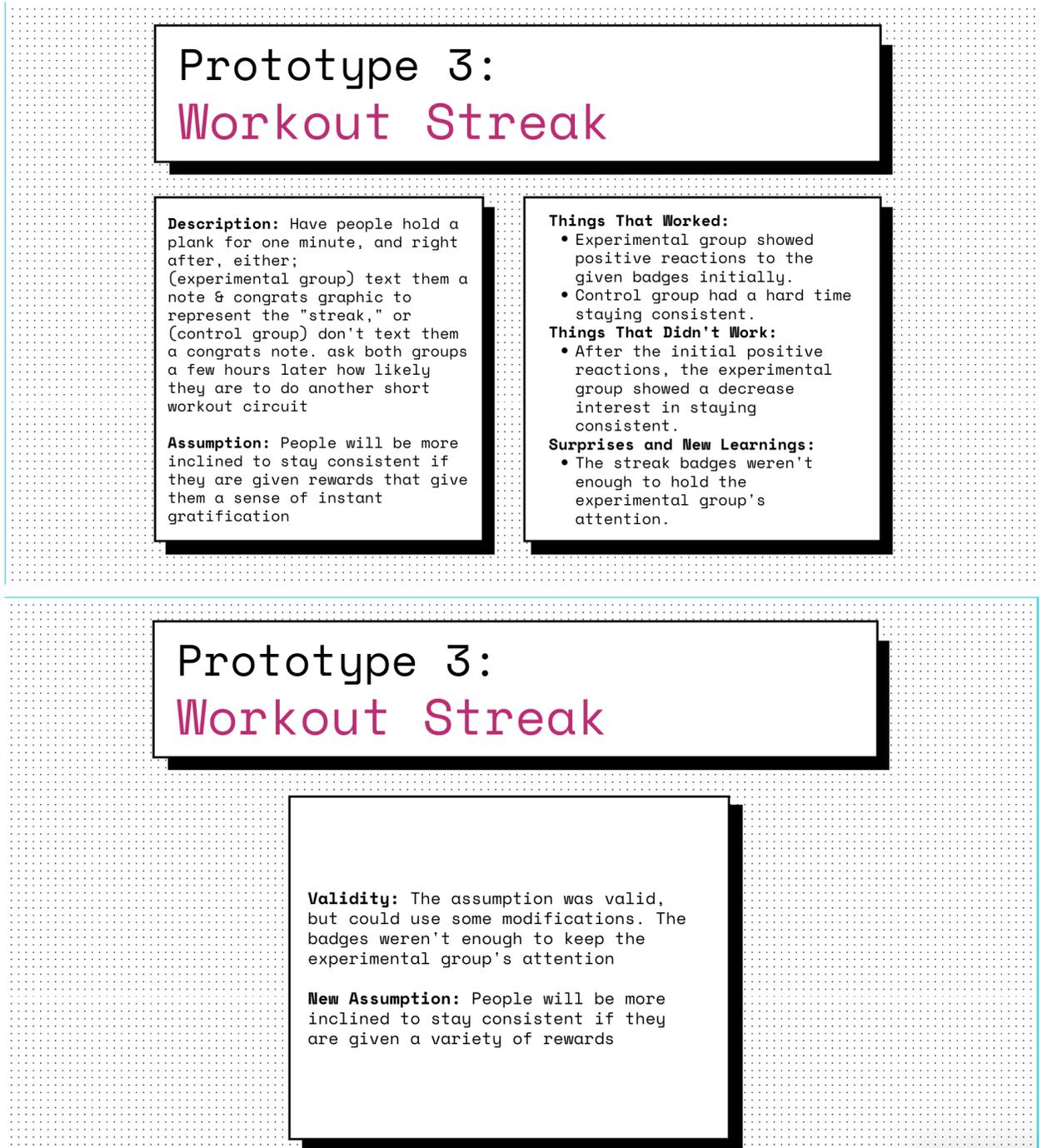


Figure 1C.

4. Learning From Experts

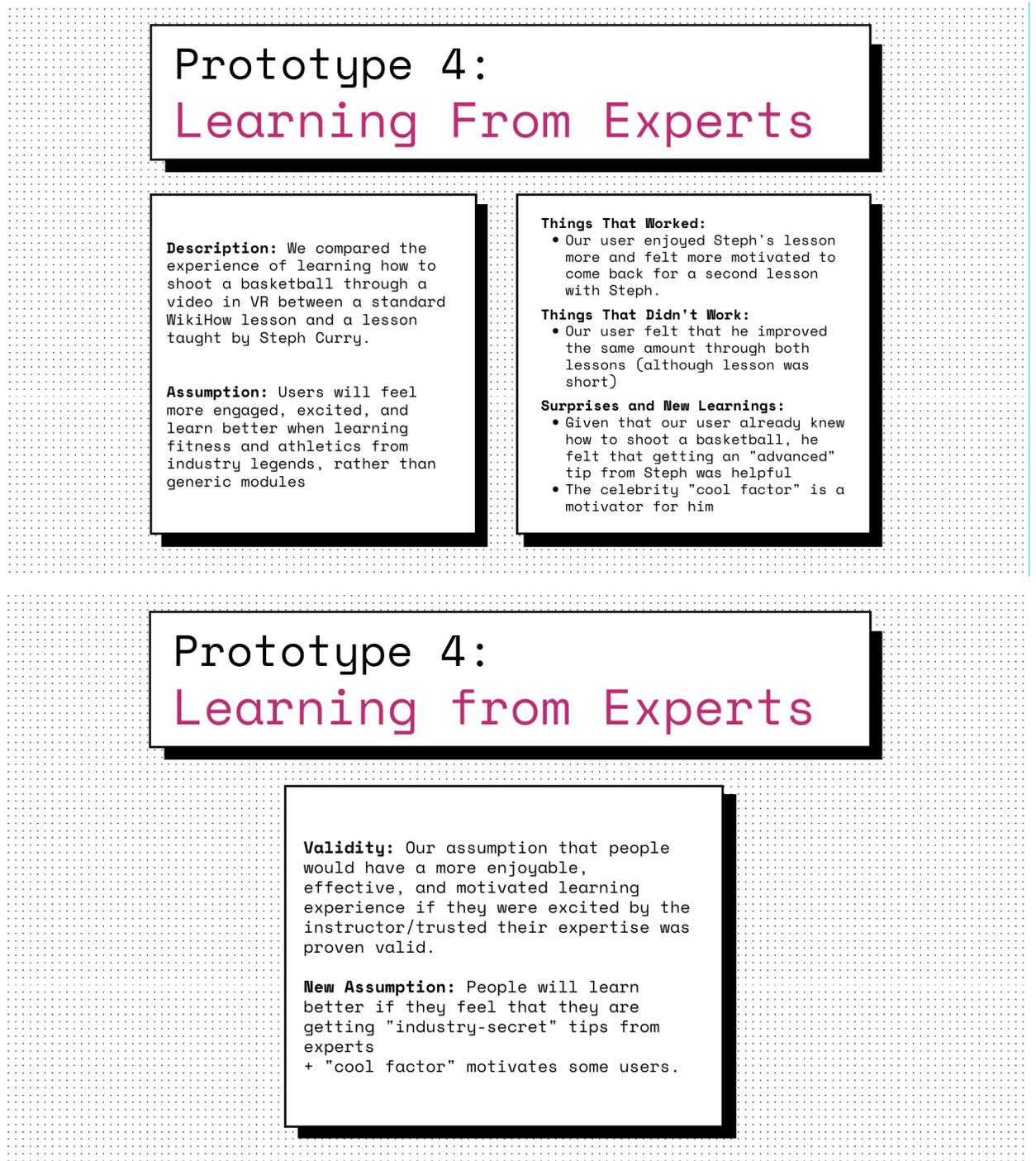


Figure 1D.

Design Evolution

Our final solution

The final solution that we came up with was an immersive (VR) fitness learning platform where users could take live workout classes for an ultimate goal of building a fitness community. This solution combined two of our key insights from our fieldwork testing of our experience prototypes. Working out in VR, as shown in figure 1B, led us to conclude that the benefits of working out in VR—makes the workout exciting, motivates the users with friend avatars—outweigh its limitations—heavy headset, sweating with the headset, some disorientation. Furthermore, learning from experts, as described in figure 1D, confirmed our original hypothesis of introducing high-caliber instruction to users as a motivating factor. We had also considered alternative solution formulations, such as introducing a workout streak (Figure 1C) that would motivate users to workout on a regular basis. However, we quickly steered away from placing emphasis on this as this feature is saturated in the fitness marketplace already; we analyzed our needfinding interviews at this roadblock and leaned on the key insight that **community-building** was the largest motivating factor for consistent workouts, so we wanted this to be a core part of our product. Finally, another feature we wanted to include, as found by Oscar's HMW, was tailoring classes to a user's skill level. For this, we wanted our hi-fi prototype to have a diverse breadth of class difficulties for the beginner user, intermediate user, and advanced user.

The final three tasks that we chose are the following:

1. Simple: Browse and schedule live fitness classes taught by world class instructors.
 - a. *Description: Users can browse different types of classes, difficulty levels, and instructors, and schedule a workout class accordingly. This is not a part of the task, but as a connected component, they can also view the workout class they have just scheduled, or cancel a scheduled workout class.*
 - b. *We chose this task because it is a common and introductory level task—the first step—in order for a user to take a fitness class. In this task, users have control and discretion over which workout classes they prefer, based on their difficulty preferences, eagerness to learn from a certain instructor, and wishes to focus on a certain body group. This task functions like a user's planner.*
2. Moderate: Receive workout instructions in a live fitness class.
 - a. *Description: Users can join their upcoming fitness class, where they will receive workout instructions from the instructor, who is a live instructor in the same VR room. Users can hear the instructor and see instructor movement so they may follow along, just as they would in a real-life class.*
 - b. *We chose this task because it takes scheduling a class a step further to entering and engaging in a user's scheduled class. This requires a larger active input from the user, as they must navigate with their headset and controllers to enter the class, become acclimated to the VR classroom, and engage with the instructor (i.e. follow workout instructions). This is a moderate task because it involves active learning from the user.*
3. Complex: Build community with live voice chat.

- Description: While users are in class, they may speak [into their mic] and interact with their classmates.*
- Description: This feature is designed to build community and have users motivate each other during a workout class. Users can use their mics to speak with one another, just as an in-person class. This is taken from the idea that speech-based interaction fosters strong human-human connections, coupled with visual-based interaction (where users can see their peers' avatars working out and movements alongside them).*
- We chose this task as a complex task, because although we want all users to actively engage with others, we know that 100% participation is not always achieved. This task is for active users who build an active learning environment and workout community, interacting with the instructor and their peers (e.g. modeled like the users in SoulCycle classes who holler and cheer during classes).*

Phase 1: Low-Fi to Medium-Fi Prototype

Our low-fi mobile prototype, where users can browse and schedule workout classes, was a solid initial pass. However, we learned during testing feedback that it lacked a large feature that any planner should own: a calendar function!

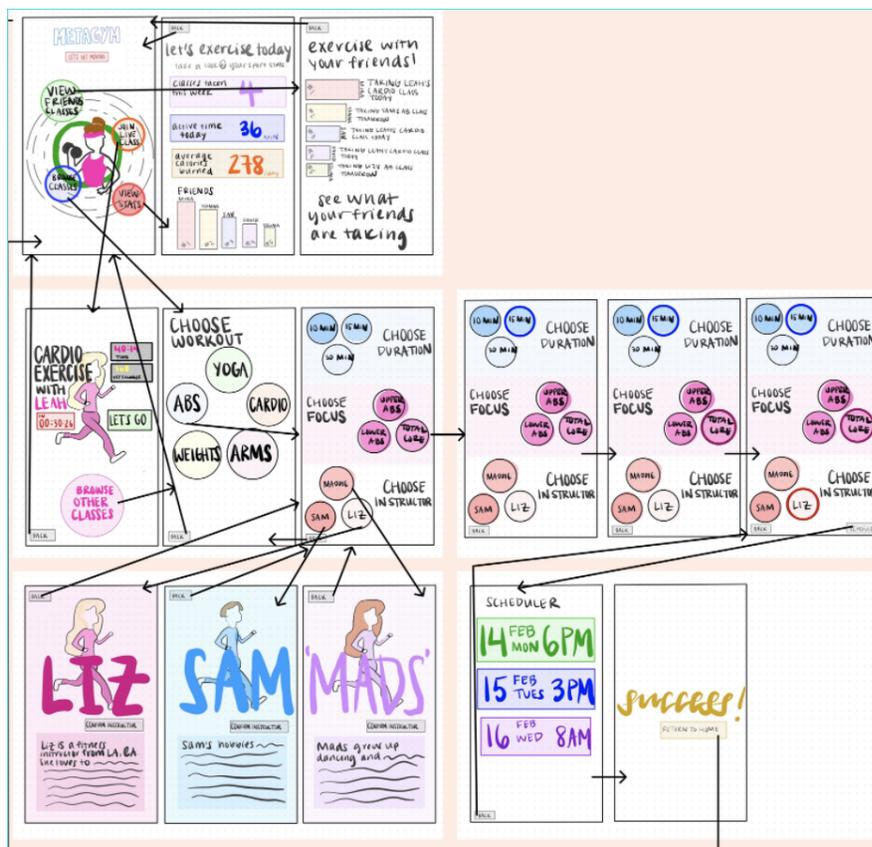


Figure 2A.

Therefore, taking these learnings into our medium-fi prototype, we created a 'planned workouts tab' where users can see all their scheduled workouts—this was a crucial feature that would be deadly uncaught.

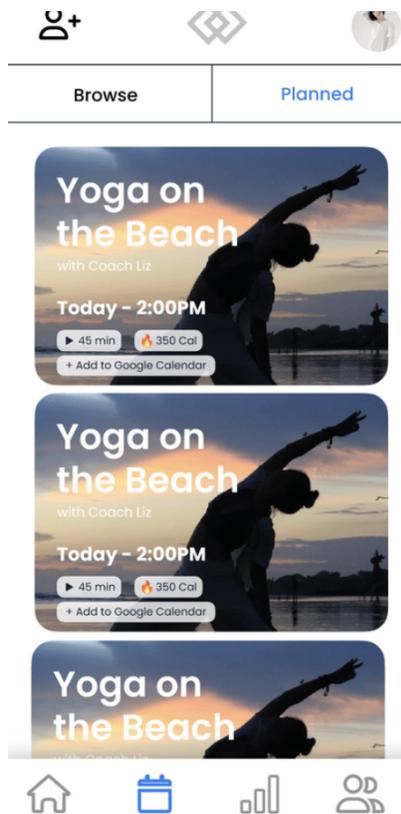


Figure 2B.

Another major change was the body integration into VR. In our Lo-Fi prototype, we had yet to integrate the users' body into the VR interaction. Community building and the live chat feature was a speech-to-text feature, as shown in Figure 3A.

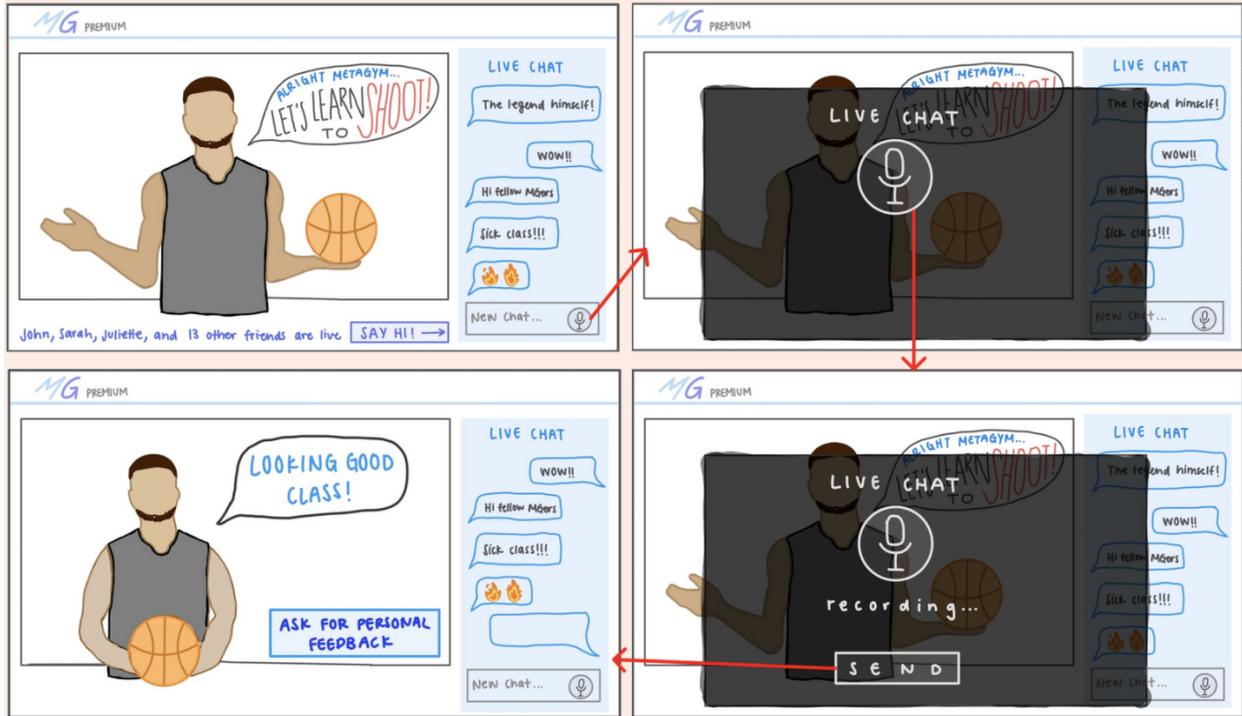


Figure 3A

At the med-fi stage, we began to imagine how users' body parts would come into play during their workout classes. We added essential functionality to users' wrists (home page, exit class, browse, and settings) to continue working towards our vision of maximizing an immersive full-body class experience for users. We also decided to get rid of the chat feature (previously Figure 3A) because of the feedback we received on reading through a chat feeling cumbersome—we decided that users can instead speak freely through their microphone. This involved striking the perfect balance between user freedom and minimal design.

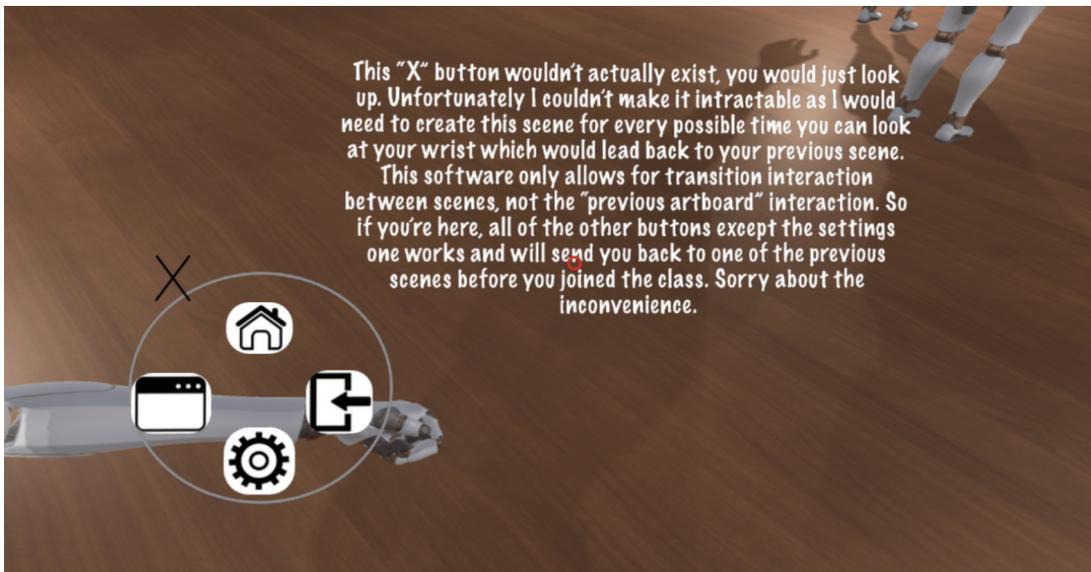


Figure 3B

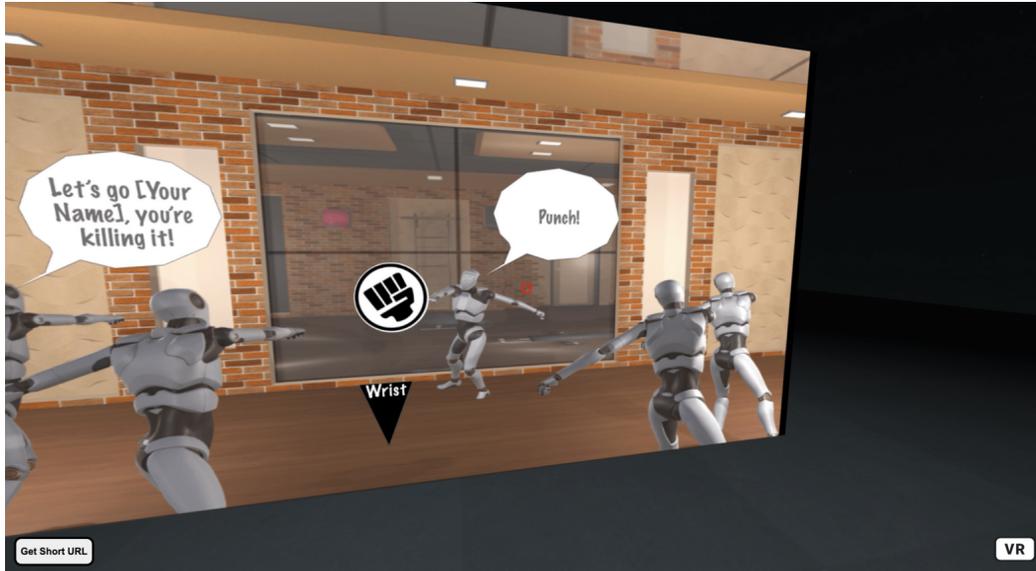


Figure 3C

However, as described by the limitations in *Figure 3B*, at this stage we still had not integrated fully into the VR/Oculus interface, so the actual voice chat feature was not fully implemented. We opted for a hard-coded representation of how we envisioned the chat interactions would look (*Figure 3C*). This simple voice feature decluttered our low-fi prototype and allowed less-friction in terms of community building, as the interaction with the voice feature flowed more naturally with the user (as opposed to a chat box).

Phase 2: Med-Fi to High-Fi

For our medium-fi to hi-fi prototype, the largest fix that we settled on was using a single virtual reality platform, where all three tasks could be accomplished by the user. This was a major UI change from the alternative that we had tested during our low-fidelity and medium-fidelity prototype, which consisted of a mobile app that allowed users to accomplish task one (browsing, scheduling, and viewing scheduled classes) and switched over to a VR platform where users would enter the class. We concluded that a single platform would eliminate the abruptness of entering a class straight into VR and make users feel more at home and acclimated to MetaGym's VR brand in one seamless flow of task flows.

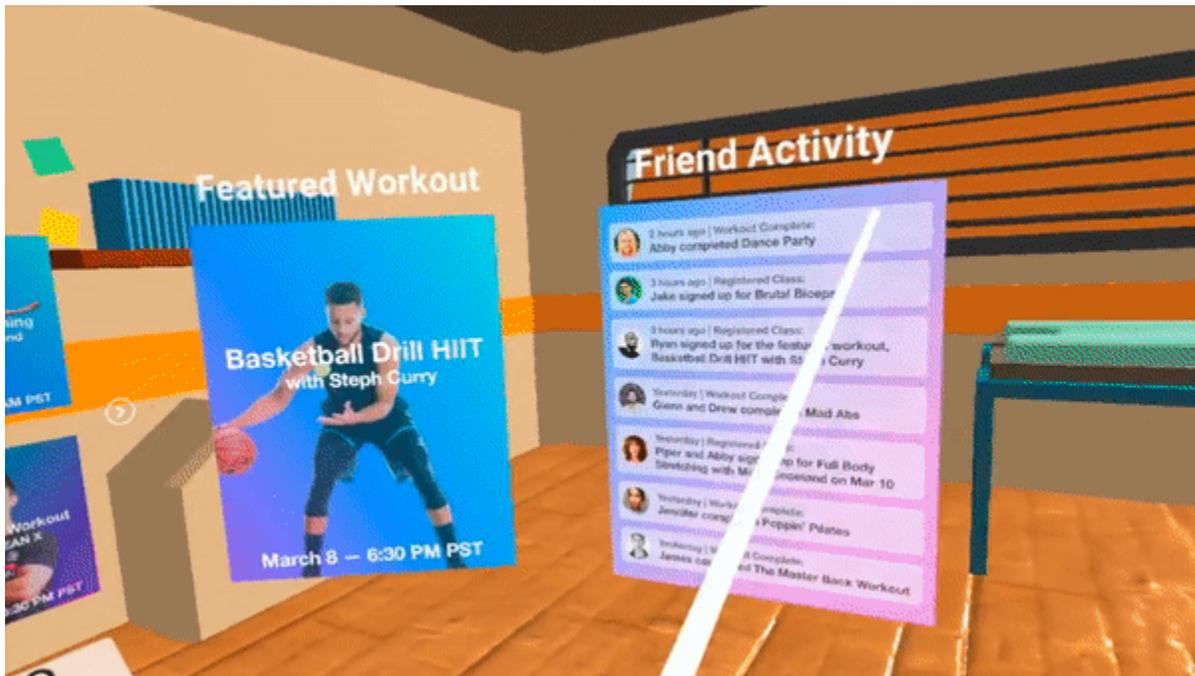


Figure 4A



Figure 4B

Heuristic Evaluation Fixes

- 1. H1: Visibility of System Status / Severity 3**
 - a. In the VR component, a username or any kind of user identification information is missing.
 - b. **Fix: We added a sign-in and sign-up page for the user to have their distinct username and password, as well as a profile card.**
- 2. H2 Match Between System and Real World / Severity 3**
 - a. In the mobile app, under the Statistics page, the axis of the chart and some categories in the legend do not match real-world statistics.
 - b. **Fix: The mobile app was removed, as well as any statistics pages, to allow for more minimal design and for the user to focus on community and classes.**
- 3. H3 User control and Freedom / Severity 4**
 - a. In the VR component, not every screen had a “back” button or a way to undo a mistake click.
 - b. **Fix: Back buttons were added to every screen, as well as the ability to return to the home screen.**
- 4. H4 Consistency and Standards / Severity 3**
 - a. The workout cards for the VR and mobile application seem to have different information which could be confusing to the user. For example, the upcoming class on the VR app only shows the countdown while the mobile application displays the time and date.
 - b. **Fix: The mobile app was removed, and class cards are placed in a consistent design on the VR interface (Figure 4A).**
- 5. H4 Consistency and Standards / Severity 3**
 - a. The VR starts with 2 options (live and on-demand classes) but the app seems to only have scheduled classes – so users can only look at on-demand class options if they were in VR and not the app.
 - b. **Fix: The VR offers only live classes.**
- 6. H4 Consistency and Standards / Severity 3**
 - a. Inconsistent aesthetic between VR and mobile app.
 - b. **Fix: The mobile app was removed, and the VR interface serves as the main platform (Figure 4A).**
- 7. H5 Error Prevention / Severity 3**
 - a. Users do not have the ability to confirm they want to unfollow a user or unplan a workout session on the mobile application.
 - b. **Fix: Users can plan a workout session in VR by clicking the workout and following the flow on the planned classes tab.**
- 8. H5 Error Prevention / Severity 3**
 - a. Users do not have the ability to confirm whether they want to leave the workout session on the VR application.
 - b. **Fix:**
- 9. H5 Error Prevention / Severity 3**
 - a. In task 1 (mobile), users are allowed to plan workouts with time conflicts. The user may end up planning conflicting workout sessions without awareness.
 - b. **Fix: All offered classes do not share time conflicts.**
- 10. H5 Error Prevention / Severity 3**

- a. In task 2 (VR), the “Join” button is missing for the user to join a public room. Users have to go through multiple tabs of public rooms when selecting a room. They may not know how to join a room.
- b. **Fix: Users enter the room pertaining to their upcoming class, which they join through the “join now” button from their home page.**

11. H6 Recognition Not Recall / Severity 3

- a. In task 1 (mobile), users do not have the ability to cancel workout sessions on the “Planned” screen. The user may forget to go back to the “Browse” screen to unplan the workout.
- b. **Fix: The mobile app was removed, and the VR interface serves as the main platform, through which users can cancel planned workouts.**

12. H6 Recognition Not Recall / Severity 3

- a. Users need to remember which classes they scheduled from the app once they go into VR view since it’s a whole other flow.
- b. **Fix: The mobile app was removed, and the VR interface serves as the main platform (Figure 4A).**

13. H7 Flexibility and Efficiency of Use / Severity 3

- a. In VR view, once you go from one screen to the next, your “pointer” (the little red dot that is your line of vision) does not recenter but instead stays where it last was, making it disorienting if, for example, you had just pressed the back button on the upper left corner
- b. **Reason for not fixing: This inefficiency was a function of the platform we used to build our med-fi, which was AdobeXR. The location of the red pointer was out of our control, however the hi-fi Oculus headset is not limited by this.**

14. H7 Flexibility and Efficiency of Use / Severity 3

- a. In the mobile app, under the Statistics page, users can click on multiple dates – assuming that once the feature is implemented, the stats change based on the dates clicked, users would need to tap every single date (instead of date range) to show those stats, and then untap each one to change their range selection.
- b. **Fix: The mobile app was removed, as well as the statistics page, as this was not our primary function and thus priority.**

15. H8 Aesthetic & Minimalist Design / Severity 3

- a. In the VR view, the colors are clashing – for example, in the Choose Your Focus screen, the predominant color palette is blues, but there is a red option at the bottom that does not highlight anything different from the other options.
- b. **Fix: A coherent color palette following the lectures was implemented—cool toned gradients (Figure 4A).**

16. H9 Help Users with Errors / Severity 3

- a. Both interfaces do not support the functionality of error messages when users encounter an error such as time conflicts in planning workout sessions.
- b. **Fix: All offered classes do not share time conflicts, so these error messages are not needed.**

17. H11 Accessible / Severity 3

- a. There seems to be a reasonable amount of text in the VR interface. Users may suffer from motion sickness due to having to read the text.

- b. **Fix:** The text in the VR interface was minimalized, as shown in the home page (mostly images) and the class card descriptions (~2 sentences) (Figure 4A).

18. H11 Accessible / Severity 3

- a. The chart for the user's statistics and the text sizes of subtitles ("with Coach Leah," "45 min," etc) are small and could be difficult to read for the user, especially for the visibly impaired. Furthermore, there does not appear to be a scale.
- b. **Fix:** We ensured that the text in VR was large enough to read. However, we did not implement a scale because theoretically, a user (avatar) could move closer to the desired screen and the text or image would scale.

19. H12 Fairness and Inclusion / Severity 3

- a. Frequent use of abbreviations for some fitness terminologies like "Abs" "Car". This may prevent entry-level users who have no prior fitness knowledge from accessing all functionalities.
- b. **Fix:** We ran through the terminology used, and eliminated "car" from our set. However, we kept "abs" as we believed that it had more entry-level friendly implications than "abdomen." We also ran through and ensured that our other fitness terminologies were understandable for entry-level users.

20. H13 Value alignment / Severity 3

- a. In the mobile app, it seems like this product (through the leaderboard, statistics page, etc.) prioritizes calories burned rather than bringing the accessibility of a home gym and group fitness classes to more people.
- b. **Fix:** The mobile app was removed, as well as the statistics page, as this was not our primary function and thus priority.

From this heuristic evaluation, we took away a few insights that we really wanted to focus on in our hi-fi: aesthetic and minimal design, logistical flow through tasks, and seamless integration of interfaces. We fixed the latter by eliminating the mobile app and presenting all the tasks in VR. This would also allow users to feel more comfortable, as if they were in a 'home-gym' in their home screens before entering a class. We tackled aesthetic and minimal design by choosing a cool-toned gradient palette, which we deemed appropriate and fitting for an immersive, body-encompassing experience. This color palette held through all of our VR designs. Finally, we tackled logistical flow through tasks by ensuring that we always allowed user freedom by adding back buttons and the ability to return to home, and allowing the undo of their actions, by allowing them to cancel planned workouts. A final change is that we were finally able to technically integrate the voice chat feature! In a VR classroom, users are shown a mic in the center of their screen if they are talking; users are shown a voice symbol atop an avatar who is talking; users are able to hear their peers chat through the headset mic.

Values in Design

Our main values in design are inclusion, health, and community.

1. Inclusion
 - a. We want to keep in mind our audience: we don't want financial restraints to become a barrier to our product. We believe that the falling prices of VR headsets in recent years will make these headsets much more accessible.

Furthermore, we want to create a safe space for users regardless of their starting ability. By providing users classes of all difficulties, we welcome users of all experience levels, with especially welcoming arms to beginners.

- b. In our final prototype, we offer classes of all types of difficulties, which are shown in each class card. Users can gauge which difficulty they are comfortable working at and choose a workout tailored to them. (Aside: For time constraints, we only designed 8 class cards, but realistically, we would be offering more classes, so there would theoretically be more diverse classes per difficulty level.)
2. Health
 - a. MetaGym's workout classes focus on the fitness aspect of health: it encourages users to maintain a healthy lifestyle and incorporate a regular fitness regimen into their daily lives. We deliver this not only through offering immersive workout classes, but offering it with experts at high-quality instruction.
 - b. This is seen explicitly in our final prototype as the platform is centered around the core pillar of fitness and working out. Specifically, high-caliber instruction is offered and class descriptions portray working out in a positive light. We want working out and fitness to be a positive experience!
 3. Community
 - a. MetaGym is built on the core value of building and fostering community during workout, as it leads to more enjoyable and motivating experiences. Especially during COVID, working out in large classes in-person or with friends in quarantine has proven to be difficult. MetaGym provides an accessible solution for small and large communities to come together in times like these and to uplift each other.
 - b. We integrate this in the VR interface, as a user is taking the class, the user is able to see friends take the class in the same VR landscape with them, see them workout (through head and arm motion tracking), and live voice chat with them.

A potential conflict of values is between our values of community and accessibility. We hope to provide the best community experience with VR technology that allows for people to feel connected, but VR headsets may not be affordable for everyone. We believe that with the falling prices of VR headsets in recent years and by not requiring additional expensive hardware, we best balance the need for a strong community and being as accessible as possible.