



**game your tasks:** make every chore feel like a **turn**, not a **toil**.

## our team



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## problem

there are **daily obstacles** preventing **busy individuals** from living an active lifestyle and accomplishing their **goals** – big or small.

## solution

turno allows users to input their activity goals, tasks to accomplish, & habits to build. Users roll the die to determine which of those tasks they should tackle, allowing them to **overcome decision paralysis & establish long-term habits**.

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## Need-Finding

Since the domain of “active lifestyles” is so broad, we wanted to recruit a set of participants who were diverse in their definitions of “active”, their levels of activity, and personal motivations. As a result, we decided to approach our interviews by allowing interviewees to come up with their own interpretation of “active lifestyles”. We devised our script accordingly to minimize our own understanding of “activity” in the questions we asked, mainly leading the interviewees through

discussions about how they lead active lifestyles, how frequently they are active, their feelings, goals, and anecdotes from their daily lives.

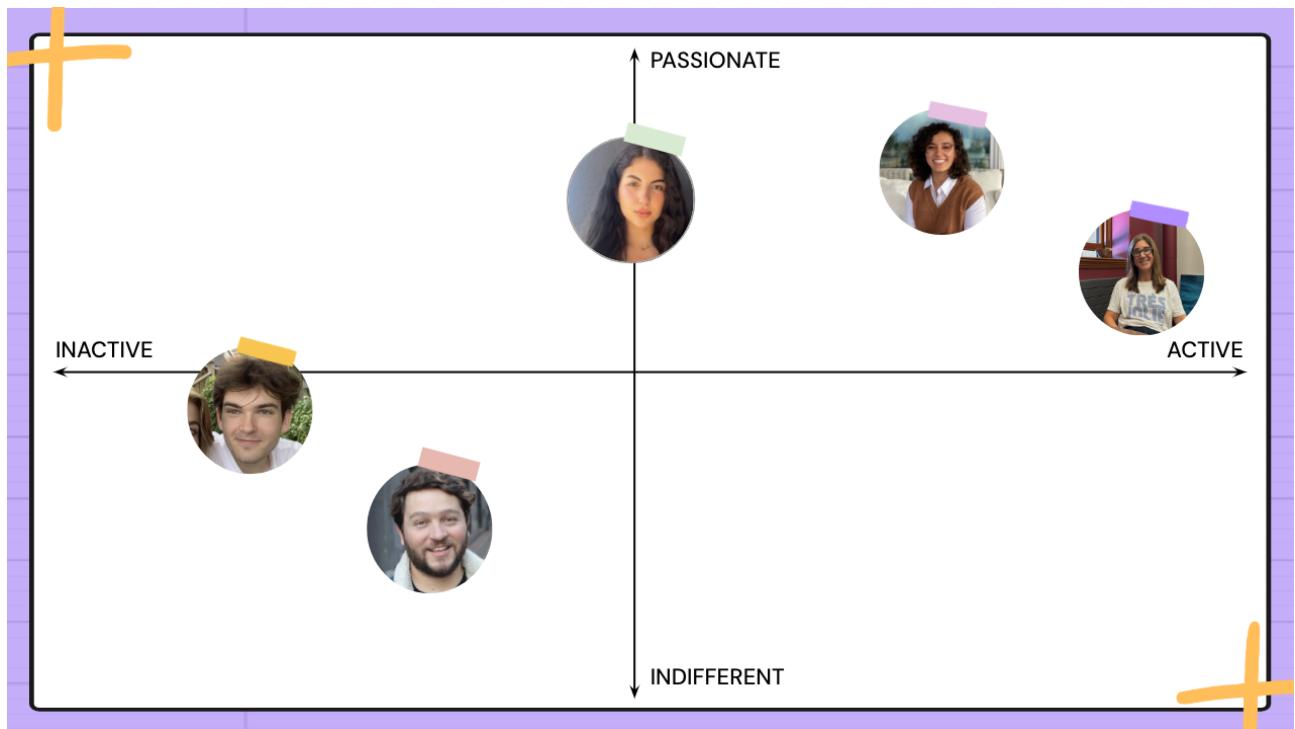
Next, we recruited participants to conduct interviews. We interviewed a total of five interviewees ranging from 17 to 55 years old, including high school students, college students, university faculty, parents, and working professionals. To source our interviews, we spoke to people working at and around Town and Country Village (local shopping center). We also slacked groups, emailed mentors and university staff, and texted warm contacts for introductions.



Example of a message we sent through *Slack* to a potential interviewee.

In our first round of needfinding, we interviewed three individuals: Jack (Stanford senior with a busy schedule who “never finds time to exercise”), Nadia (Berkeley senior with a busy schedule who loves running marathons and aspires to have an active lifestyle), Claudia (Full-time admin at Stanford, mother of 2, 55-years-old who has worked out every day for the past 30 years).

After iterating on their experiences and responses, we recognized that although our interviewees were from diverse ages and activity levels, they were all within the university landscape, which meant that they were operating with somewhat similar constraints and around similar schedules. We wanted to expand to other education levels and professions and found two new individuals, Yas (a 17-year-old high school senior who is overwhelmed by college applications and wants to maintain a balanced lifestyle) and Arjun (31, hard-working med tech consultant who aspires to go on walks and hikes but is usually too tired). Our first three interviewees experienced very different levels of activity depending on their environment, such as whether they were in their university dorm or at home over summer break. They also had varying levels of dedication to staying active, which we found to be rooted in the length of their habit-building. *We decided to dig deeper into the impact of environments and long-term and developing habits on the active lifestyles of our final two interviews.*

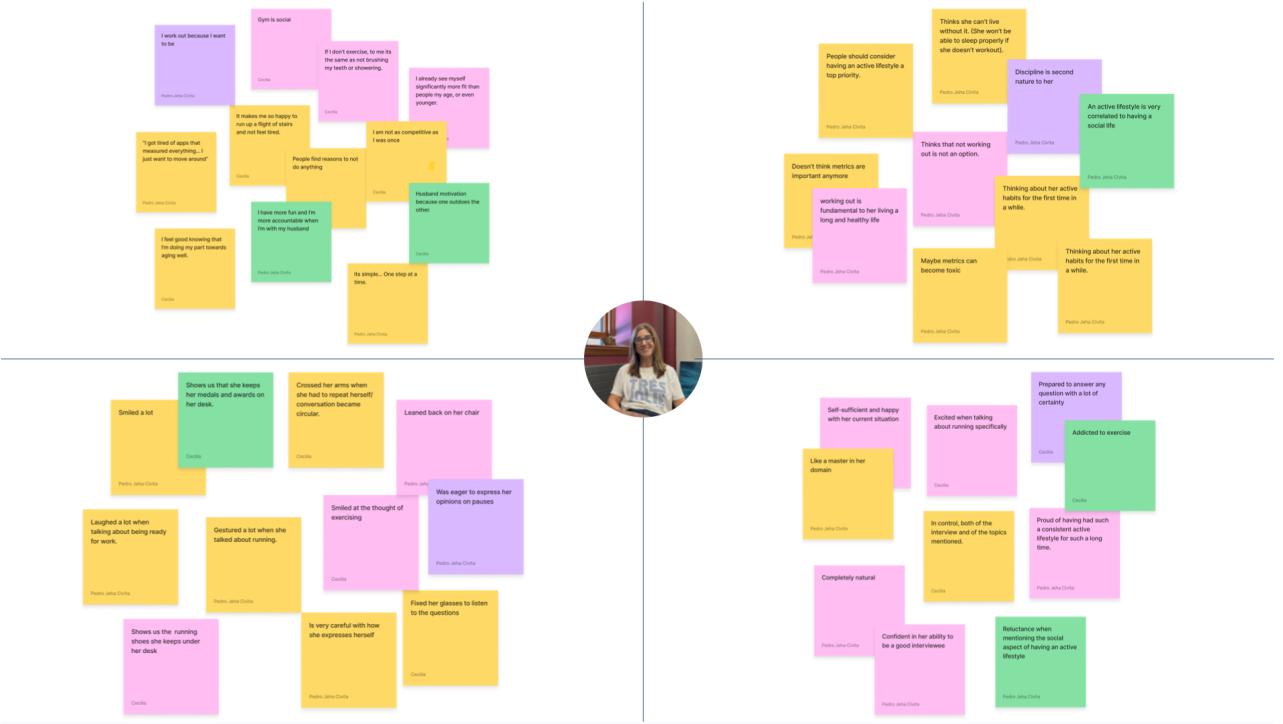


This graph shows our interviewees plotted on a scale of activity levels vs how they feel about it (e.g. active and passionate about it (top right), inactive and indifference (lower left))

### Synthesizing our Need-finding:

As we expected, our interviewees gave a range of responses. They defined the meaning of an "active lifestyle" with different approaches, some emphasizing exercise while others also considered social interactions, studies and work, and completing chores to be activities. Some interviewees were also very driven to be active every day, while others said that they struggled to find time for any activity outside of professional or academic obligations. The most common thread across all of our interviewees was motivation, with all of them expressing that they often faced mental blocks for completing certain activities. Those that had established habitual active lifestyles highlighted the importance of maintaining it, and those who lacked routine were passionate about building it.

From there, we created empathy maps for each interview to break down messages that were encoded in our conversations – within what each person said, did, thought, and felt.



Example of an empathy map that we produced for Claudia.

The process of creating empathy maps provided helpful insights that informed our directionality in the POV and solution brainstorming. Individuals had different ways of staying active, and different levels of doing so, but all struggled with decision paralysis and receiving the "final push" to get something done. These were the needs that we aimed to address in the rest of our processes.

## POVs

We then produced the POVs of each of our interviewees, from which we started brainstorming potential solutions.

### Claudia

- **We met**

Claudia, is a 55-year-old mother of two who has worked out every day for the past 30 years.

- **We were surprised to notice...**

That even though she claimed she didn't enjoy the competitive aspect of activities in a social environment, her main source of motivation was "beating" her husband on daily challenges.

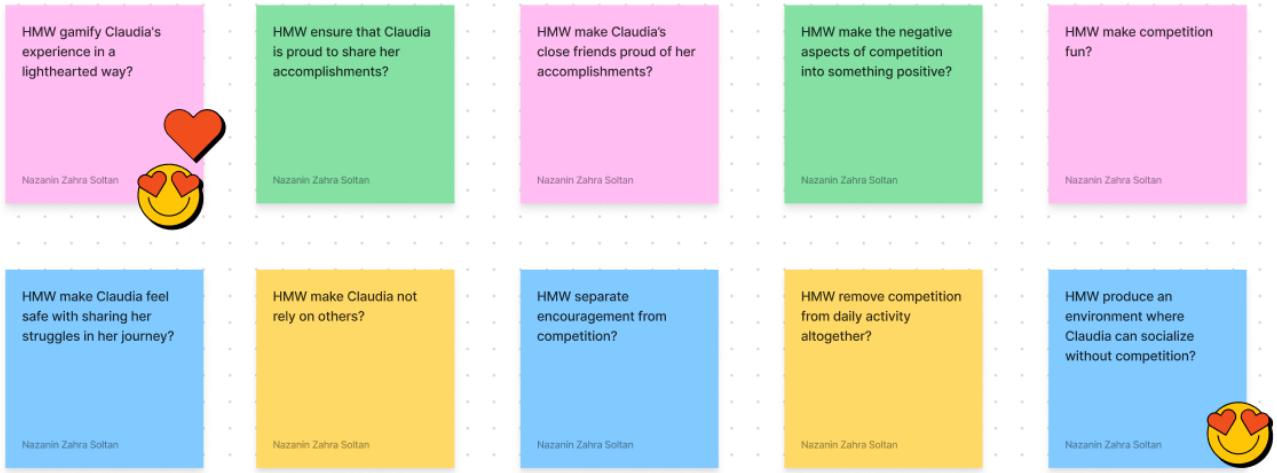
- **We wonder if this means...**

That her source of motivation comes from deep and long-lasting relationships with

people in her life.

- **It would be game-changing if...**

We were able to provide an accessible way for her to healthily compete in her daily life.



A sampling of Claudia's HMWs

Jack

- **We met**

Jack, a driven 21-year-old college student who feels extremely overwhelmed during the school year.

- **We were surprised to notice...**

That even though Jack has never worked out at Stanford and feels rushed to submit assignments, he leads a very balanced lifestyle during summers, consistently fitting daily workouts into his schedule.

- **We wonder if this means...**

Jack's perception of what matters to him is deeply impacted by what he can and can't control.

- **It would be game-changing if...**

We could give Jack more agency and awareness in his free time.



From that, we voted on our favorite HMWs as a group, and the ones that were the most appealing to us were:

### The top 3 HMWs

- HMW Gamify Claudia's experience in a light-hearted way?
- HMW give more importance to having a balanced day that includes active lifestyles?
- HMW demystify the idea that an active lifestyle requires a significant time commitment?

Then, we started the process of brainstorming potential solutions that would address these HMWs in light of our interviews. The pictures attached below show that process of collective brainstorming, and the stars on the post-its represent our votes.

<p>Fantasy Football type of game where you can choose friends to be on your "team" (your team does better when the friends you drafted workout more)</p> <p>Malina Calarco</p>	<p>"Board game" looking path to follow (similar to Duolingo idea)</p> <p>Malina Calarco</p>	<p>Workout ratings of gym and exercises</p> <p>Malina Calarco</p>	<p>Workout Tinder (swiping for partners, or swiping for workouts)</p> <p>Pedro Jeha Civita</p>
<p>From beginner to advanced roadmaps of things to do, Duolingo Style for yoga poses and flows etc</p> <p>Pedro Jeha Civita</p> 	<p>Workout photo sharing app (snap a pic every time you workout) to share to friends</p> <p>Malina Calarco</p>	<p>Virtual "relay race" (teams competing against each other)</p> <p>Malina Calarco</p> 	<p>Workout BeReal → get a notification to perform very small workout in the next hour. (Integrated with Calendar possibly)</p> <p>Pedro Jeha Civita</p> 
<p>*Roll a Dice with predetermined / choose your own tasks (activity, self care, to-dos)/</p> <p>Pedro Jeha Civita</p>  	<p>Experience Logging Activities that you / friends have completed. Almost a social/close friends journal.</p> <p>Pedro Jeha Civita</p> 	<p>Add text</p> <p>Pedro Jeha Civita</p>	<p>Workout Letterboxd but rating Fitness Youtubers</p> <p>Malina Calarco</p>

App with social feature for friends to share goals and progress.

Nazanin Zahra Soltan

Social app with daily group check-ins, which gives a reward if all members accomplish their daily goals.

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Automated schedule planner. You can tell it all your tasks and it organizes your schedule and finds open spaces.

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Activities swap marketplace, sharing activities you like and getting inspiration from friends.

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Mood manager that detects heart rate and other factors and shows you graphs your mood through various activities (e.g. Oura)

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Platform that requires daily check-ins to say whether you completed your goal or not (guilt tripping)

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Daily fun fact and insights on the importance of an activity that they did that day (e.g. biking, or socializing) to give encouragement

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Daily newsletter or alerts to introduce you to new activities near you or online.

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Phone alerts when the person is on their phone, which gives them ideas about snippets of other activities they could do.

Nazanin Zahra Soltan

Activity journal with daily reflections (through easy Q&A) about how it makes you feel physically and mentally.

Nazanin Zahra Soltan

Smart watch integration that sends notifications to be active or reminders about goals when detecting low levels of activity.

Nazanin Zahra Soltan

We chose our top 3 solutions from all of the brainstormed options:

- **Free Friends**

Users share their free time slots with friends as to streamline organization of group activities (socializing, exercising, co-working, etc.)

- **LogOn**

A social platform where users share pictures of their activities throughout the day. Posts are shared with friends to serve as motivation to complete and share frequent activities.

- **Roll the Dice**

The user will set 6 weekly incremental goals (e.g. get coffee with a friend, meditate 5 min, go on walk). They roll a die each day and should complete the activity it lands on.

## Experience Prototypes

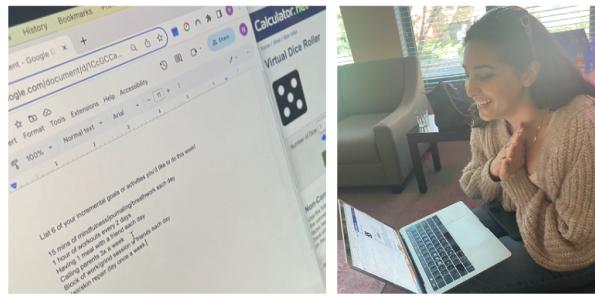
### Prototype 1: *Roll the Dice*

*Assumption:* The experience will feel fun and motivating

#### Description/**set-up:**

- A digital or a physical die

- Participants wrote down a list of 6 incremental goals
- They rolled the die and had to complete the activity at hand



## **Participants:**

- Diane, 19 years old
- Athena, 21 years old
- Mohamed, 22 years old

## **What worked:**

- Users found it an entertaining, fun activity

## **What didn't:**

- One participant kept rolling until she got what she wanted to do most.
- "Goals" was too broad; the range of effort was very big.

## **What we learned**

- Randomization is better for "low-stakes" activities;
- Motivation may decrease with "randomization"

## **Prototype 2: LogOn**

**Assumption:** People have an interest and are motivated by their following their close friends habits

## **Description/set-up:**

- iMessage group chat with friends
- Share 5+ pictures of day-to-day life (with optional captions) for a day
- No supplemental instructions (such as when to send a picture)



## **Participants:**

- 4 of Malina's friends who don't ordinarily text frequently, let alone share pics of their days

## **What worked:**

- Participants responded/reacted to others
- Participants expressed interest in each others' activities

## **What didn't:**

- 2 participants sent 5 photos each; other 2 participants sent only 1 each

## **What we learned:**

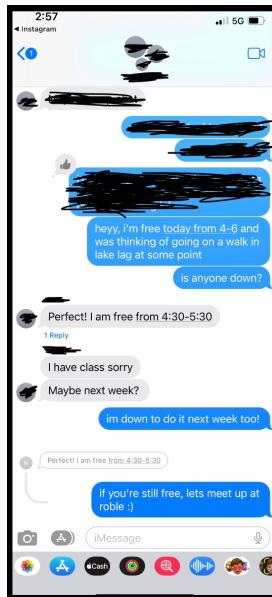
- People are highly interested in what their friends are doing—even the mundane tasks
- Seeing friends' activities may not motivate people to do something themselves

## **Prototype 3: Free Friends**

*Assumption:* People know their free time slots and are willing to share them with friends.

## **Description/set-up:**

- iMessage group chat with friends.
- People see free time/gaps in their schedule + think of something they want to do; send it in the group chat.
- Other participants can join them or not + suggest their free times/plans



## Participants:

- 3 of Pedro's friends in a group chat
- Busy people who usually have free time around the afternoon

## What worked:

- One friend said yes in response to being asked to hang out

## What didn't:

- One friend didn't agree.

## What we learned

- People enjoy receiving invites for activities
- It's difficult to put yourself out there and initialize social engagements (Pedro's friend was hesitant to do so)
- Would be useful to know free friends' calendars/busy times

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## Design Evolution

### Final Solution: Turno

We decided to go with the "Roll the dice" – or rather, an iteration of it. Upon reflection (prompted by our experience prototypes's repercussions), we realized that ultimately, we wanted to build a tool that would equip our users with the resources to take agency of their lives and drive them to more active lifestyles. After doing a lot of research into extrinsic and intrinsic motivation, we realized that the motivation provided by our other

solutions was more heavy on the external side, or just not novel enough. Through talking to our TA, we realized that Roll the dice was the best one.

## **Turno: A Randomized Task Prompter.**

The name comes from the Portuguese word for shift, or round, and the idea of it being your turn. *Turno*. Your turn to roll the die and take agency of your life.

### **What is Turno?**

Our app designed to help busy individuals achieve their goals and lead more active lifestyles. Designed for on-the-go users, Turno aims to transform your daily goals into a fun and motivational journey. It's made for those overwhelmed by choices or struggling with time management and motivation. Our user research showed a common challenge: decision paralysis.

**And that's why we created Turno** – a fun, dice-rolling iOS app that randomly selects an activity from your personalized list of up to six options. Our users input 6 activities that they want to complete/accomplish, and by rolling the (non-metaphorical) die on the main page of their app, they are randomly assigned one of these to complete. From that, they are congratulated, and they can post about their completion in our app's feed, where they also have access to their friends' posts and can interact with them through kudos and comments. Then, they also have access to the statistics and goals they have achieved in our Progress tracking page.

After thorough market research on similar apps, we synthesized our unique advantage by **What Makes Us Unique:**

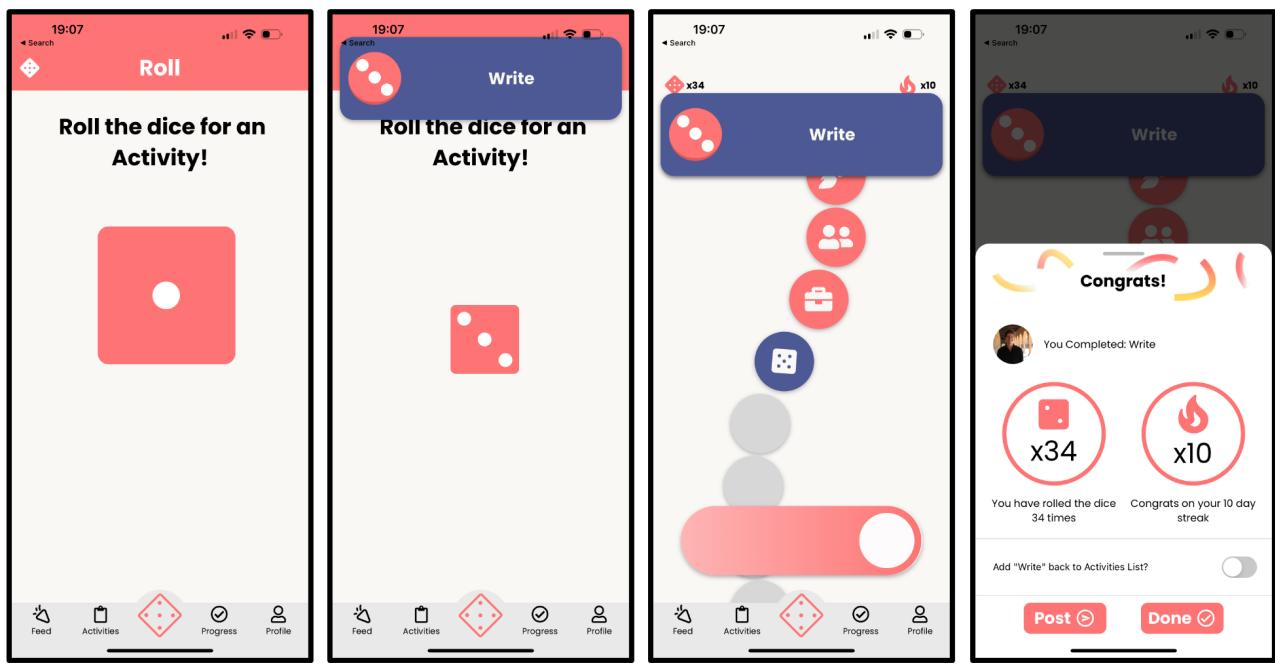
- Helps overcome decision paralysis: when overwhelmed by choices, a dice can **make the decision simpler**.
- Novelty and fun: an **element of surprise** and game to make mundane tasks enjoyable.
- Break the monotony of routine and create **variance** and **randomness**.
- Building **intrinsic** motivation, through a mixture of **extrinsic and intrinsic methods**.

## **Tasks**

Within our app, we implemented some tasks, labeled by complexity (in terms of the frequency that the user will be doing them while engaging with the app.) These tasks were goals that our users would accomplish within the app.

### **1a) Simple - Complete an activity**

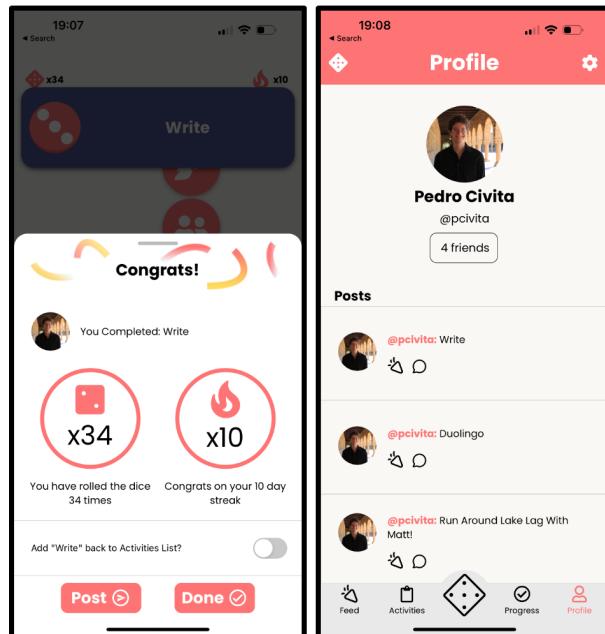
Completing an activity is the core functionality of the platform. It is the task we believe users will accomplish most frequently and is the most straightforward. The task requires that users roll their die to randomly receive an activity and swipe the slider bar to mark it as complete. The completion of the activity itself happens off of the app.



this is the implemented task flow in the app → from left to right, the user should flick the dice on the screen to roll, then it receives an activity from the activity list. upon completion, the user swipes right on the slider which says slide do complete (slid already on the attached screen,) and then receives a congratulatory message.

### 1b) Simple – Share the news with friends

To help build a supportive community and encourage the celebration of task completion, we allow users to post about their activity completion to share with friends. This promotes social interactions, which we hope will increase engagement with our app and encourage further activity completions. These posts will be viewed in the user's profile as well as the feeds of friends.

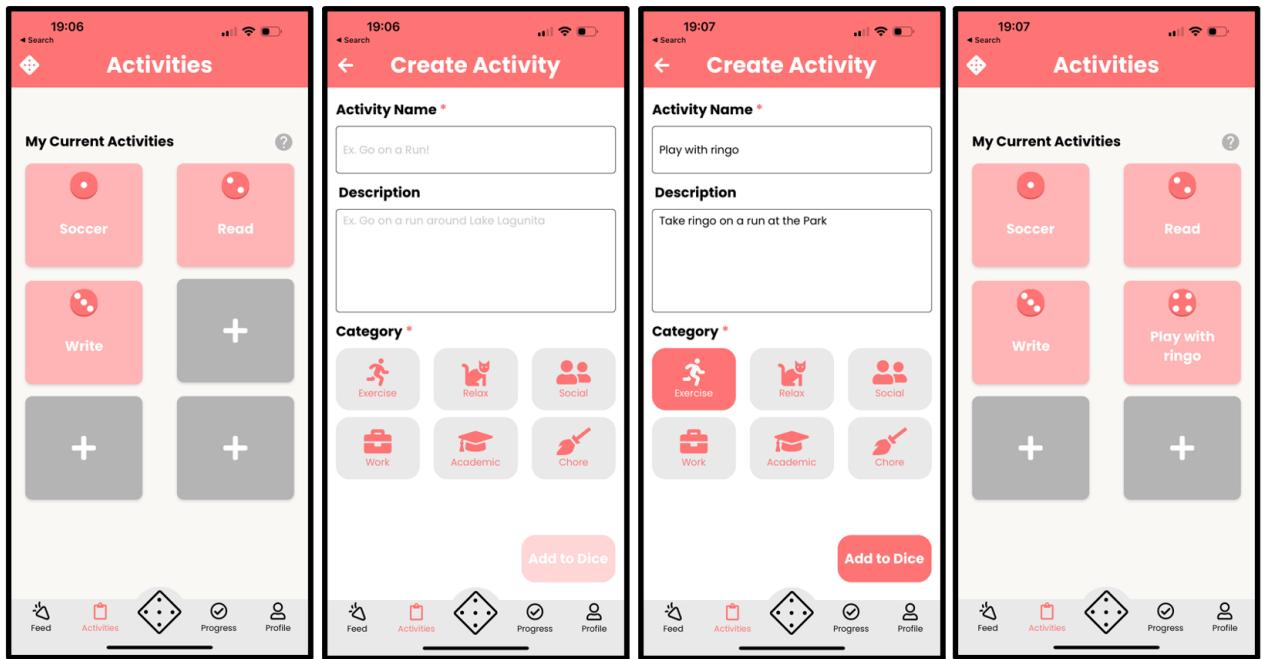


these screens follow from the previous task flow too: upon receiving the congratulatory pop-up window, the user can post about their completion by pressing the post button onto the lower left. then, the activity is shared on their friends'

feeds and posted to their profile

## 2a) Moderate - Create a new activity

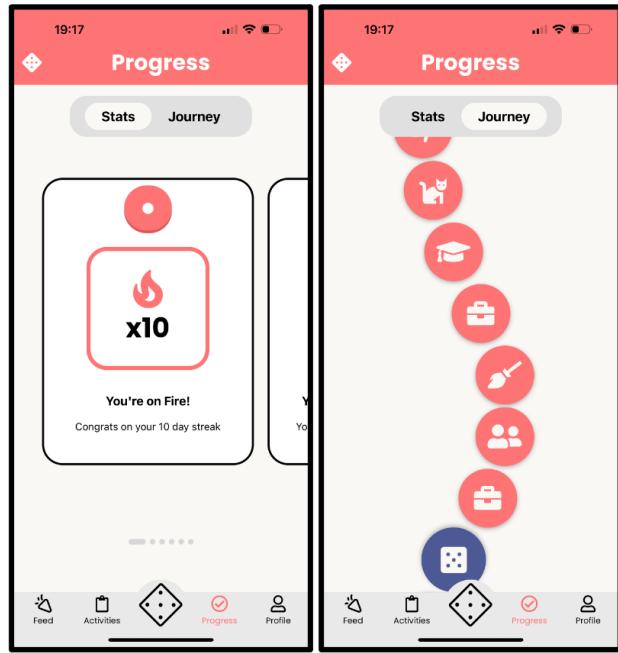
To have a populated die and receive randomized activities to complete, the user needs to create a list of activities they want to do. Creating a new activity is another task that is essential to our app's function, but that can be accomplished with slightly lower frequency than completing an activity itself.



these screens show the implemented task of creating a new activity. by visiting the activities page, the user can click on one of the "+" signs, the grey boxes, to add a new activity. then, the second screen pops up, in which the user creates a name for the activity, and adds an optional description as well as choosing a mandatory category. then, the activity is added to the dice.

## 2b) Moderate - Check your activities' progress and statistics

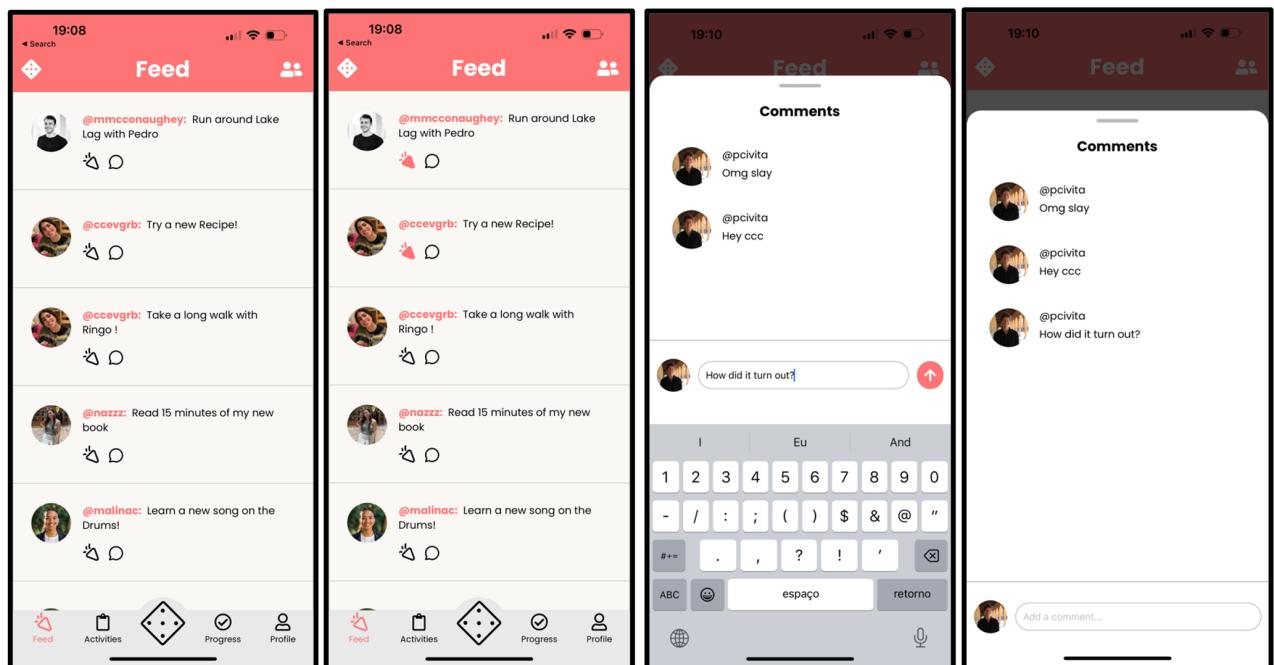
As habit-building and motivation are important goals of our app, we wanted to increase the visibility of users' activities and completion. The users can access the progress page to check their "journey", or a path of their past completed activities, as well as various statistics such as streaks. This is important to increase encouragement, motivation, and accountability for users as they feel inclined to complete activities and build habits.



to view their progress, users can access the progress page, in which they can follow their journey (screen on the right, with past completed activities (pressable, with a pop-up box for each past completed activity), and their stats, which quantify their interactions and activity in the app in fun ways.

### 3) Complex – Interact with user posts

The task of interacting with other user posts, particularly by giving positive affirmations to friends on their activity success, will create a supportive and trusting environment. We made these interactions as simple as possible, with a clickable “kudos” button, and offered a comments option as well to engage further if desired. This will also foster a sense of community and friendly accountability to complete activities.



the screens show the implemented task flow beginning in the feed (left-most screen), where the user can interact with their friends' posts through "kudos" and comments, as seen with the top 2 posts on the second screen when the kudos icon turns red.

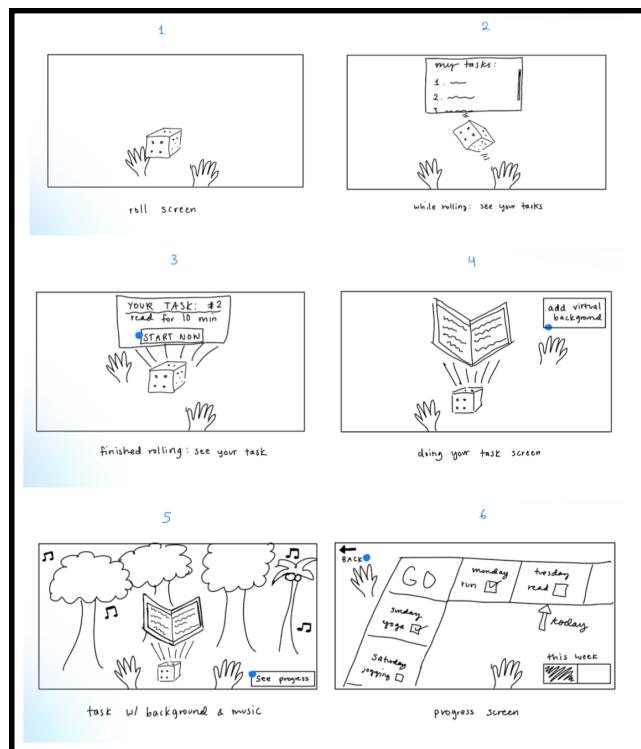
Before we got to this final stage displayed above, we went through the process of prototyping starting from sketching.

## Design Process:

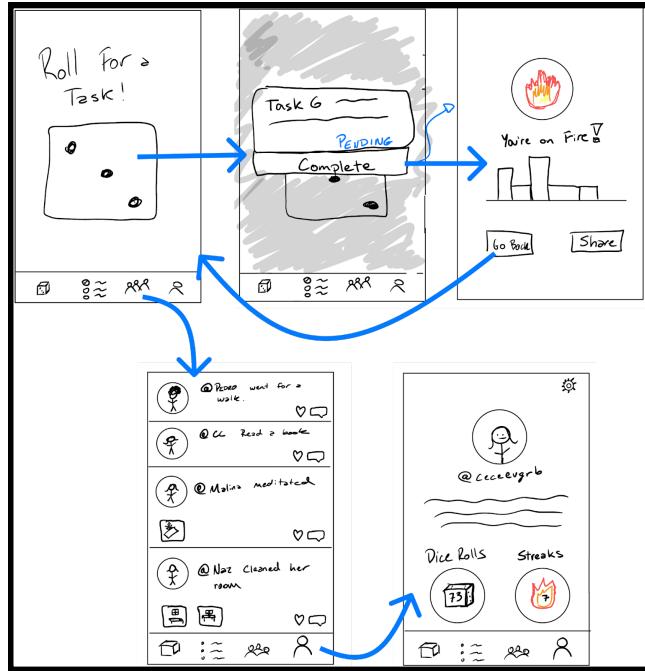
### Low-fi Prototype/Initial Sketches

During the initial sketches stage, we brainstormed various design directions, including virtual reality, mobile applications, wearables, and augmented reality. The two realizations that excited us the most were mobile applications and augmented reality:

### Augmented Reality:



### Mobile:

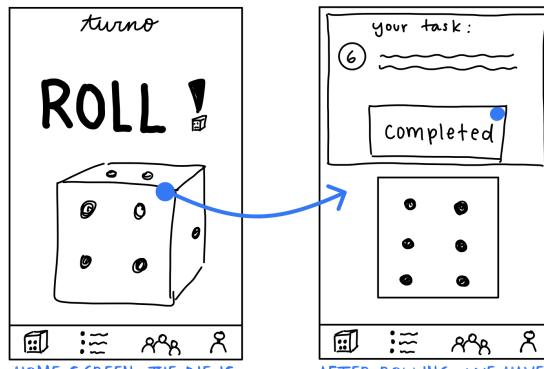


Our **AR** solution presented a blend of advantages and challenges. On the positive side, it's highly interactive and exciting, offering flexibility as it doesn't necessarily need to augment the physical world, and brings a layer of realism to activities like dice rolling. However, it faces drawbacks in terms of feasibility due to potentially high costs and additional hardware requirements. Its physical nature, while promoting activity, may limit its appeal to a broader audience. Additionally, the solution may struggle with user adoption and integration into daily life, as AR apps aren't commonly used in day-to-day routines, posing a challenge to its convenience and practicality.

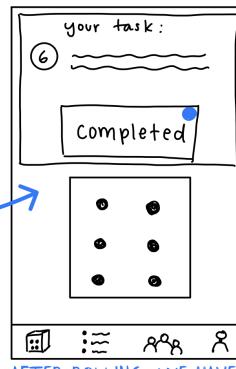
Our **mobile app** solution combines ease of use with practical integration. Its simplicity, with just a tap on the phone surface, and intuitive design ensure low barriers to entry. The app's convenience is further enhanced by its seamless integration into users' everyday workflows, as smartphones are a staple in daily routines.

From then, we decided to begin the low-fidelity prototyping of our idea. we started by creating the tasks that we wanted our users to be able to achieve through our prototype. Low-fi

#### 1a. Complete an activity



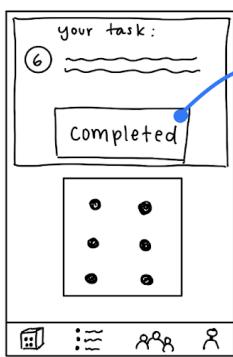
HOME SCREEN, THE DIE IS A FIRST READ AND DIRECTIONS ARE CLEAR.



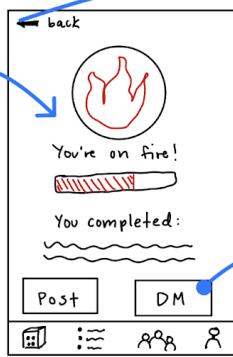
AFTER ROLLING, WE HAVE A POP-UP THAT EMPHASIZES TASK RECEIVED AND ENCOURAGES COMPLETION.

## 1b. Share the news with friends

IF YOU DON'T WANT TO SHARE, YOU CAN GO BACK TO YOUR HOME SCREEN AFTER COMPLETING A TASK



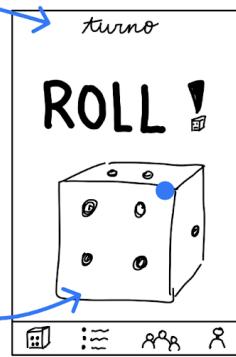
PRESS COMPLETED!



COMPLETION LEADS YOU TO YOUR SHARE PAGE THAT FOCUSES ON MOTIVATING YOU THROUGH STREAKS AND OTHER INFO.

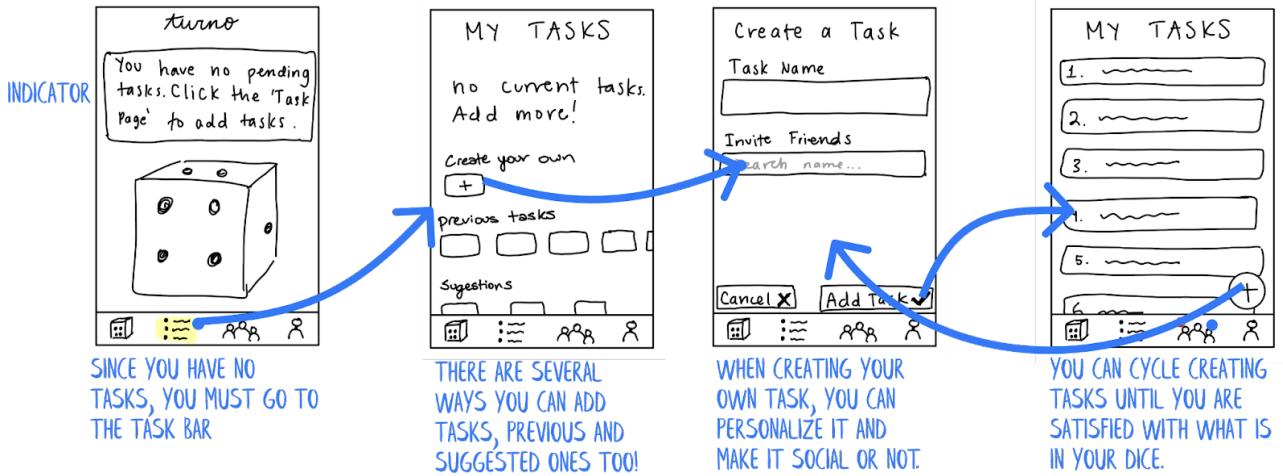


SENDING DM'S ARE EASY AND INTUITIVE

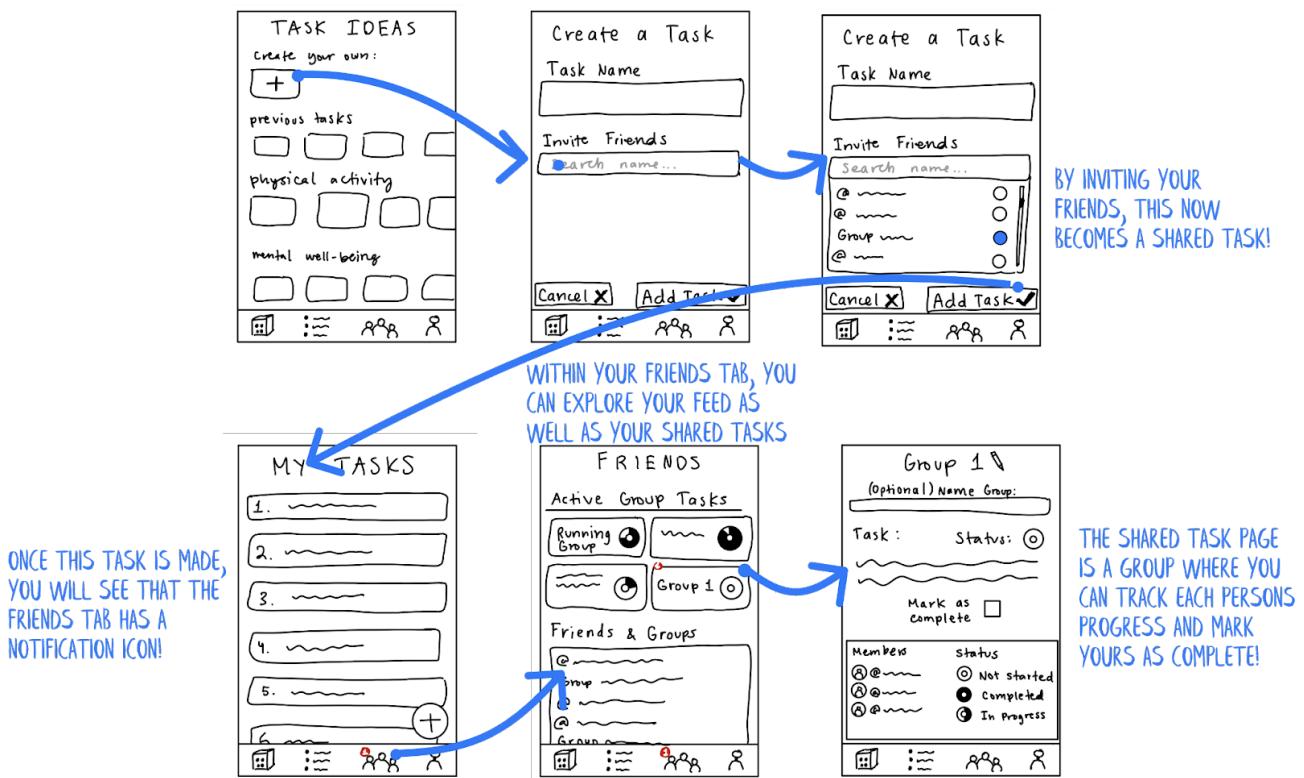


AFTER SENDING A DM, YOU RETURN HOME!

## 2. Write out your task list



### 3. Complete a task with your friends



## Evaluating

Technique used: Usability testing

Participants:

- Sought participants of different jobs and ages
- No compensation; asked for a few minutes of their time

Environment:

- Various campus locations
- Tested at participants' tables
- Made them feel comfortable in their own environment

Procedure:

- Told them the background of the class and the project
- Prepared a script (see appendix): explained 1 task + and had them complete without clarification. Repeated for subsequent tasks
- Answered their Qs only after first prompting them to try without our help
- Asked users to reflect on which functions were intuitive and vice versa

Member roles:

- Greeter: Malina
- Tester: Nazanin
- Notetakers: Pedro & Cecilia

### Usability Goals and Measurements:

#### Pleasing (high user satisfaction)

- Task completion rate
- NPS and how likely the user would be to recommend the app (1-10)

#### Efficient (perform tasks quickly)

- Number of service tickets, measured as the number of "misclicks" or questions asked

### What was learned:

- Tasks 1a and 1b were easy for users to complete and required minimal taps.
- Task 2 was straightforward but users showed hesitancy.
- Task 3 was the most confusing for users. None of them were able to complete it on their own.
- Habit-building users don't think a **social feature is necessary** for engagement.
- **Brainstorming is the hardest part** of creating a list of tasks.
- **Icons and user guides** are required for non-intuitive actions (e.g. rolling a dice to get a task).
- **Rewards and progress tracking** were desired by users.
- **User testing gave us an NPS of 5/10**
- **We measured 4 misclicks and were asked 6 clarifying questions across 4 tests**

Design Food for Thought:

- The home page needs to be **clearer with directions on using the die**.
- **Reduce information** on the **friend's page** to make it intuitive.
- The task page was simple but confusing. **Make task status clear**: completed, in progress, or not started.
- Add a feature for **ideas/inspiration on task generation** to reduce the brainstorming burden.
- Add **feed page** and clear user **progress reports**.
- **Align user priorities** to what is placed **center frame** (e.g. make the home button clear so users don't feel overwhelmed by the share buttons).

### Implications:

To increase the "Pleasing" rate:

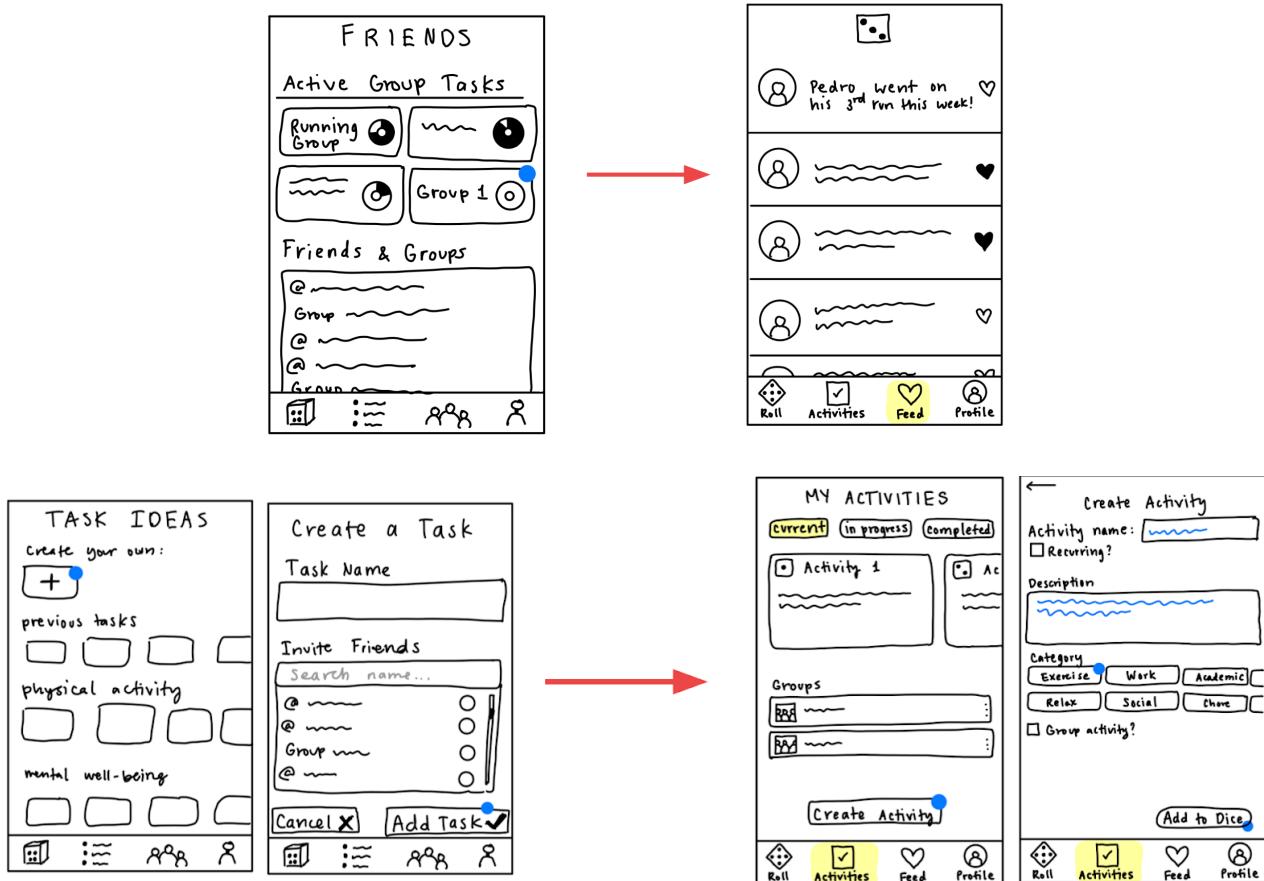
- Added encouraging messages throughout (e.g. streaks, calendars)
- Enabled more granular progress tracking for overall tasks but also each task (e.g. setting status as current, in progress, or completed)

- Simplified task pages (minimized buttons and clicks required)
- Provided more exit opportunities (e.g. exit and back buttons)

To increase "Efficient rate":

- Made button placements intentional and placed key factors in the center frame
- Used sizing intentionally, making individual tasks larger and more visible
- Streamlined task creation through one interface to reduce complexity

The screens below show the modifications made to the task flow screens of the low-fi prototype after we implemented some of the changes:



### Medium-Fidelity:

Following our testing, we implemented revisions and took our prototype sketches to Figma, where we implemented a lot of changes, and made buttons, and other actions, real. In addition to the feedback we received, we also wanted to make sure our changes increased the presence of our values in design: playfulness, motivation, and integrity.

Some of the specific UI changes we made included:

The addition of a "feed":

- We replaced our "groups and friends" page with a "feed" page, where users could see activities completed by their friends and send them a 'kudos'

For completing and sharing an activity:

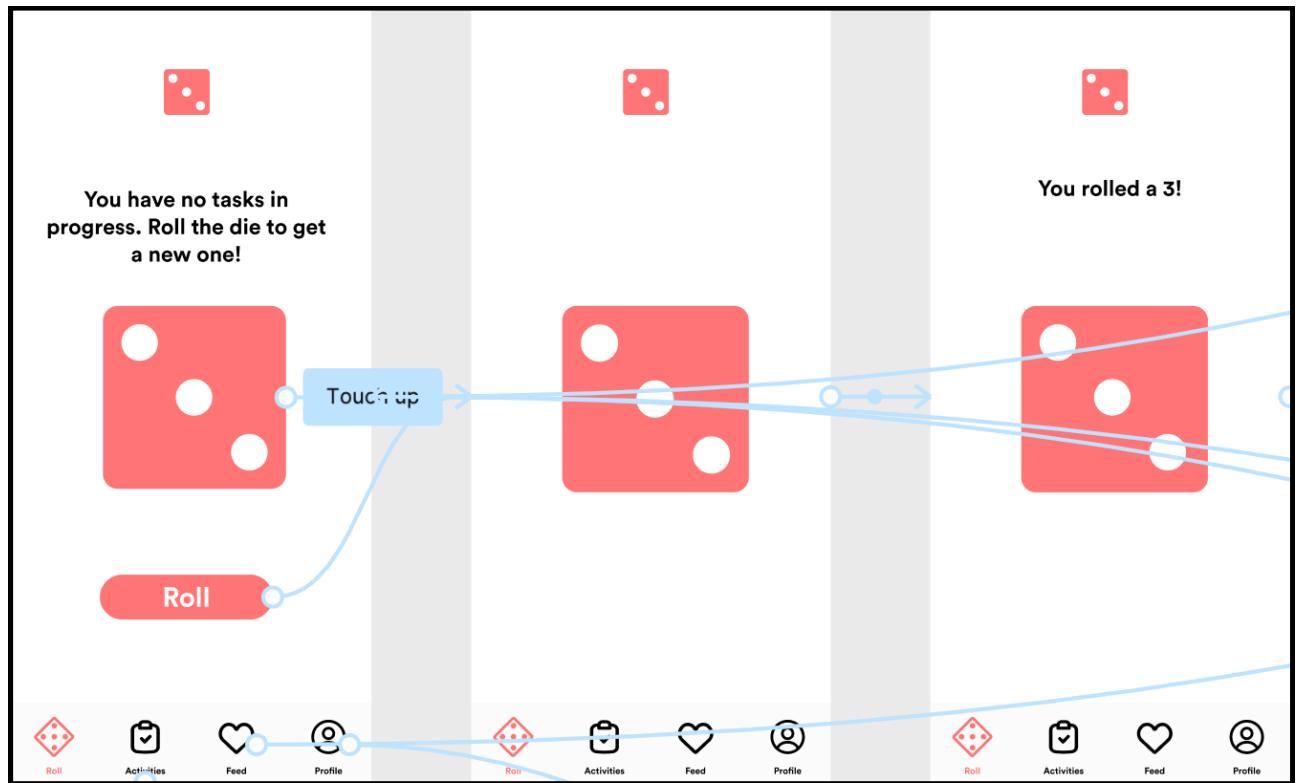
- A new sliding button for completing a task, as to incorporate more integrity in the design. a button is too easy to press unintentionally.
- Removed option to DM
- Added option to “roll again” to return home.

Creating an activity, and the activities page:

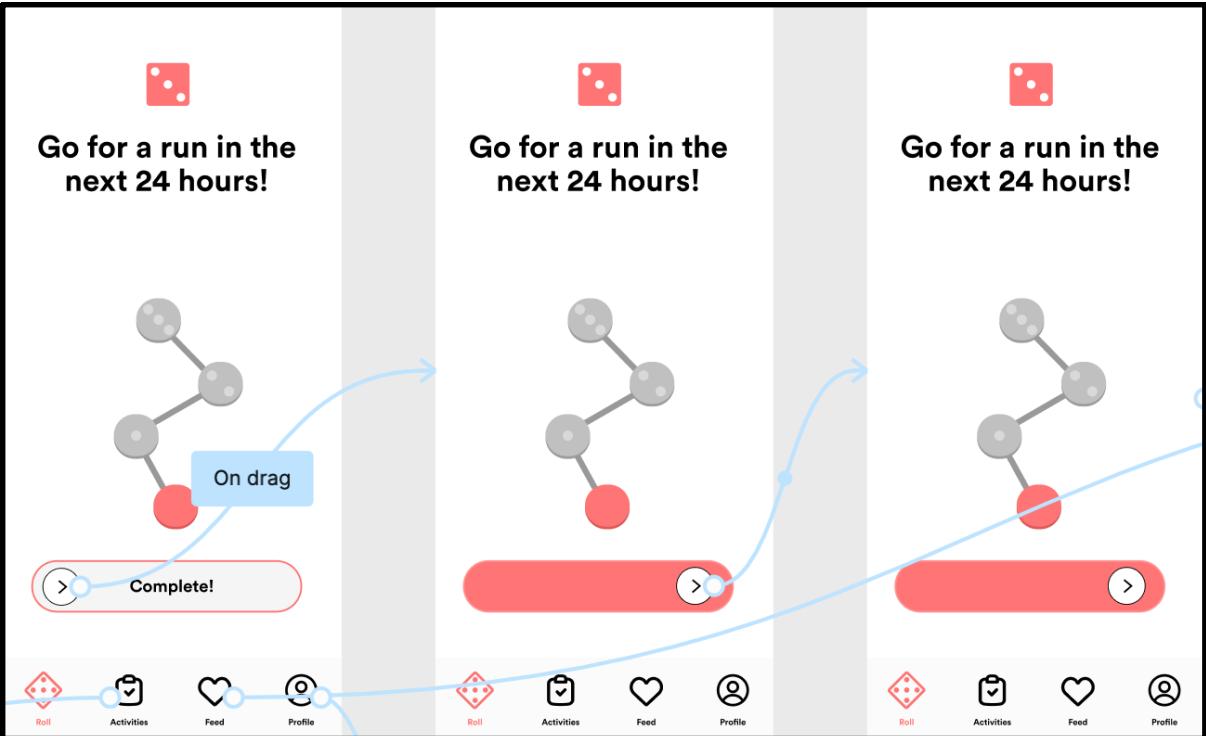
- More details when creating an activity (description, whether you want this to recur, etc)
- Less cluttered tasks page

Revised med-fi task flows:

### 1a. Complete an activity

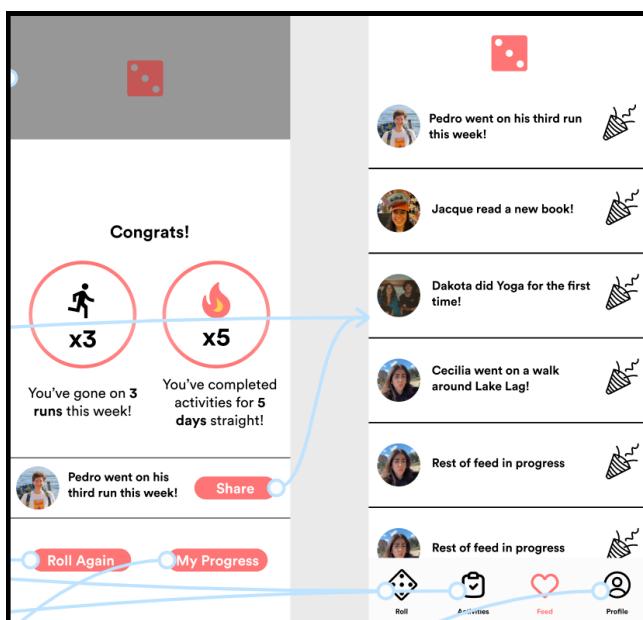


our main screen is where the user rolls the dice to get an activity. we added an animation that nudges the user to press the button or roll the dice, in line with our value of playfulness. the second screen shows the dice rolling animation, to give the user more feedback that they are rolling for an activity and encode playfulness. the third screen is also an animation that lets you know what activity you got.



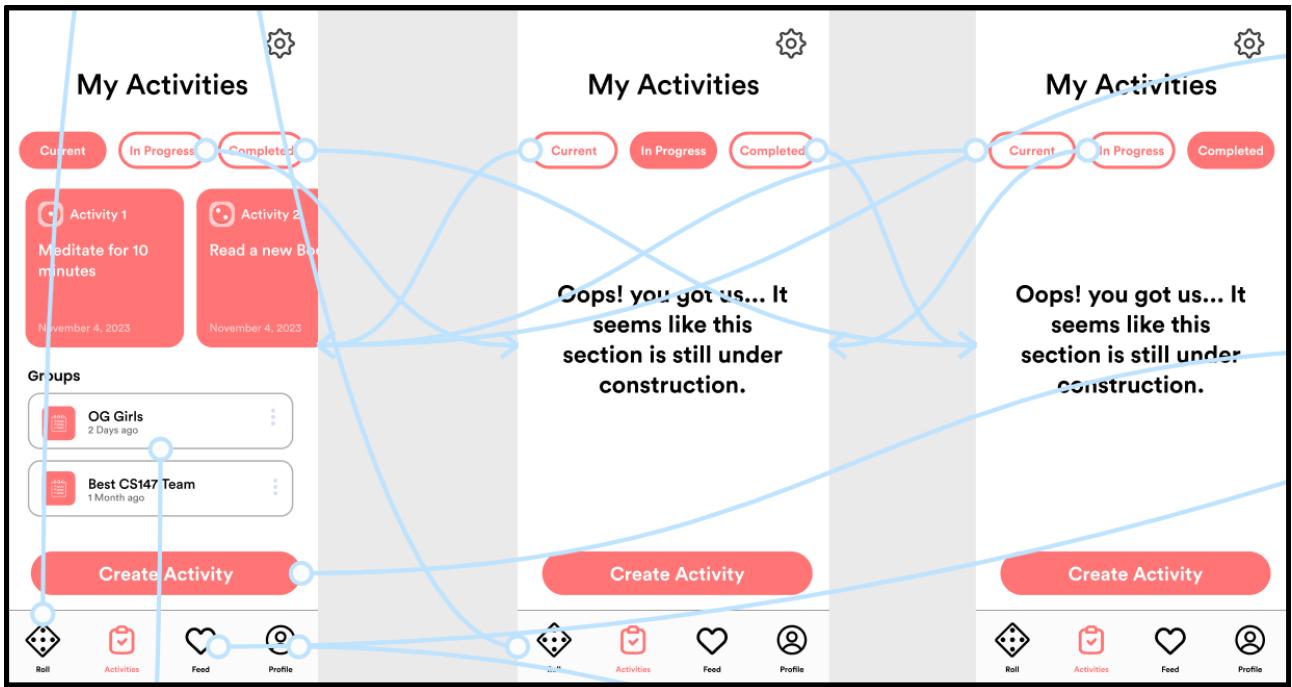
screen on the left: we emphasize our value of integrity: after the feedback, we changed from a button to a slider to make the user more intentional in the completion of a task. we incorporated the animation of the board game steps as a way to motivate playfully. after seeing the steps filled out, you also get a visual cue regarding your overall progress.

#### 1b. Share the news with friends



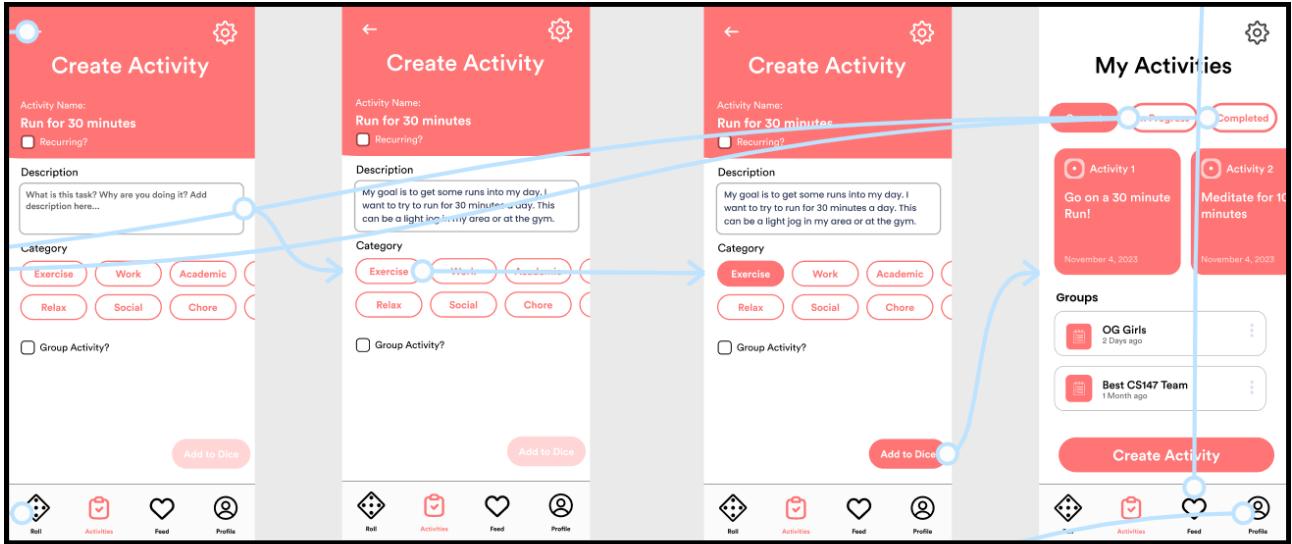
the screen on the left shows a small snapshot of stats to encode motivation and also gives you the options of what to do after completing an activity. after our feedback, we changed our "likes" to "kudos", as we felt that it was more casual and less conflicting with negative social pressure.

#### 2. Create a new activity



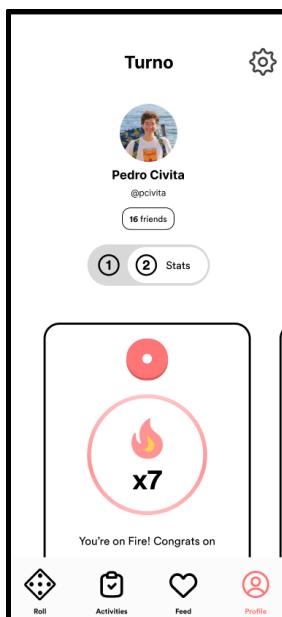
The screen on the left is an activities page where the user can navigate to current, in progress, and completed pages, as well as view groups. They can also create activities. Transitions include pressing on the page navigation buttons and creating a task.

The pages on the right were in progress and were completed for our hi-fi prototype, and allowed users to categorize their tasks by completion status and see current, in progress, and previously completed tasks.



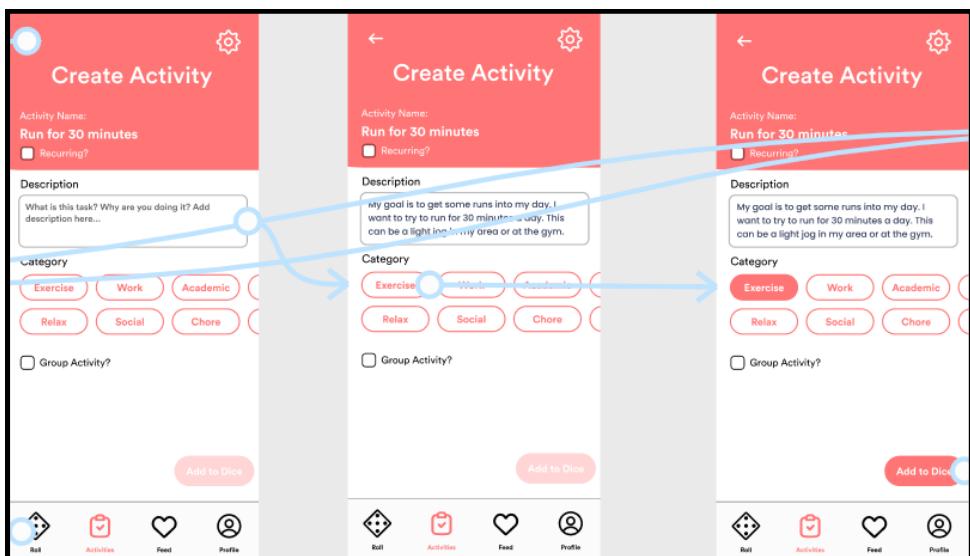
this page flow allows users to create an activity, input its name, mark it as recurring, and provide its description and category before adding it to dice. It will then appear on the activities page.

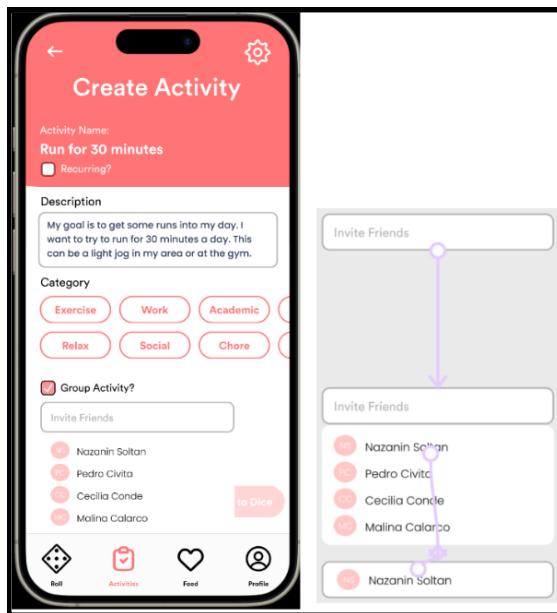
## 2b. Check your activities progress and statistics



Our stats page tries to provide information with simple "cards" that show key insights into ur user' psrogress within their activities. We didn't want to give a focus on many numbers and quantifiers, and wanted instead for these observations to be small snippets in their profiles. this achieved a balance

## 1. Create a group activity and invite friends to complete the activity





the screen flow above displays creating a group activity. The user can input the name, description, recurring nature, and category of an activity, as well as mark it as a group activity to invite friends to join. Users can search friends to invite and click their name to add.

## Heuristic Evaluations

**Before transitioning to our high-fidelity prototype:** We had a group of evaluators evaluate our medium-fidelity prototype based on the 12 heuristics given in class. The overall results of our evaluation showed 87 total violations, with the main issues being UI consistency, group-building features, and activity accountability. Our biggest problem categories were: Consistency and standards, Minimalist design and user control.

1. H10: Help & Documentation / Severity: 3 / Found by A
  - o a. Description: not clear to me on the task page that I need to swipe to complete the task.
  - o b. Rationale: the "Complete" button just looks like a button right now, so my instinct was to press the arrow.
  - o c. Fix: animation that shows the arrow bouncing to indicate that swiping is required would be useful!
  - o d. **OUR FIX: We clearly captioned the slider with text that says "Slide to complete".**
2. H5: Error Prevention / Severity: 3 / Found by A
  - o a. Description: often unclear when you're not at the top of the page when scrolling through the feed.
  - o b. Rationale: particularly on the feed tab, if you scroll down a bit, it's hard to tell if you're at the top of the feed or not. Makes it confusing and may make people think they've seen the latest information when they really haven't.
  - o c. Fix: add a border to your header or make the header a slightly different color -- or make a "scroll to top" icon pop up once you've started scrolling.
  - o d. **OUR FIX: We conducted user testing on our final prototype and found that on the phone, users were not confused by their location on the feed.**
3. H11: Accessible Design / Severity: 3 / Found by C
  - o a. Description: the interface uses an animation to update users that the activity is being chosen.
  - o b. Rationale: this would not be accessible to those who cannot see the dice, such as those using screen readers
  - o c. Fix: add text on the screen that says "rolling" while the dice is rolling.
  - o d. **OUR FIX: We animated the dice to display different numbers while "rolling" so that the user knows that the activity is being chosen.**
4. H4: Consistency & Standards / Severity: 3 / Found by C

- a. Description: the interface used the word “task” on the page prompting users to roll the dice but the word “activity” (or “activities”) on all other pages.
    - b. Rationale: users may be confused by this inconsistent terminology for the same function. c. Fix: use “Activity” on all screens.
    - d. **OUR FIX: We changed all “task” to activity across the app, website, and all materials.**
5. H12: Value Alignment and Inclusion / Severity: 3 / Found by C
- a. Description: after completing an activity, the interface shows you how many days in a row you have completed that activity and how many days in a row you have completed an activity in general. This can be shared with friends, who’s completed activities can all be seen on the “Feed” page.
  - b. Rationale: users who are not already motivated or have busy lives may feel even more demotivated when their streak breaks, turning them away from the app and associating the active lifestyle you are trying to promote with a bad feeling. This is made even worse when you can share your status with friends, making you feel behind compared to everyone else in your life.
  - c. Fix: get rid of streaks. Make the activity feed per group rather than general, so users can choose to avoid it more easily or only look at updates for certain groups they feel comfortable looking at.
  - d. **OUR FIX: We disagree with this. We conducted further user interviews and found that users wanted to keep the streaks metric as a mild motivator.**
6. H6: Recognition Rather Than Recall / Severity: 4 / Found by B
- a. Description: users are forced to remember the task that they originally rolled, if they receive a task and navigate away to another page such as the social feed.
  - b. Rationale: users have to recall their tasks that they rolled rather than seeing it visibly present somewhere (i.e., like viewing a task in progress). This allows for cheating, and easy manipulation of the application on the users’ end.
  - c. Fix: visually show task in progress app-wide
  - d. **OUR FIX: We found that the task would be irrelevant at the point which the user is navigating elsewhere on the app, after deciding not to complete the task. However, they can still recall past tasks through their profile.**
7. H5: Error Prevention / Severity: 4 / Found by B
- a. Description: users can complete an assigned task even if they haven’t truly done it. The system doesn’t prevent falsified completions on the users end.
  - b. Rationale: users may be incentivized to complete an activity if they become too busy or prefer another task, simply to re-roll or start over. A lack of confirmation or system checks on real-world completion makes it easy for users to game the system.
  - c. Fix: require a proof of completion.
  - d. **OUR FIX: We believe in our value of integrity! Users should feel internally motivated to complete the task and mark it as complete. We also raised the barrier for integrity by creating a sliding bar rather than a completion button.**
8. H3: User Control and Freedom / Severity: 3 / Found by B
- a. Description: there is no way to exit the task page if it is an unwanted activity.
  - b. Rationale: some users may feel trapped if they roll an activity they cannot physically complete or do not want to anymore. Many may manipulate the application by navigating to another page, and coming back to it or sliding the “complete” button. It is critical to balance user needs of tasks they are likely to complete, and holding them accountable.
  - c. Fix: Provide a fixed number of re-rolls.
  - d. **OUR FIX: This decision is intentional, as we do not want users to continue rolling until they receive an activity of their choice. Our purpose is randomization and motivation.**
9. H2: Match between System and Real World / Severity 3 / Found by B
- a. Description: there may be user confusion over when the “week” begins and ends (i.e., in the feature where you note “You’ve gone on 3 runs this past week”). Some users may believe it begins on Monday, while some may assume it’s a running count of the past 7 days.
  - b. Rationale: user confusion over time intervals may make it much more difficult to track consistent progress. This is also inconsistent with the other standard that you use right next to it (i.e., “You’ve completed activities for 5 days straight”). Be consistent with the style of time interval you are using.
  - c. Fix: specify and standardize time interval (“Past Week” vs “**Past 7 Days**”).
  - d. **OUR FIX: We removed the presence of these ambiguous terms on the app.**
10. H6: Recognition not Recall / Severity: 3 / Found by D

- a. Description: main action of navbar (roll item) is not emphasized enough.
    - b. Rationale: the roll tab in the navbar is the feature that the app is built around and in its current state it is not emphasized as much as it should be.
    - c. Put in middle of the navbar and maybe add an alternate background to it (similar to Instagram's navigation) to highlight its importance.
    - d. **OUR FIX: We made the die button, which leads to the roll page, the largest button on the nav bar and placed it in the center to emphasize its importance.**
11. H2: Match b/w System & World / Severity: 3 / Found by D
- a. Description: have to click button even after completion of task slider fully slid. b. Rationale: when I fully slide the completion slider for a task, I am then prompted to click on the arrow icon to continue. I feel like this is counterintuitive to the whole point of the slider, and does not follow a logical order / progression through the app.
  - c. Fix: ensure that the user does not need to click on the arrow icon to continue, that the slider itself is enough.
  - d. **OUR FIX: This was just a bug that we fixed in our hi-fidelity prototype.**
12. H12: Value Alignment & Inclusion / Severity: 3 / Found by D
- a. Description: congratulating the user for a job well done ("Congrats!" text on share progress page) is not emphasized enough.
  - b. Rationale: one of the main values for this app is motivation, and I feel as though the completion of a task section does not praise the user enough for a job well done.
  - c. Fix: the "Congrats!" text should be enlarged and perhaps should be a different color or an animation should be incorporated to highlight it.
  - d. **OUR FIX: We made the congratulations message larger, adding a drop shadow and confetti.**
13. H12: Value Alignment & Inclusion / Severity: 3 / Found by D
- a. Description: roll again button on "share progress" page goes against integrity value encoded in the app.
  - b. Rationale: what is stopping me from rolling again and then immediately completing the task and then rolling again? I think having the roll again button directly in the "share progress" page may prompt some disingenuous behavior from the user.
  - c. Fix: remove the button from the share progress page or set a timer that the user must wait for before they complete another task
  - d. **OUR FIX: We removed the roll again button to align with our values of integrity.**
14. H3: User Control & Freedom / Severity: 3 / Found by A
- a. Description: no "other" option shown for activity category.
  - b. Rationale: may block users from being able to log the activities they want.
  - c. Fix: add an "other" type in option and/or custom categories that can be reused.
  - d. **OUR FIX: While we initially had an "other" option in our custom categories, we removed that in order to reduce the cognitive load on users when creating a activity.**
15. H4: Flexibility and efficiency of use / Severity: 3 / Found by C
- a. Description: categories are chosen by scrolling through a list.
  - b. Rationale: users may not want to sift through a list every time they make an activity. There should be an ability to type in and search for a category.
  - c. Fix: add a search button or empty category which you can type into.
  - d. **OUR FIX: We reduced the number of categories to six and made the buttons smaller to eliminate the need for scrolling.**
16. H3: User Control and Freedom / Severity 3 / Found by A, B
- a. Description: there is no way for the user to set exactly when the activity recurs.
  - b. Rationale: if I toggle the "Recurring?" button, then I expect as a user to be able to set when this activity recurs. In the present, I am confused as a user about when the activity would recur? Is it the moment when I create the activity? What if I want it to recur at a custom day/time?
  - c. Fix: create a time range/calendar for when activity recurs.
  - d. **OUR FIX: We removed the recurring option and rather added a toggle after completing an activity through which the user can very intentionally add the activity back to their die for the next roll.**
17. H7: Flexibility and Efficiency of Use / Severity: 3 / Found by A, B
- a. Description: it is unclear if users can view the other activity types in the category field. There is no clear path to view the other options in the category.

- b. Rationale: based on the UI, users may find it intuitive to scroll right. However, there is no cue on the screen to trigger this action. Further, if there are a large number of categories, then the horizontal scrolling would be highly frustrating for users and not efficient. Also, curious to see how the UI would handle niche activity categories that require custom inputs.
    - c. Fix: add a horizontal scroll bar.
    - **d. OUR FIX: We resolved this by fitting all our categories on one screen and eliminating the need for rolling.**
18. H3: User Control and Freedom / Severity 4 / Found by B
- a. Description: users cannot specify the activity that they want to create
  - b. Rationale: currently, the application has “Run for 30 minutes” hard-coded as the activity type one can create. Given this is a critical component for the UX here, what would the user input field look like? A text entry box?
  - c. Fix: extract user input for activity creation.
  - **d. OUR FIX: We created a text box so a user can pick the activity name and description**
19. H5: Help Users With Errors / Severity 3 / Found by B
- a. Description: users do not have system visibility into which fields of content are required for the “Add to Dice” button to appear. They may want to skip the description, yet are confused when the “Add to Dice” button doesn’t allow them to.
  - b. Rationale: currently, if users fill out a description and category, they will be able to add their activity. However, there is no cue on the screen that tells users that filling out a description and category is required if they forget one.
  - c. Fix: highlight required fields if the “Add to Dice” is clicked prematurely (i.e., asterisks or upfront instructions demarking required inputs).
  - **d. OUR FIX: Put asterisks for required fields, and make button change from disabled to enabled accordingly.**
20. H6: Recognition Rather Than Recall / Severity: 3 / Found by B
- a. Description: users cannot differentiate whether an activity is a group activity or an individual one on the “My Activities” page.
  - b. Rationale: users have to remember which activities are recurring and which ones are with other friends when they finish creating an activity. Such information is not saved on the “My Activities” screen post-creation.
  - c. Fix: display key information such as “Recurring” or “With X Friends” on My Activities.
  - **d. OUR FIX: We removed group activities.**
21. H1: Visibility of System Status / Severity: 4 / Found by B
- a. Description: when finalizing the creation of an activity, user[1]’s click on “Add to Dice.” However, the position number of the activity on the dice is not visible to users.
  - b. Rationale: based on the language used to create an activity, users assume that they are adding an activity that counts towards six of their activities. However, what happens if I surpass six activities? Will an activity be replaced? If the number of activities is capped at six, how would I know the activity counts as my last one?
  - c. Fix: display the position number of a certain activity during its creation (as represented by the dice count in the “My Activities” page).
  - **d. OUR FIX: We maintained visibility by assigning the activity to a specific number on the die.**
22. H3: User Control & Freedom / Severity: 4 / Found by D, C
- a. Description: inability to delete tasks.
  - b. Rationale: there should be an option to delete tasks, in the event that we no longer want to have to complete them or if we create on accidentally
  - c. Fix: add an option button to the activity section to allow for the easy deletion of certain tasks.
  - **d. OUR FIX: We added a three-dotted button on the side of the task with options to edit and delete.**
23. H12: Value Alignment & Inclusion / Severity: 4 / Found by D
- a. Description: ability to create an activity / task makes the randomisation of selecting a task kind of redundant.
  - b. Rationale: after rolling the die enough times, and making the tasks recurring, rolling the die will then become obsolete as all the tasks are now recurring.
  - c. Fix: remove the ability to create an activity, or completely separate it from the randomisation of rolling the die i.e. I should be able to enter the name of the task when I create the activity, not have it preset from my rolling of the die.

- **d. OUR FIX: Fix, no more recurring, now you can add activity back to the die once the activity is finished through a yes-no toggle.**

24. H2: Match b/w System & World / Severity: 3 / Found by A, B, D

- a. Description: when recurring selected for "create activity" nothing popups.
- b. Rationale: we are not shown any option to select how often we want the task to recur, we just select whether it is recurring or not.
- c. Fix: add in a date / time or calendar component that allows you to select when the task should take place and how often it should recur.
- **d. OUR FIX: Don't have recurring anymore. Instead, we have an add back to dice toggle after activity completion.**

25. H4: Consistency & Standards / Severity: 3 / Found by D

- a. Description: what's the primary difference between "current" and "in progress"? b. Rationale: I am assuming "in progress" relates to tasks that must be completed in the next 24 hrs and "current" are recurring tasks, but how do we differentiate the two once we have created a new recurring activity that we have been assigned from the
- randomized dice. This is both "in progress" and recurring.
- c. Fix: get rid of one of the tabs in the "create activity section", whether that be "current" or "in progress".
- **d. OUR FIX: We removed the "in progress" portion of activities.**

26. H3: User Control & Freedom / Severity: 3 / Found by A

- a. Description: inability to search friends when adding to group activity.
- b. Rationale: if users have a lot of friends, it will be difficult to scroll through them all
- c. Fix: add search ability to adding friends.
- **d. OUR FIX: We have removed the group activity portion.**

27. H3: User Control & Freedom / Severity: 3 / Found by A

- a. Description: no way to remove someone from a group activity.
- b. Rationale: adding people is clear but I don't see a way to remove group members! Which means a user would have to restart entirely in order to remove someone.
- c. Fix: add a button to remove members from a group that you accidentally added. An "x" on their name tile seems appropriate!
- **d. OUR FIX: We have removed the group activity portion.**

28. H7: Flexibility and Efficiency of Use / Severity: 4 / Found by B

- a. Description: users cannot add multiple members to a given group activity; it seems that the UX/UI only allows for activities of up to 2 people.
- b. Rationale: when users click "Group Activity," they are only able to add a single individual to their activity. This severely restricts users as they can only log solo or duo activities and discourages true group activities.
- c. Fix: add ability to select multiple group members.
- **d. OUR FIX: We have removed the group activity portion.**

29. H7: Flexibility & Efficiency of Use / Severity: 4 / Found by A

- a. Description: there doesn't seem to be an intuitive place to add friends on the platform.
- b. Rationale: I see that Pedro has a friends list but I don't see anywhere from which adding friends makes sense!
- c. Fix: you may need to rethink parts of your UI design for this and add a new flow to think about.
- **d. OUR FIX: Add friends button is now located in the top left corner of the feed page.**

30. **H4: Consistency and Standards / Severity: 3 / Found by C**

- a. Description: there is a big red circle on the streaks element.
- b. Rationale: I am not sure what this circle means, and it doesn't seem to currently have a function. Users may be confused, as this color has only previously been used for buttons that can be clicked.
- c. Fix: remove this circle, unless there is a good reason that it is there which I don't realize.
- **d. OUR FIX: Circle is a frame for the icon. Choosing to keep to clarify that the streak is a metric.**

31. H1 Visibility of System Status / Severity: 3 / Found by D

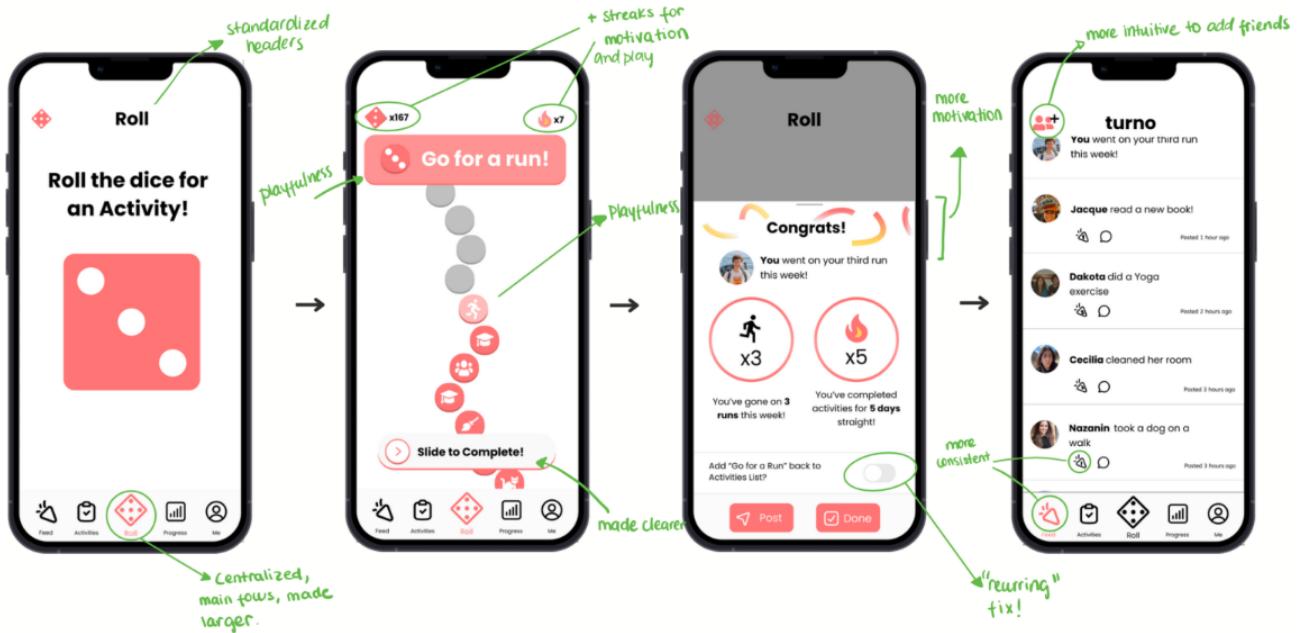
- a. Description: unsure which page is the home page.
- b. Rationale: I am kind of unsure which page is supposed to be the main page of the app. Is it the feed, the rolling of the die, or the profile. Which part of the app is most important in this regard?
- c. Fix: choose which aspect of the app you want to highlight most (motivation which corresponds to feed / profile, integrity which corresponds to creating an activity, or playfulness which

corresponds to rolling the die) and make this page the home.

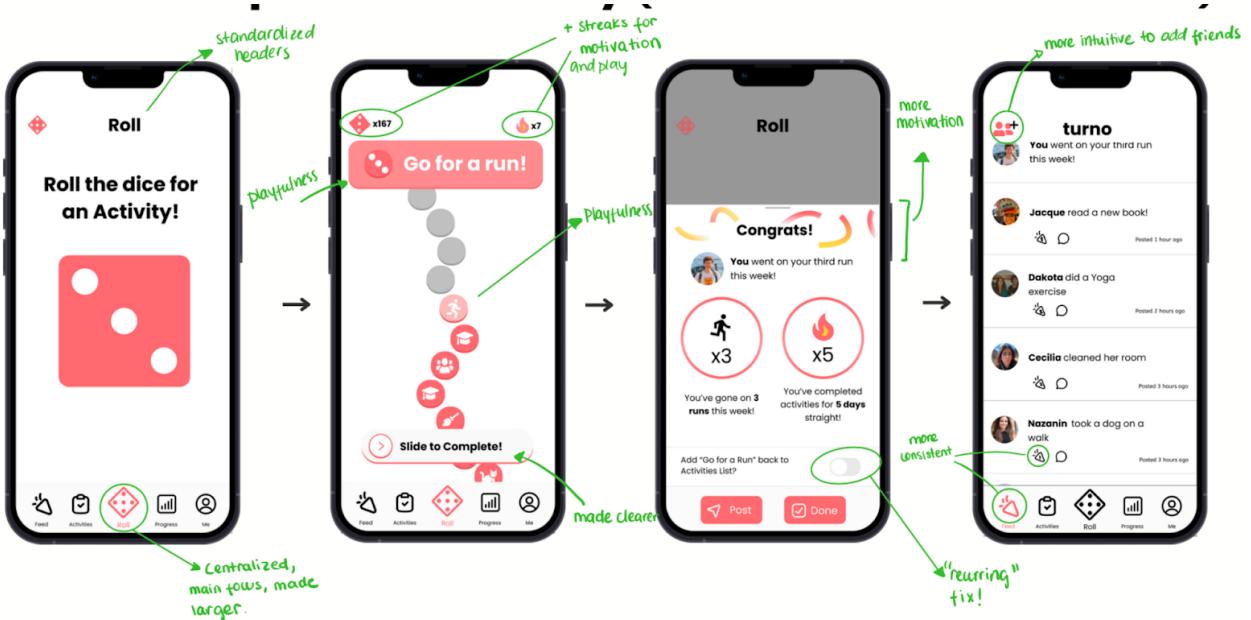
- **d. OUR FIX: We clarified that the roll page is the home page by making the button in the nav bar large and centered.**

Given these reported violations, we revised our medium-fidelity prototype on Figma. The screens below are helpful visuals to understand the revisions we made to the task flows

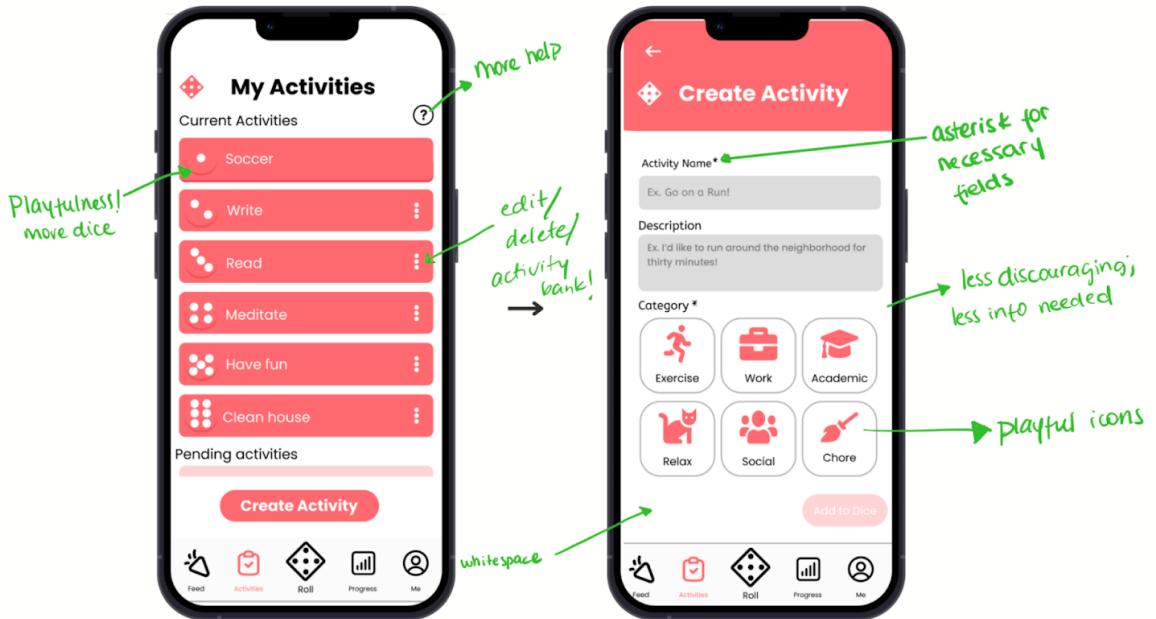
### 1a) Complete an activity



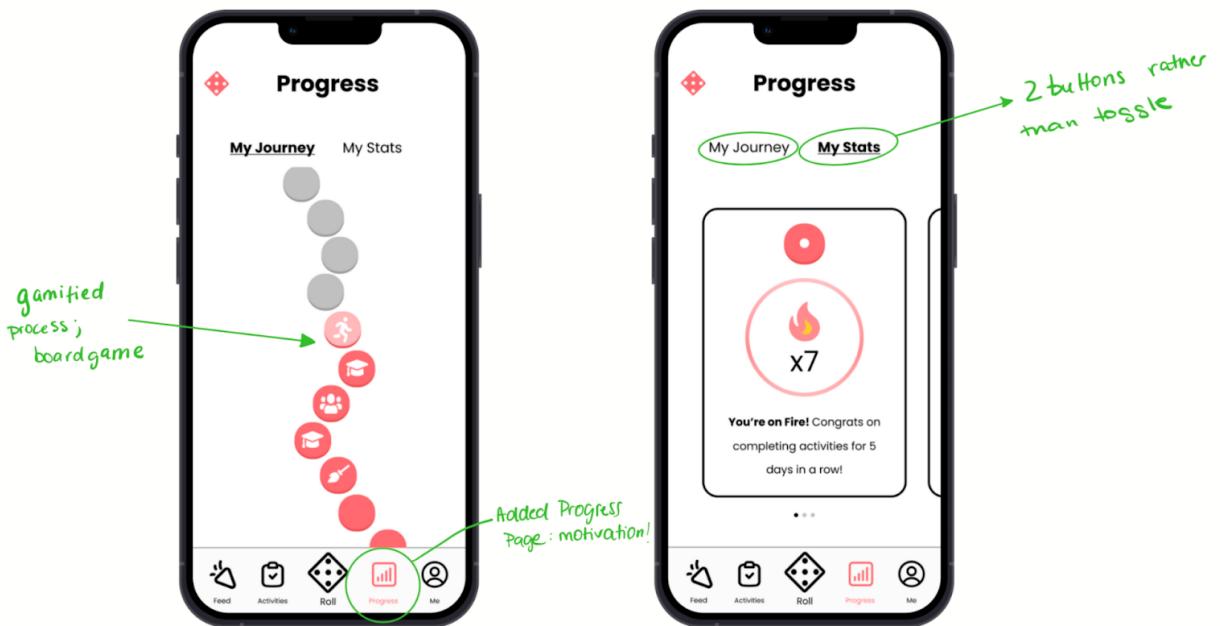
### 1b) Share the news with friends



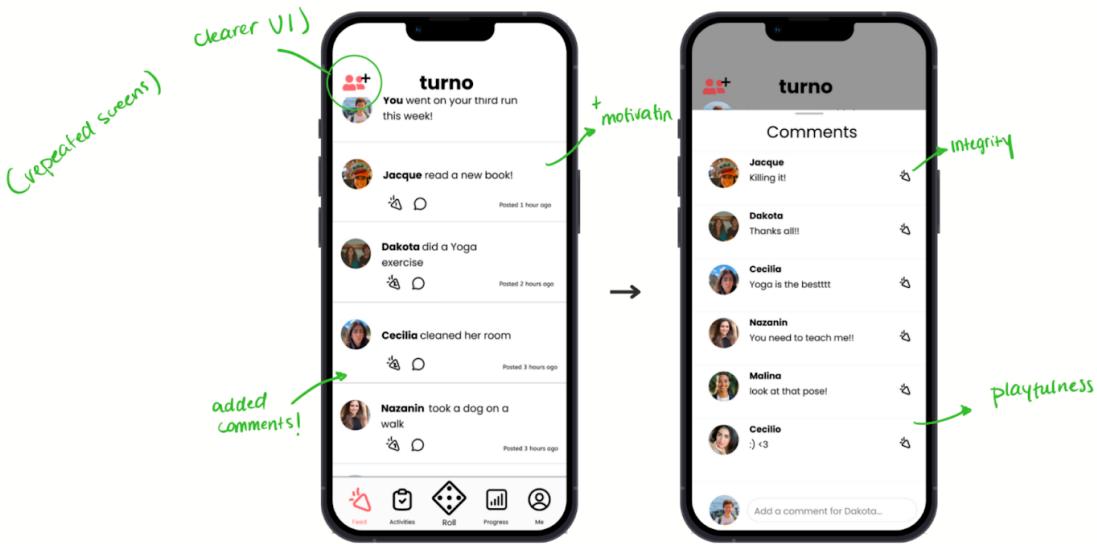
### 2a) Complete an activity



## 2b) Check your Activities and Statistics



## 3) Interact with user posts



## TASK CHANGE:

We changed our task from completing a group activity to interacting with user posts, as the task flow for completing group activities seemed to be the most problematic one, and we realized that that task was not only harder to implement in our high-fidelity prototype but also because it clashed with some of our values and goals for the app. Finding a way to complete an activity with a group (time, location, etc) could turn out to be a hindrance in the actual completion of that activity, which would go against the whole core idea of the app: making people more active.

## Values in design

Values were a key consideration of all of our design decisions. We were conscious of the values that were important to our users and their interactions, as well as the purpose of our app. Every design iteration, change, and finalization was made upon reflecting on our core values and the impact on them.

1. Motivation
2. Integrity
3. Playfulness

### Motivation

One of our ultimate goals is to motivate users to complete their activities. The purpose of Turno is to offer the final push, both extrinsically and intrinsically, that will drive users to maintain an active lifestyle.

*Encoding:* We encode motivation through extrinsic motivators such as kudos and comments from friends and other users on the app, as well as intrinsic motivators such as progress trackers, statistics, and streaks.

### Integrity

Integrity is an inherent and essential part of using Turno. It is both required for their success in overcoming daily obstacles and continued progress towards an active lifestyle. Users need to be honest with themselves when they create their list of tasks that they hope to complete, but most importantly, when they receive an activity upon rolling and are required to indicate completion.

*Encoding:* We consciously decided not to create any external validation mechanisms that would ensure a user completed an activity. Instead, we rely on the users to use their integrity when they mark an activity as complete. We chose to make the completion a “swipe” rather than a mere click of a button to subconsciously increase the barrier of integrity required.

## **Playfulness**

Our app is centered on the concept of a die, games, and your turn – Turno! Users will ideally enjoy using our app and will do so every day, furthering our goal of helping users gradually develop active lifestyles. We want the playfulness of the app to be a motivator in and of itself to get active!

*Encoding:* The die rolling, gameboard-like “journey” page to view progress, streaks and statistics, congratulatory messages, and feed interactions are intended to gamify our user experience and promote playfulness.

## **Value Tensions**

1. Progress metrics and statistics are motivating and playful but can increase the stress and pressure of maintaining metrics such as streaks. We made the choice to keep metrics as further users testing indicated that they made users feel more encouraged rather than stressed and discouraged.
2. We initially had a “Done” button for users to click when completing a task. We felt that this posed a challenge to the user’s integrity as it was too easy and unthinkable to move to the next completed stage. We addressed this by creating a slider which requires more effort and thought on the part of the user, and is less likely to be clicked accidentally.
3. The playful nature of our die and gameboard progress indicators may clash with motivation as “fun” may be deemed low-stakes. We conducted more user tests, in which we discovered that users prefer the gamified elements and feel more inclined to use the app daily if it is playful and game-like.
4. The feed provides social validation, which creates a tension with extrinsic motivation outweighing intrinsic motivation. The latter is what our app is most focused on enhancing. Thus, we changed the interactive button feature from a classic “like” button to a “kudos”, so that users can offer one another an encouraging indication rather than something that can be liked or essentially disliked through inaction. We also made the number of kudos on a post visible to only the user themselves to reduce extrinsic motivation and quantification of the kudos “value” of a post.

## Final Prototype Implementation

### Tools Used

1. We designed our entire app on Figma ([link](#)). See our revamped med-fi design.
  - o Pro: Great for collaboration, flexible
  - o Cons: Complicated to go back to old versions, steep learning curve.
2. We wrote our code in React Native using Expo.
  - o Pros: Expo, easy to implement, easy to test, compatible with Figma
  - o Cons: When typing into a text box, the keyboard pops up and does not go away unless you press submit
3. We used GitHub and Visual Studio Code
  - o Pro: Great for collaboration, easy to revert to previous code when mistakes are made
  - o Cons: Steep learning curve for Github

Coding tools and tutorials:

1. React Native and Javascript general front and back-end (Stanford CS142 and CS147L)
2. YouTube tutorials (swipe button, reanimated, Supabase)

### Wizard of Oz / Hard-Coded Features

Hard coding refers to the practice of embedding fixed data or values directly into the source code of a program, rather than obtaining those values dynamically or allowing them to be modified through external sources or user inputs. The Wizard of Oz technique involves creating an illusion that a system or feature is fully functional and automated, while in reality, it's being operated or simulated by a human or predefined script.

Feed Is Hard-Coded:

- Hard-Coded Element: The posts in the feed are pre-written and do not change based on user interaction or input.
- Implication: This demonstrates the layout and design of the feed without the need for a dynamic content management system. It limits the user experience to a static set of posts, showcasing the UI/UX design. Users are still allowed to interact with the post, mimicking how it would actually take place.

Progress Page is Wizard of Oz:

- The progress page is designed to give the impression that it is dynamically displaying a user's progress based on their actions and interactions within the app. In reality, the data shown is not derived from the user's actual activity. Instead, it's pre-set by us.
- Implication: This serves to demonstrate how the Stats and Journey pages would potentially operate and look with real user data. It provides a visual representation of potential functionalities without the need for complex data processing or analytics backend.

## Reflection & Next Steps

Our main learnings from this quarter about the design thinking process, our studio theme, and our own project:

### 1. What is an active lifestyle?

Our studio theme was designing for active lifestyles – but what is an active lifestyle? Defining the scope of our project was one of the first challenges we faced. However, we decided to leave this up to the user. In our need-finding interviews, we maintained loose definitions of “active lifestyle” to allow users to create their own interpretations. This varied greatly amongst our users, ranging from physical to mental activity, and from leisurely activities to chores. The level of action required to be considered “active” also differed based on each user’s perception informed by their own lives. This flexibility was something we wanted to reflect in our final product, and thus allowed users to define their own activities on the app.

### 1. User-Centric Empathy and Design

We learned the importance of being diligent listeners and observers throughout the need-finding process. When you focus on understanding and empathizing with the user, there is a lot more nuance that you will recognize in their needs and desired approach to design. From the initial need-finding interviews, to user testing, heuristic evaluations, etc., we interfaced with a diverse set of target users to pick up on facets and improvements that we ourselves, or a homogenous group, would not realize.

### 1. Iterate. Iterate. Iterate.

Consistent iterations are key. It is important to consistently make edits and map the journey from the initial sketches, through the low-fi, med-fi, and hi-fi prototypes. We can see the progress and steps that improve each prototype, along with design choices with justification informed from our reflections. We feel inspired when we look through the iterations and can see how far it has come from the initial brainstorms.

### 1. Robust Testing and Evaluation

Another important learning from this quarter is the role of robust testing and evaluation of test results during the design process. With every iteration, we recognized design suggestions that significantly improved robustness and usability, especially for a broader and diverse set of users. At each step, the purpose of testing varies, focused on high-level functionalities and goals in the earlier stages, and progressing into more detailed fixes such as aesthetics and specific interactions in the heuristic evaluation. Each has served extremely valuable in our design process and has made our app much more intuitive to users in a manner which would not have been possible without testing.

### 1. Brainstorm Without Borders

It is easy to get attached to an idea that one devotes time and effort to. That is why it is crucial to create designs and prototypes of various fidelities. The exercise of creating eight prompted, timed, and relatively out-of-the-box designs was uniquely helpful in enabling our team to think beyond borders and out of the boxes which may have been informed by our most typical daily usages and observations. Drawing rough sketches and paper prototypes also proved valuable in giving us, as well as our testers, the mental and emotional freedom to critique the design and usability liberally, giving us especially useful feedback.

## 1. Power of Post-Its

Post-its are extremely powerful. We recognized this in our design process, both in initial need-finding, as well as creating our HMWs and solution ideas. When each trying to share our ideas, structured formats such as paper or digital lists, felt prescribed in their structure and thus required more thought about features such as formatting, limiting the flow of thought that we had about design or solution ideas. Post-its are flexible, digestible, and movable, which gives a newfound sense of freedom when putting pen to paper in brainstorming.

## **If you had more time, what might you add in the future?**

Our team is very excited to potentially continue building Turno through CS194H! We are looking forward to furthering our design efforts and prototype to enable an improved user experience. One core functionality that we would build out with more time is a functional back-end so that we can register users and allow prospective users to test out our app. Additionally, we would love to have an onboarding process for new users of the app. Several individuals at our demo booth on Expo day emphasized that they would love to test it out as soon as it is possible to do so. We believe even more constructive feedback and improvements can be enabled by this. We would also love to see the network effect and social interactions take place, considering how that may factor into future design decisions. We look forward to delivering Turno to busy individuals like ourselves, facilitating small steps towards an active lifestyle!

**Thank you!**



