



Get rolling on making daily decisions

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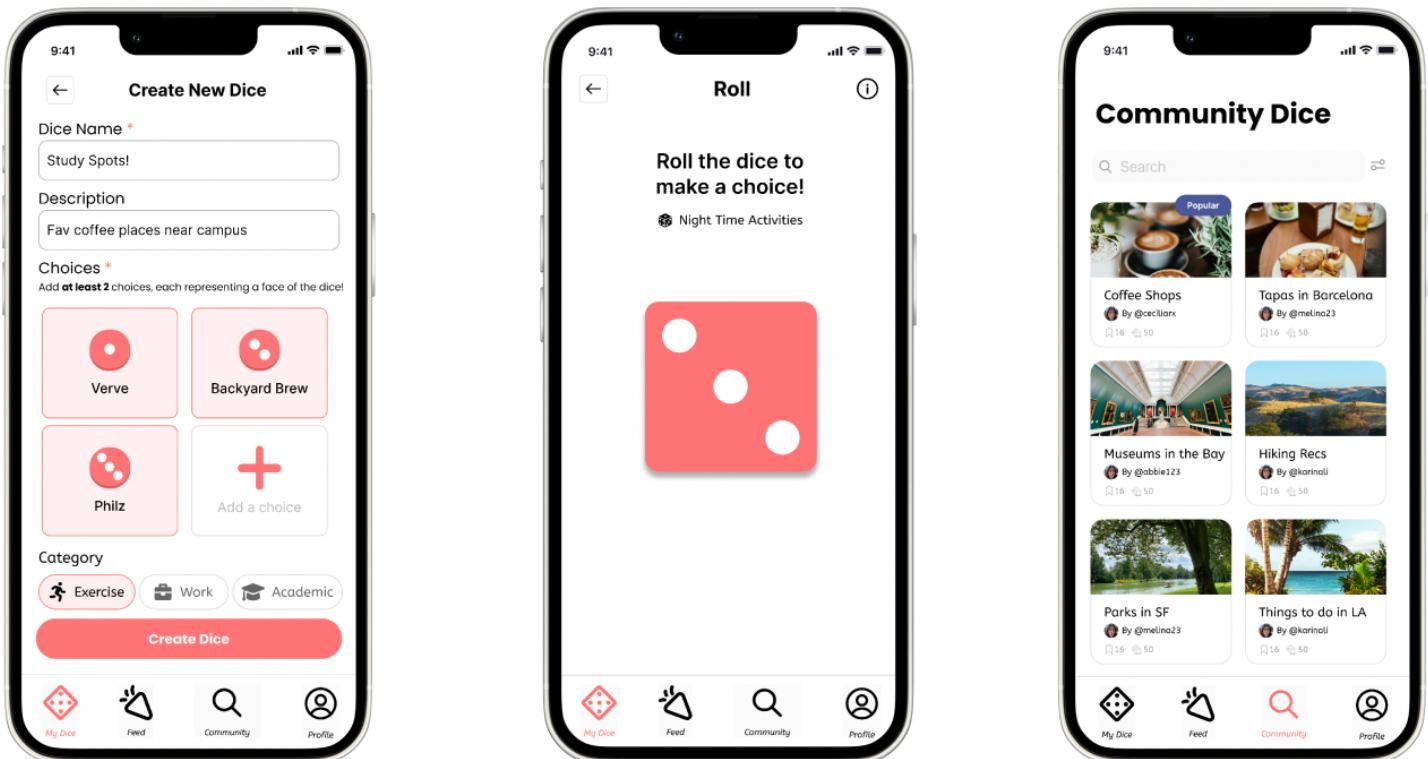
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Problem

People are inundated with choices to make everyday, and our interviews highlighted the problem of decision paralysis. From picking what to wear to choosing where to eat, people are challenged to make decisions on daily matters. When making choices with an overwhelming number of options, people struggle to identify what they really want, creating decision paralysis. This often leads to endless debates and precious time lost.

Solution

turno helps people get rolling on making daily decisions. Our solution is a mobile app designed to simplify choice-making by transforming the chore of choice into a fun, quick activity. No longer do people need to waste precious time endlessly contemplating one simple decision. Making tough, everyday choices are now as simple as rolling a dice.



Tasks

We had five main tasks for users to completed throughout the turno UX. These tasks were selected based on the criteria of (1) user ability to successfully experience the app's main value props and (2) user understanding of the purpose of the app. Tasks are split into simple, moderate, and complex tasks:

Simple Tasks

Onboarding and Creating an Account

- In many cases, logging onto an app is not considered a task because the sign-up UX does not directly portray the app's value propositions. However, in the case of turno, we found through usability testing that many people were confused about the purpose of the app and failed to understand its various capabilities. Therefore, we created an onboarding flow that walks users through the main app features and introduces users to potential use cases. By making onboarding a simple task, we tested to see if users gained a better understanding of the vision behind our app by the end of the usability test

Roll a dice and complete a task

- Rolling a dice is the core functionality of turno. Each dice consists of 2-6 options, or faces of the dice, and the user rolls the dice by swiping on the screen. Rolling the dice helps generate a choice to help the user make a decision, which ties back to the main value prop of turno.

Interact with user posts

- turno mimics many social media apps in that users can post about the decisions that they made and activities that they completed on the Feed. Users can comment and give kudos on user posts. turno hopes to foster a supportive community that encourages people to continue rolling on tough choices, and we do so through the Feed. Since the action of "liking and commenting" is a familiar user action with the popularity of apps like Instagram, we categorized this as a simple task.

Moderate Tasks

Browse through community dice, and select some to add to "My Dice"

- Community dice is a feed of dice created by other turno users. People can browse through community dice to explore new options and discover new fellow turno users. If a user finds a community dice that they are interested in rolling for their own use, users can add a community dice to their own suite of dice in "My Dice". This is a core part of how turno fosters "virality" and is critical to turno's approach to product stickiness.

Complex Tasks

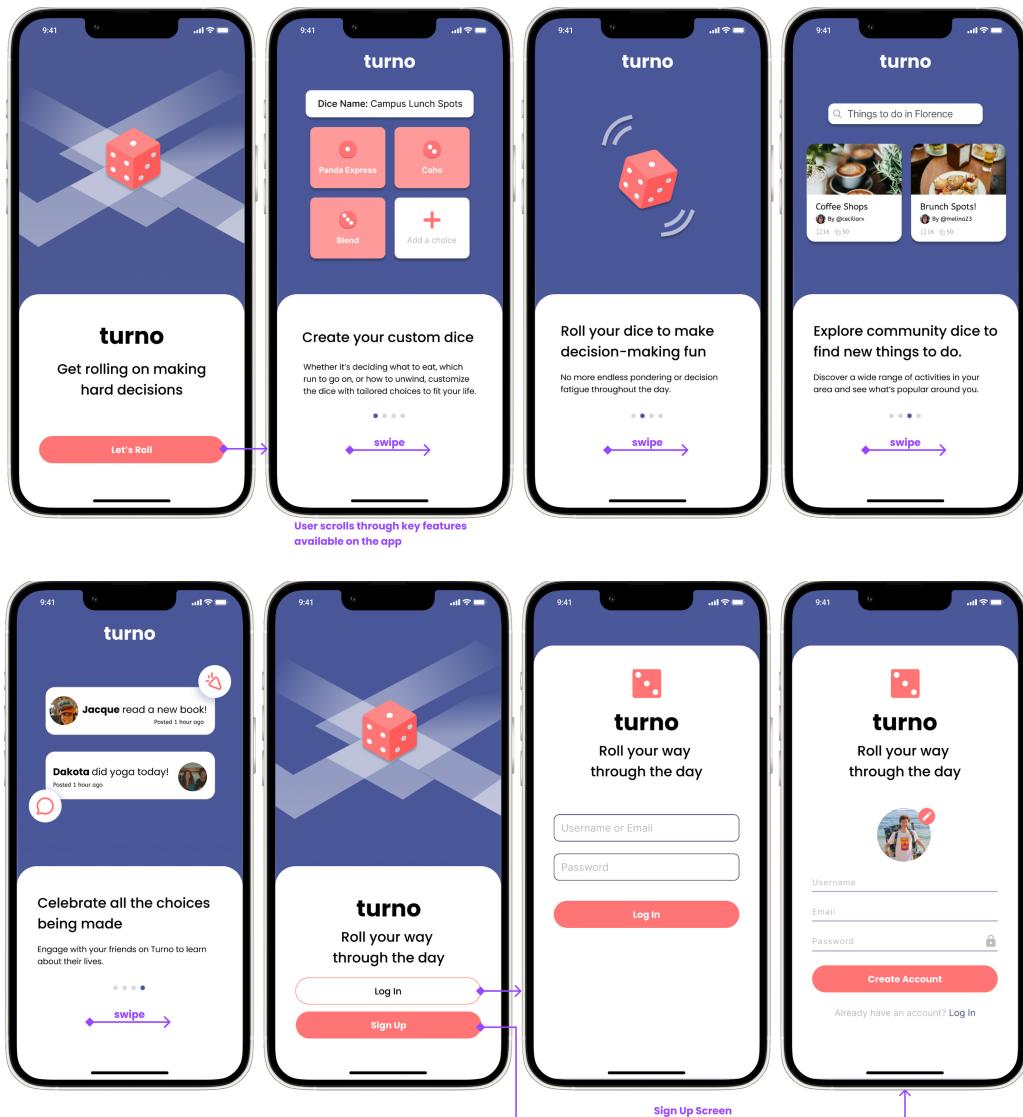
Create a new dice and post to the community

- turno's user value stems from the fact that it helps users make decisions that are personalized to them. This level of personalization comes from users creating their own dice with the options that they are considering. Creating a dice is turno's lengthiest task, and we realized in usability testing that it is also our most complex task, noted by the highest level of user questions and confusion. It is the task that was iterated upon the most throughout this quarter because of its central role in the success of the turno UX.

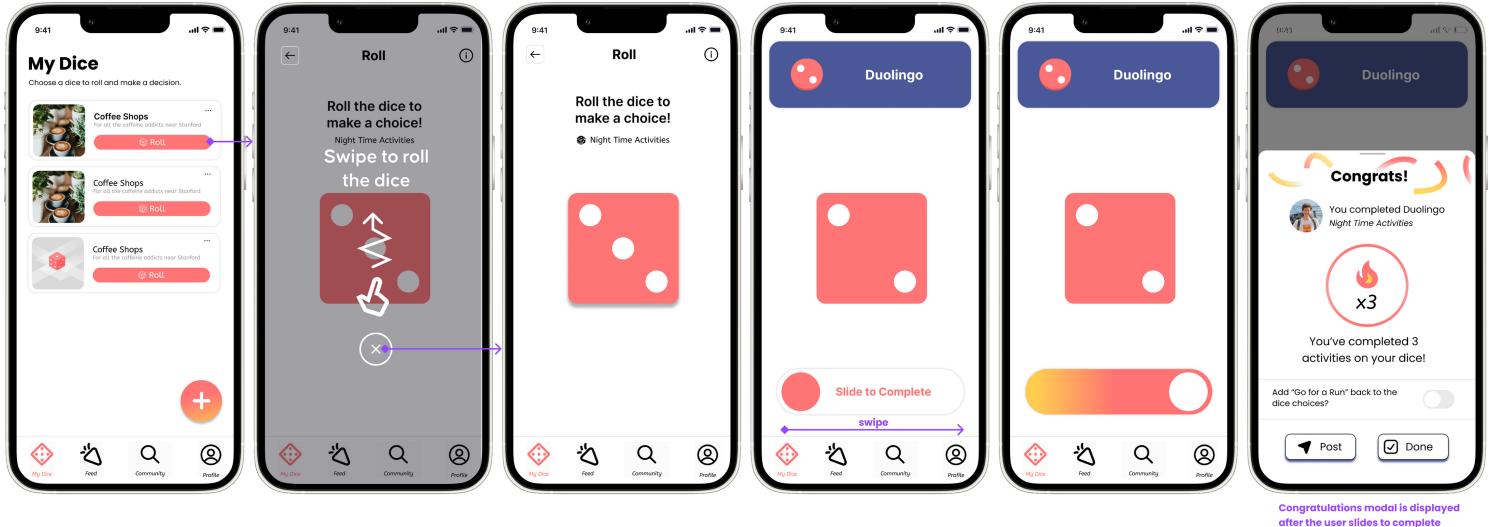
Task Flows

Simple Tasks

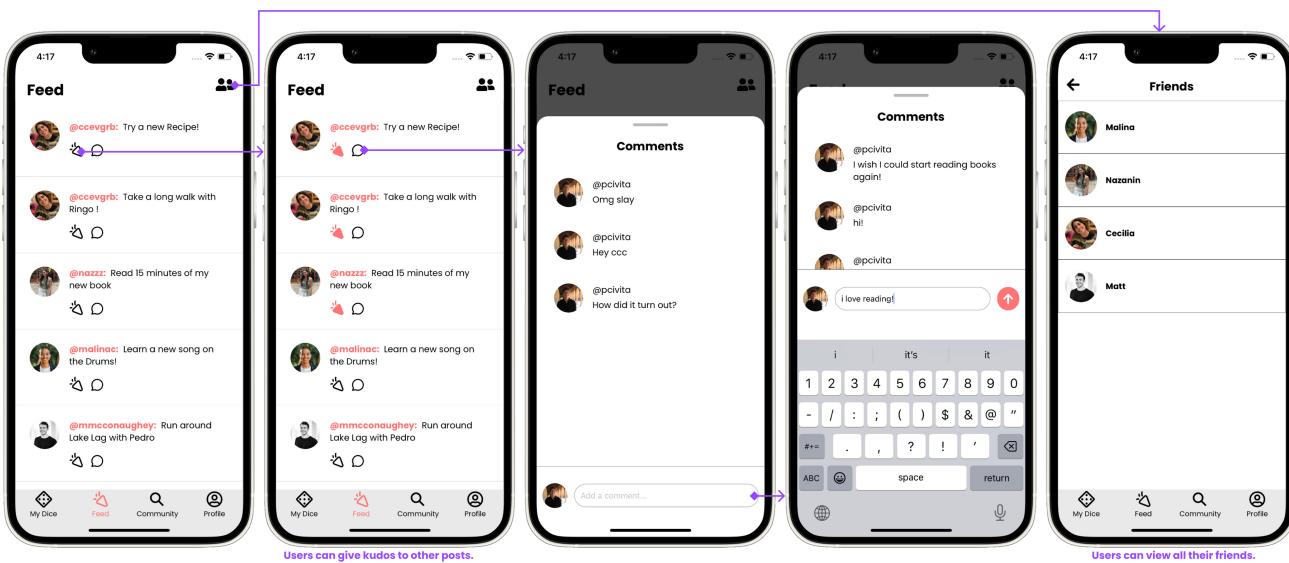
Onboarding and Creating an Account



Roll a dice and complete a task

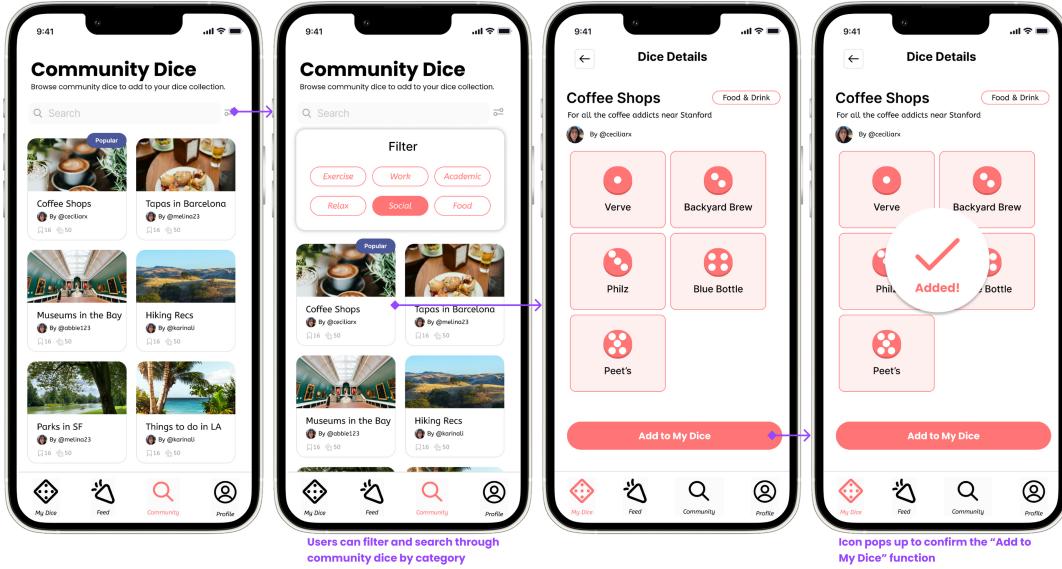


Interact with user posts



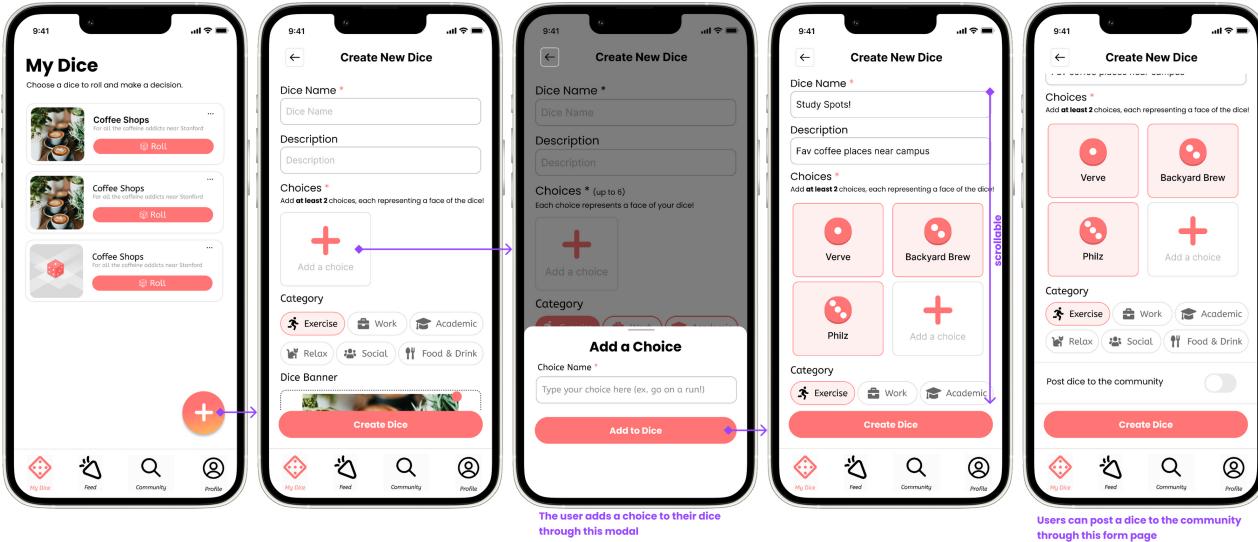
Moderate Tasks

Browse through community dice, and select some to add to "My Dice"



Complex Tasks

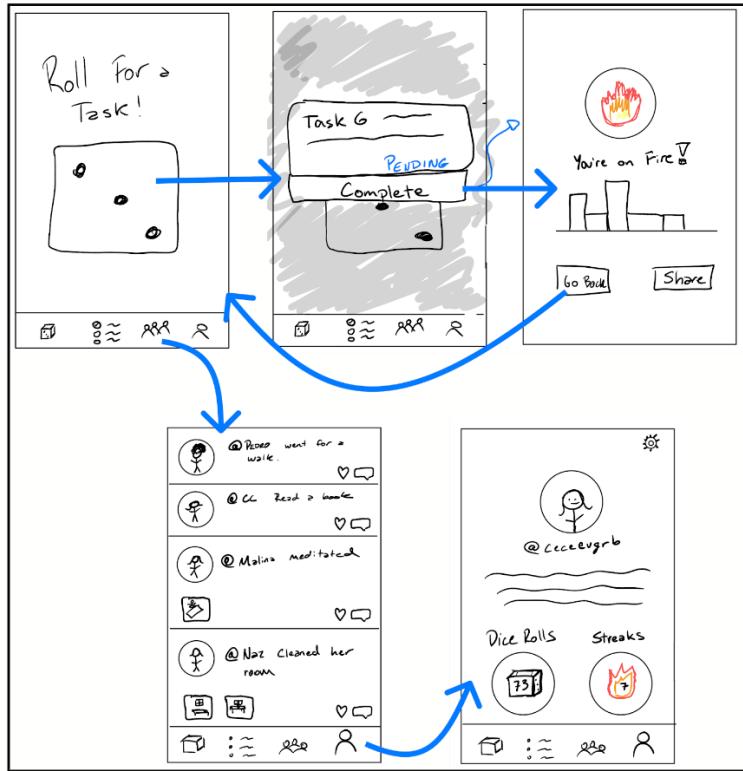
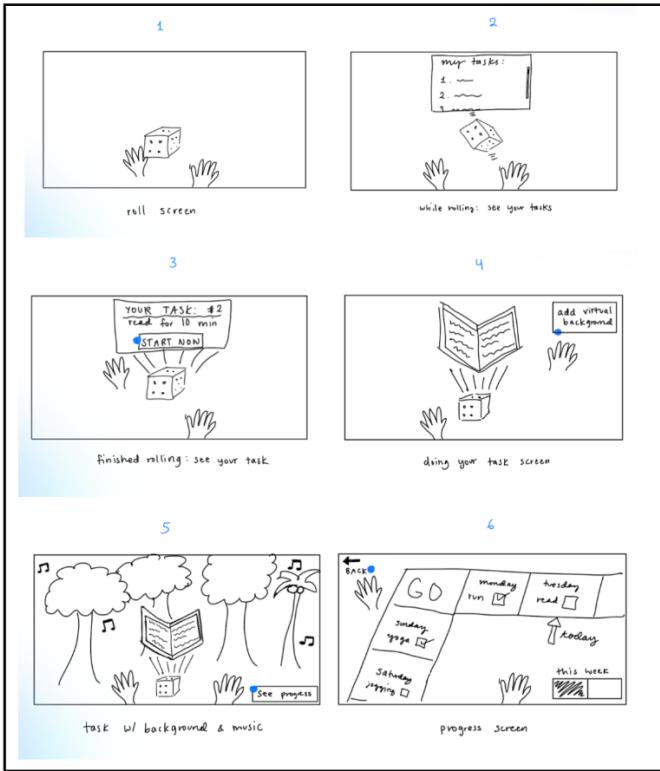
Create a new dice and post to the community



Design Evolution

Low-Fidelity Prototype: Initial Sketches

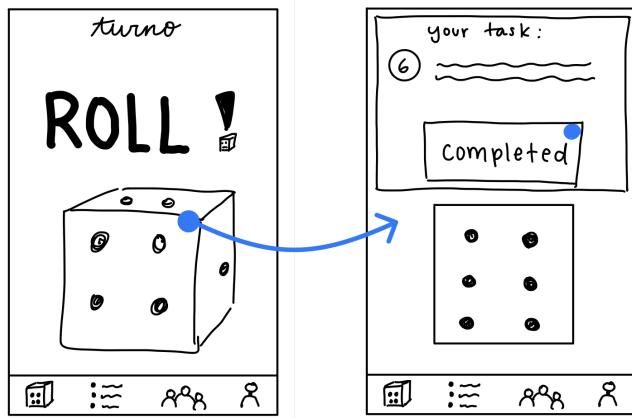
During the initial sketches stage, we brainstormed various design directions, including virtual reality, mobile applications, wearables, and augmented reality. The two realizations that excited us the most were mobile applications and augmented reality:



Our **AR solution** offers interactivity and excitement without always requiring physical augmentation, but faces feasibility challenges due to cost and hardware needs. While it promotes activity, its physical aspect may limit broader appeal, and user adoption could be hindered by unfamiliarity with AR in daily life. In contrast, our **mobile app** is user-friendly and seamlessly integrates into everyday routines, enhancing convenience and practicality.

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

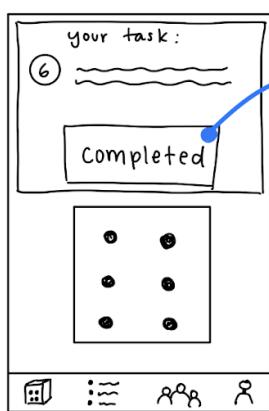


HOME SCREEN, THE DIE IS A FIRST READ AND DIRECTIONS ARE CLEAR.

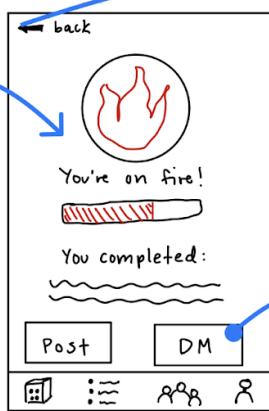
AFTER ROLLING, WE HAVE A POP-UP THAT EMPHASIZES TASK RECEIVED AND ENCOURAGES COMPLETION.

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



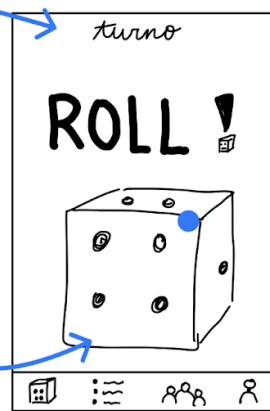
PRESS COMPLETED!



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

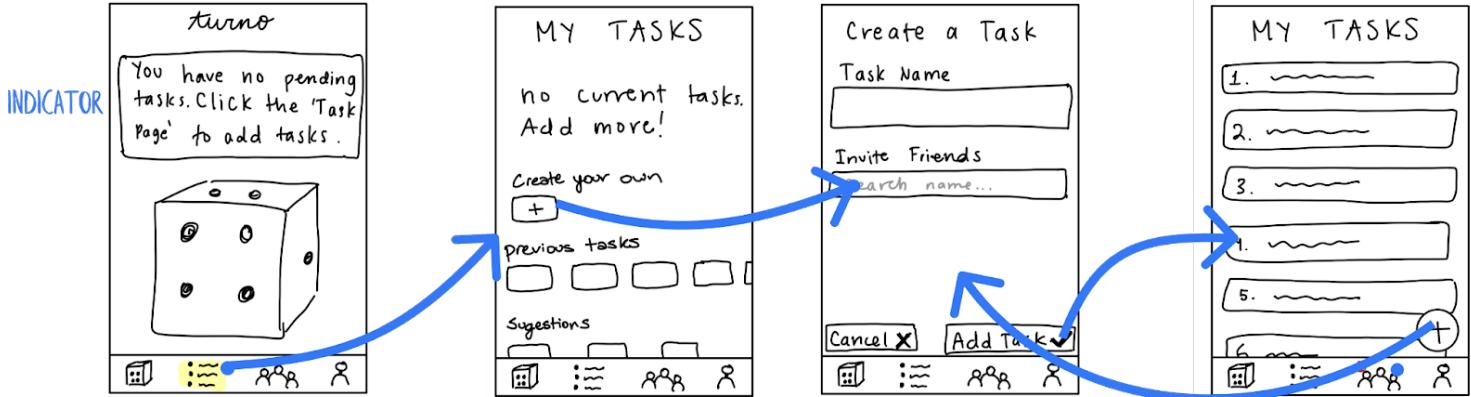


SENDING DM'S ARE EASY AND INTUITIVE



AFTER SENDING A DM, YOU RETURN HOME!

2. Write out your task list



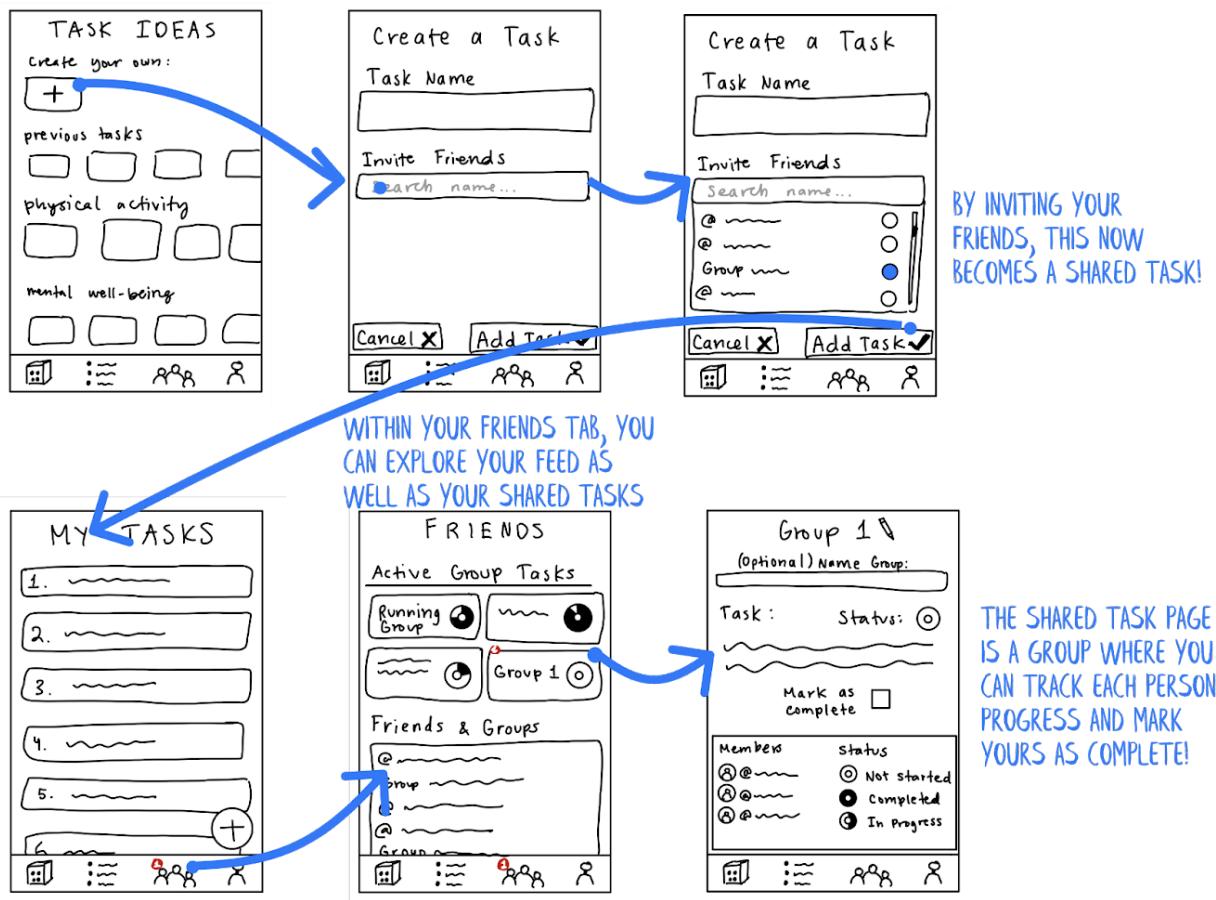
SINCE YOU HAVE NO TASKS, YOU MUST GO TO THE TASK BAR

THERE ARE SEVERAL WAYS YOU CAN ADD TASKS, PREVIOUS AND SUGGESTED ONES TOO!

WHEN CREATING YOUR OWN TASK, YOU CAN PERSONALIZE IT AND MAKE IT SOCIAL OR NOT.

YOU CAN CYCLE CREATING TASKS UNTIL YOU ARE SATISFIED WITH WHAT IS IN YOUR DICE.

3. Complete a task with your friends



Usability Testing Feedback

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

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:

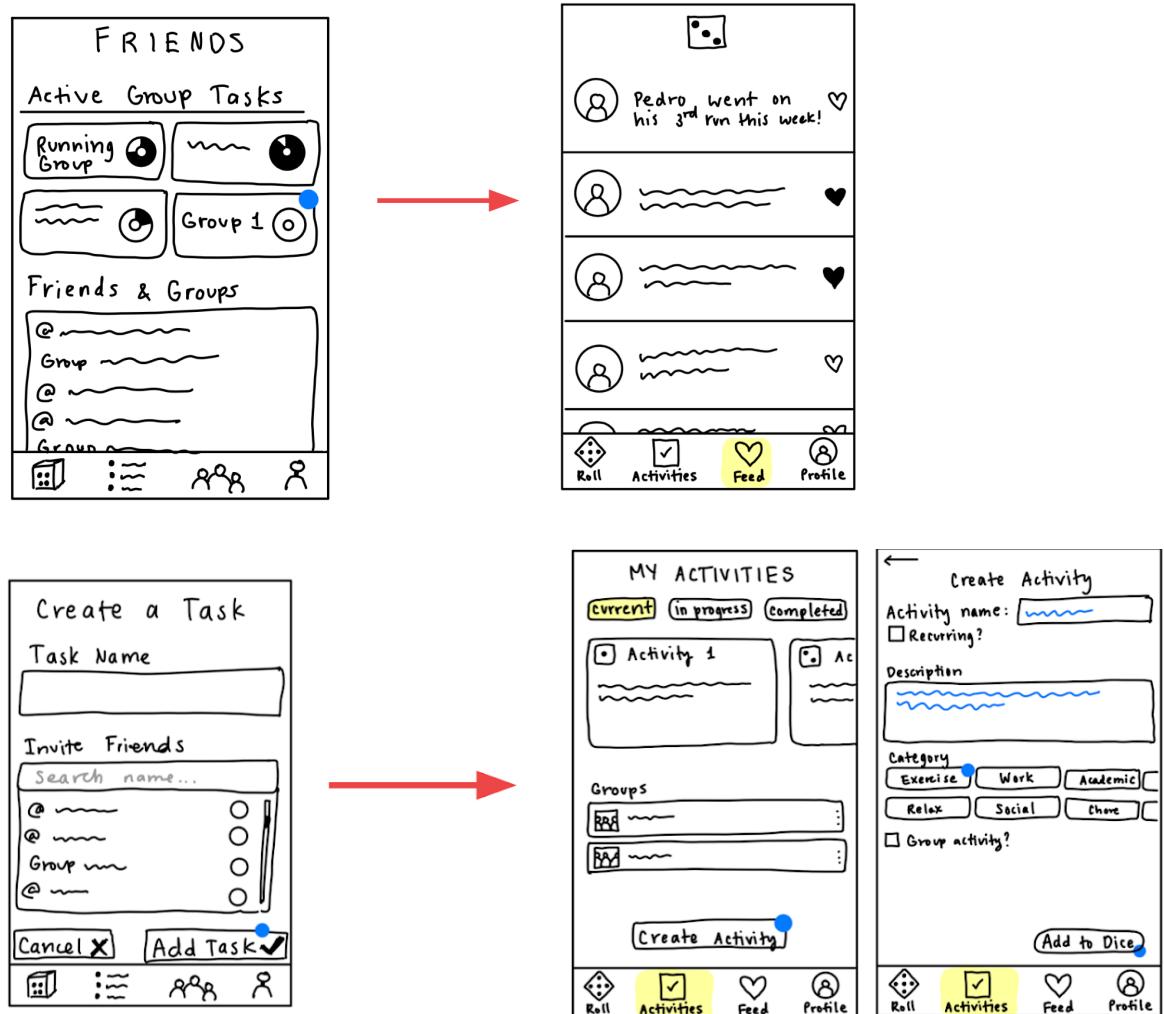
- Added encouraging messages throughout (e.g. streaks, calendars)
- Enabled more granular progress tracking for overall tasks but also each task (e.g. setting status as current, in progress, or completed)
- Simplified task pages (minimized buttons and clicks required)

- 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:

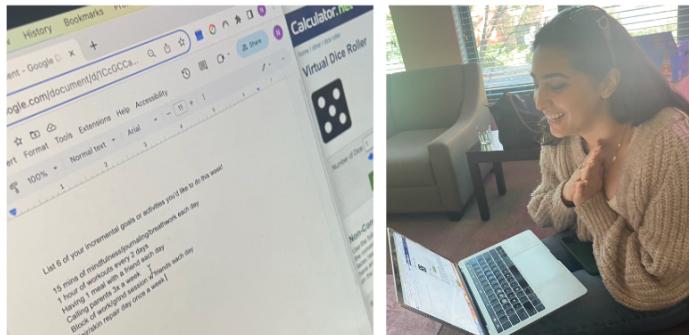


Experience Paper Prototype: Roll The Dice

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”

Medium-Fidelity Prototype

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:

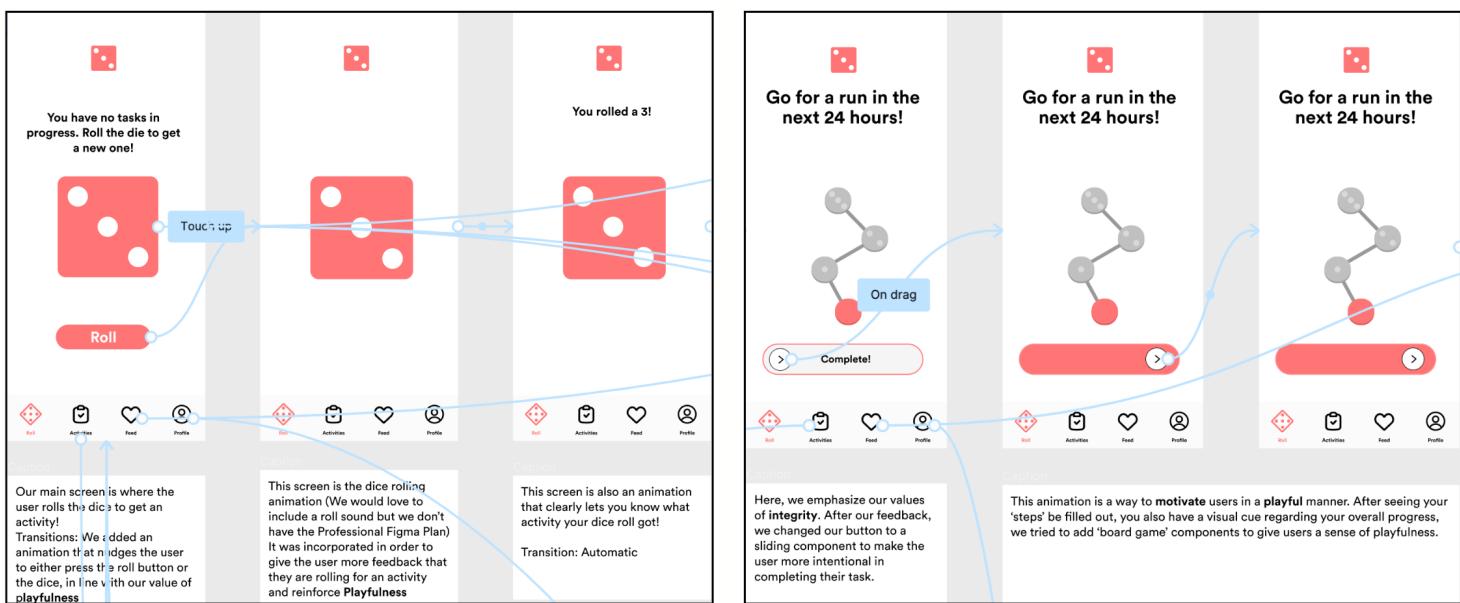
- A new sliding button for completing a task, as to incorporate more integrity in the design. a button is too easy to press unintentionally.
- Removed option to DM
- Added option to “roll again” to return home.

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:

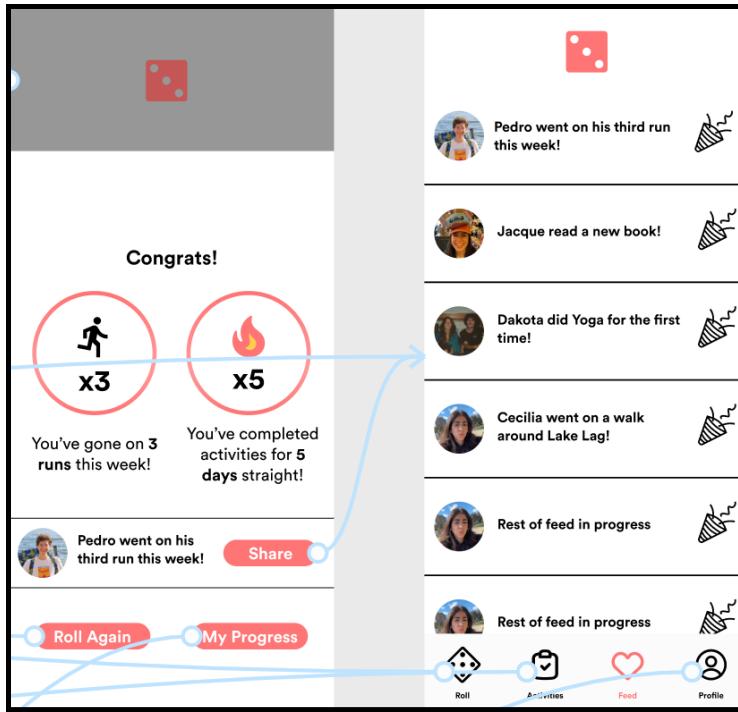
1a. Complete an activity



Our main screen features dice rolling for activities, accompanied by a playful animation encouraging user interaction. The second screen displays the dice rolling animation, reinforcing the playful theme and signaling activity selection. On the third screen, an animation reveals the chosen activity.

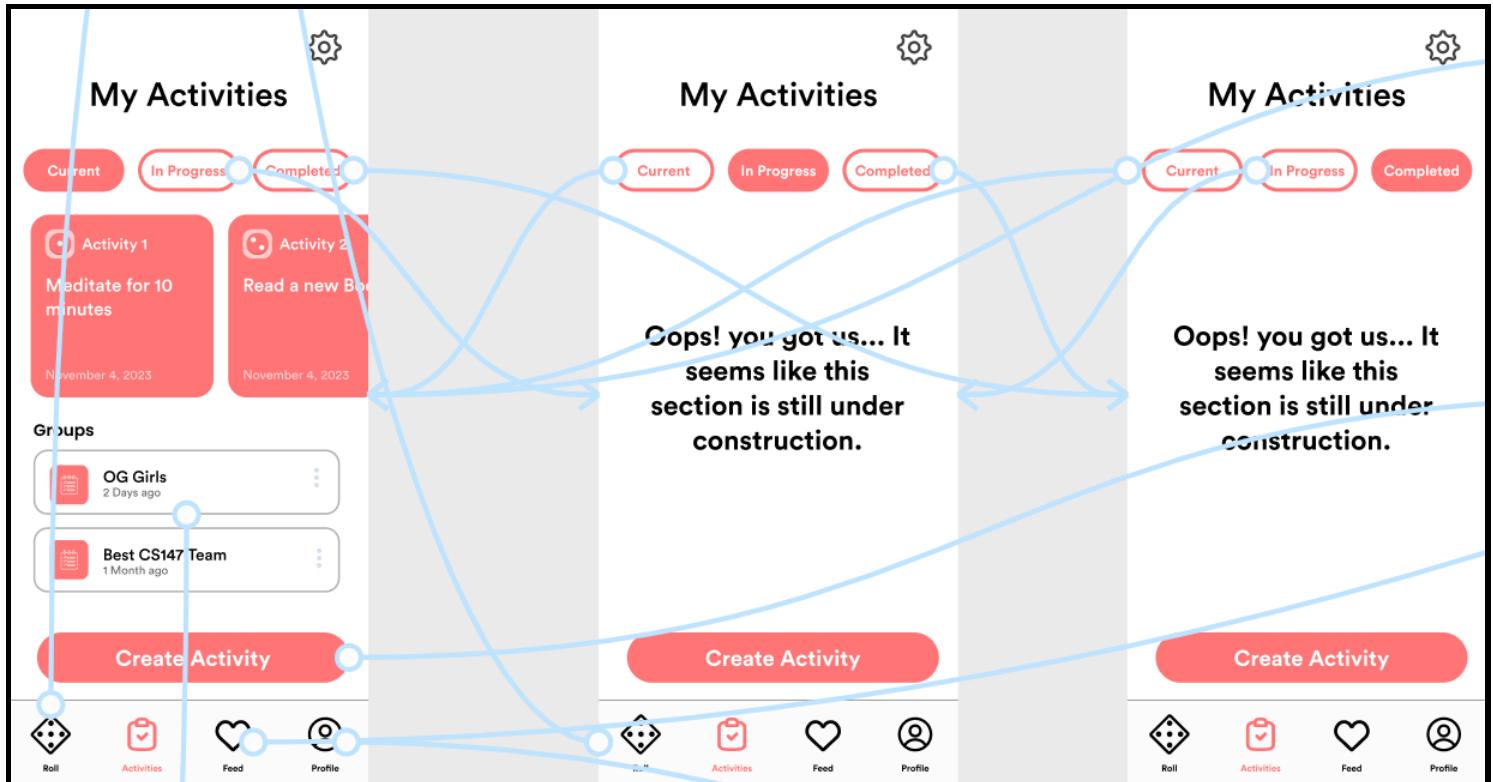
On the left screen, we prioritize integrity by switching from a button to a slider for task completion, promoting user intentionality. We integrate board game step animations to add playful motivation and provide visual progress cues after completing steps.

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.

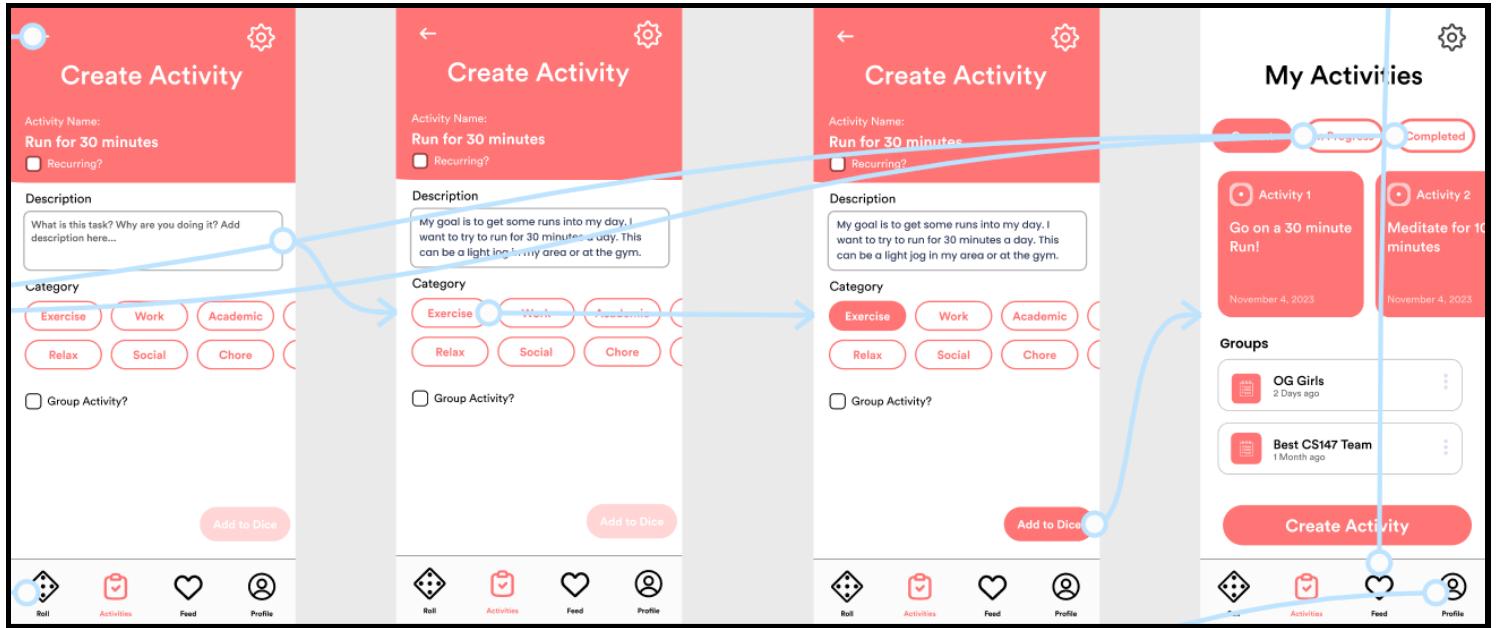
2. Create a new activity



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

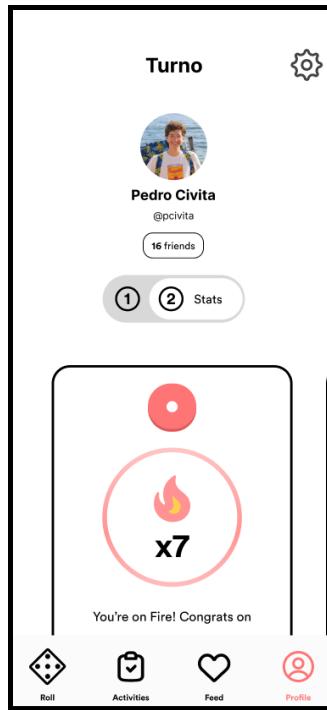
navigation buttons and creating a task.

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.



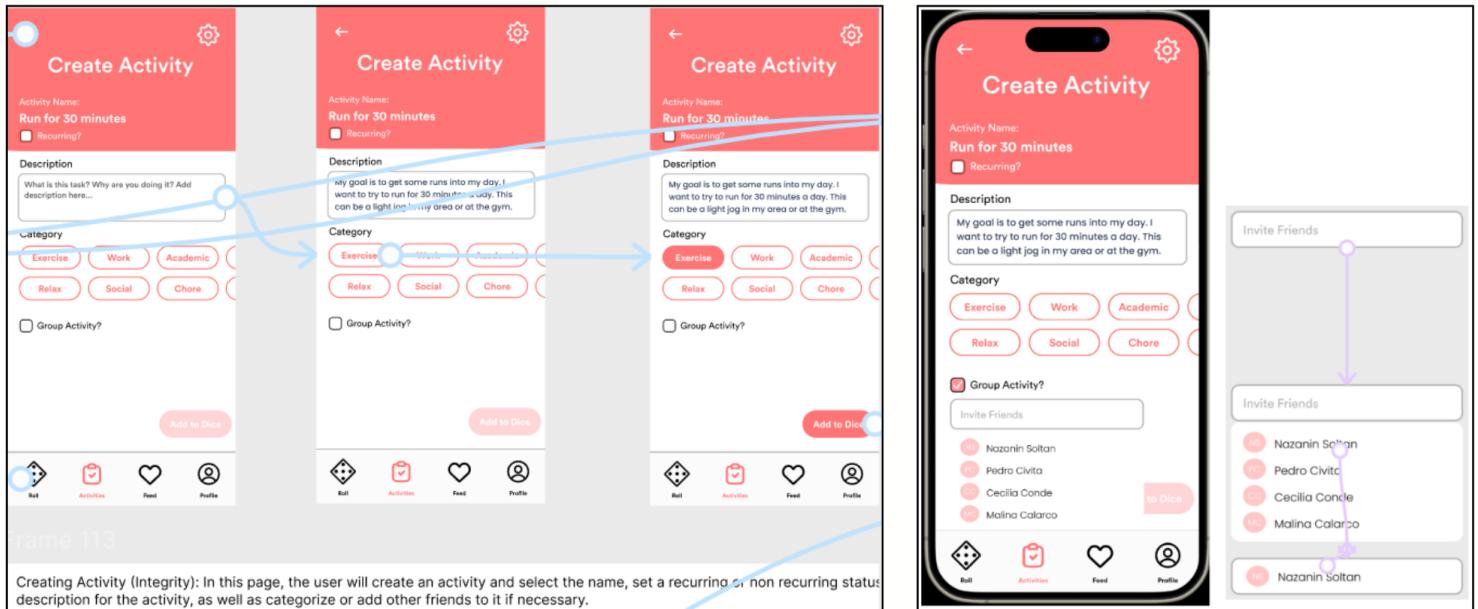
this page flow allows users to create an activity, input its name, mark it as recurring, and provide its description and category before adding it to dice. It will then appear on the activities page.

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

3. Create a group activity and invite friends to complete the activity



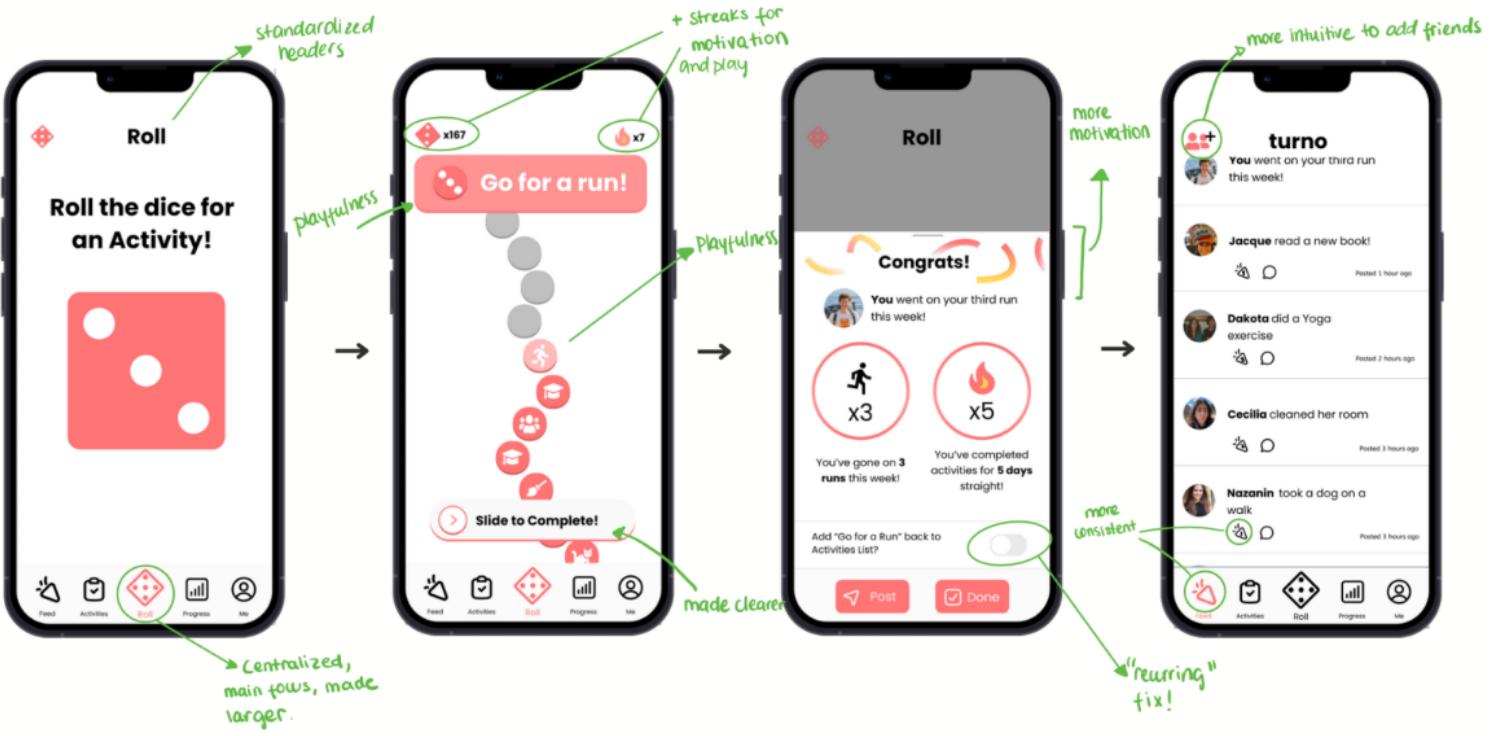
the screen flow above displays creating a group activity. The user can input the name, description, recurring nature, and category of an activity, as well as mark it as a group activity to invite friends to join. Users can search friends to invite and click their name to add.

Heuristic Evaluations

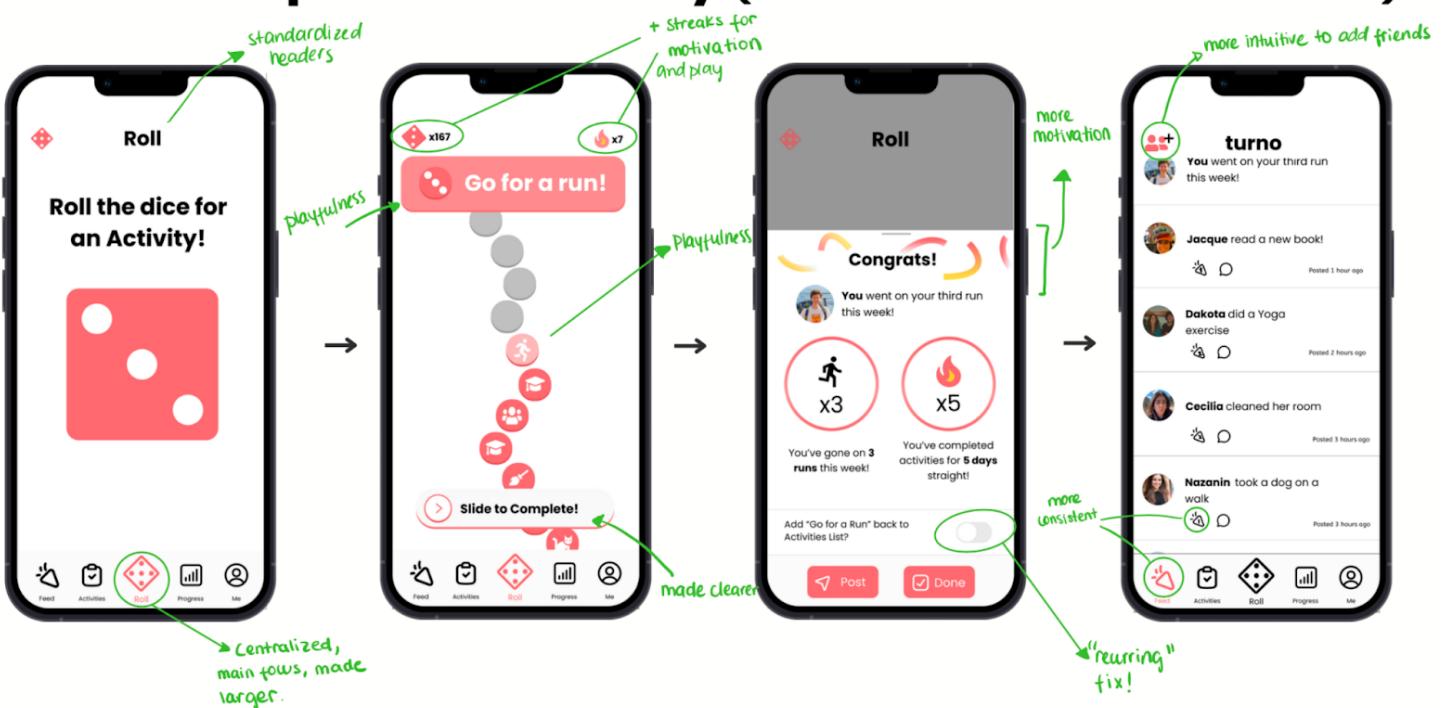
Before transitioning to our high-fidelity prototype: We had a group of evaluators evaluate our medium-fidelity prototype based on the 12 heuristics given in class. The overall results of our evaluation showed 87 total violations, with the main issues being UI consistency, group-building features, and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

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

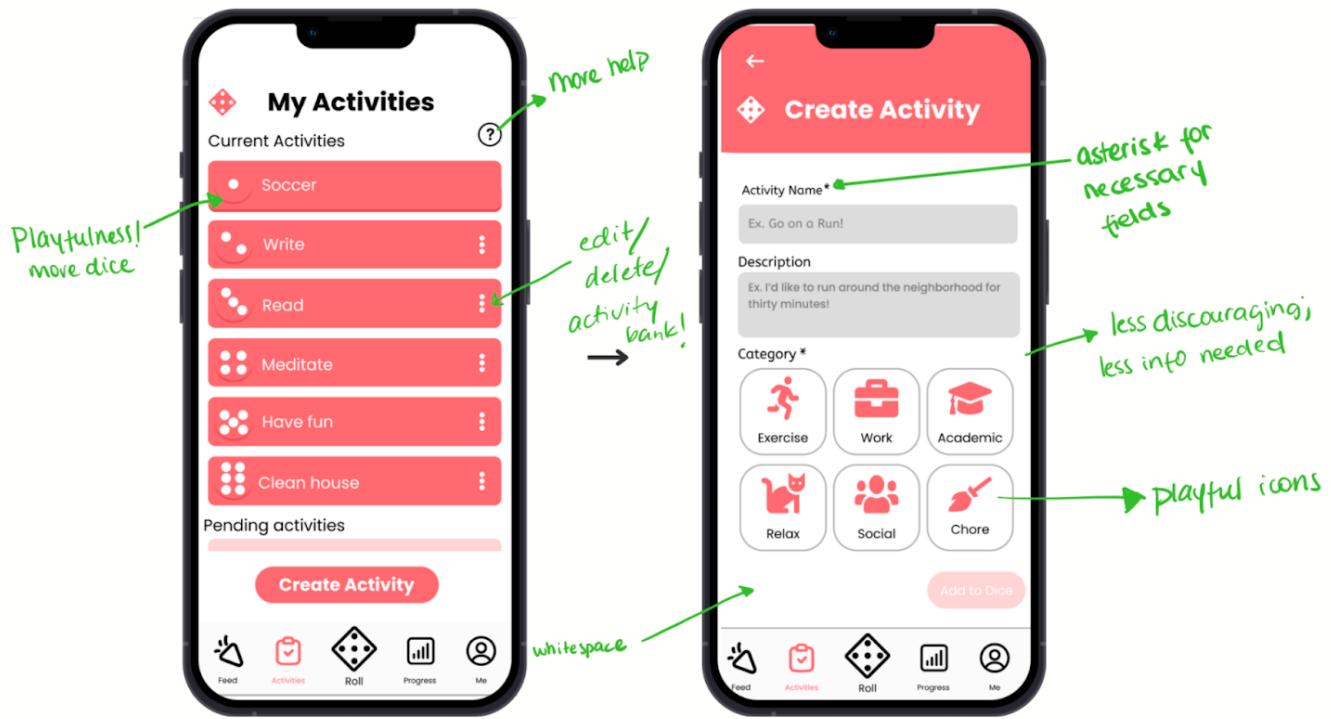
1a) Complete an activity



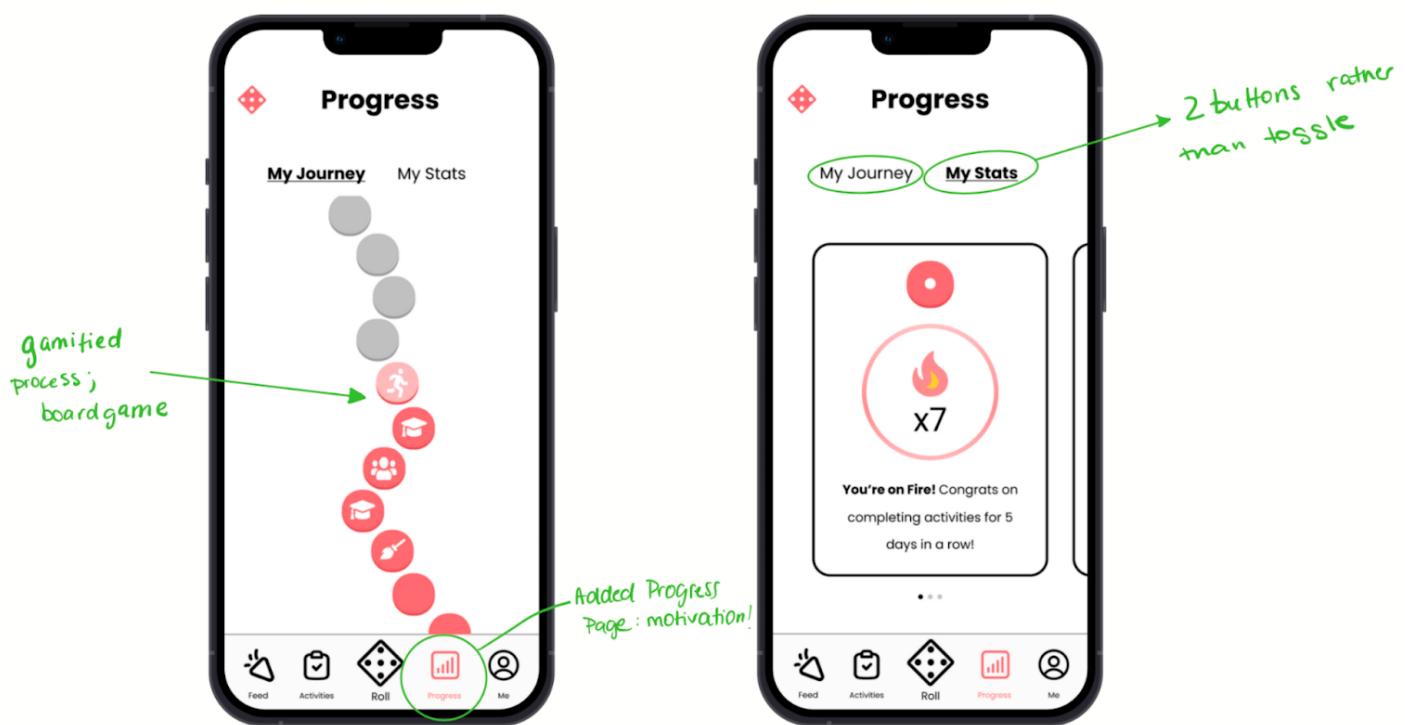
1b) Share the news with friends



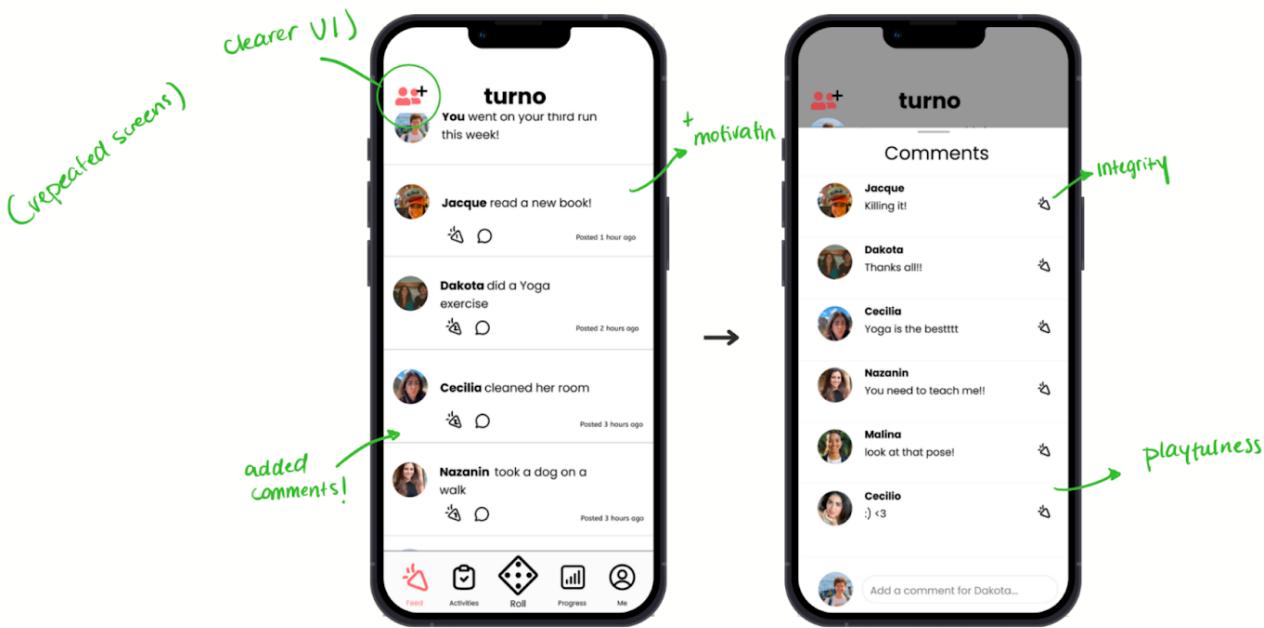
2a) Complete an activity



2b) Check your Activities and Statistics



3) Interact with user posts



Task Change:

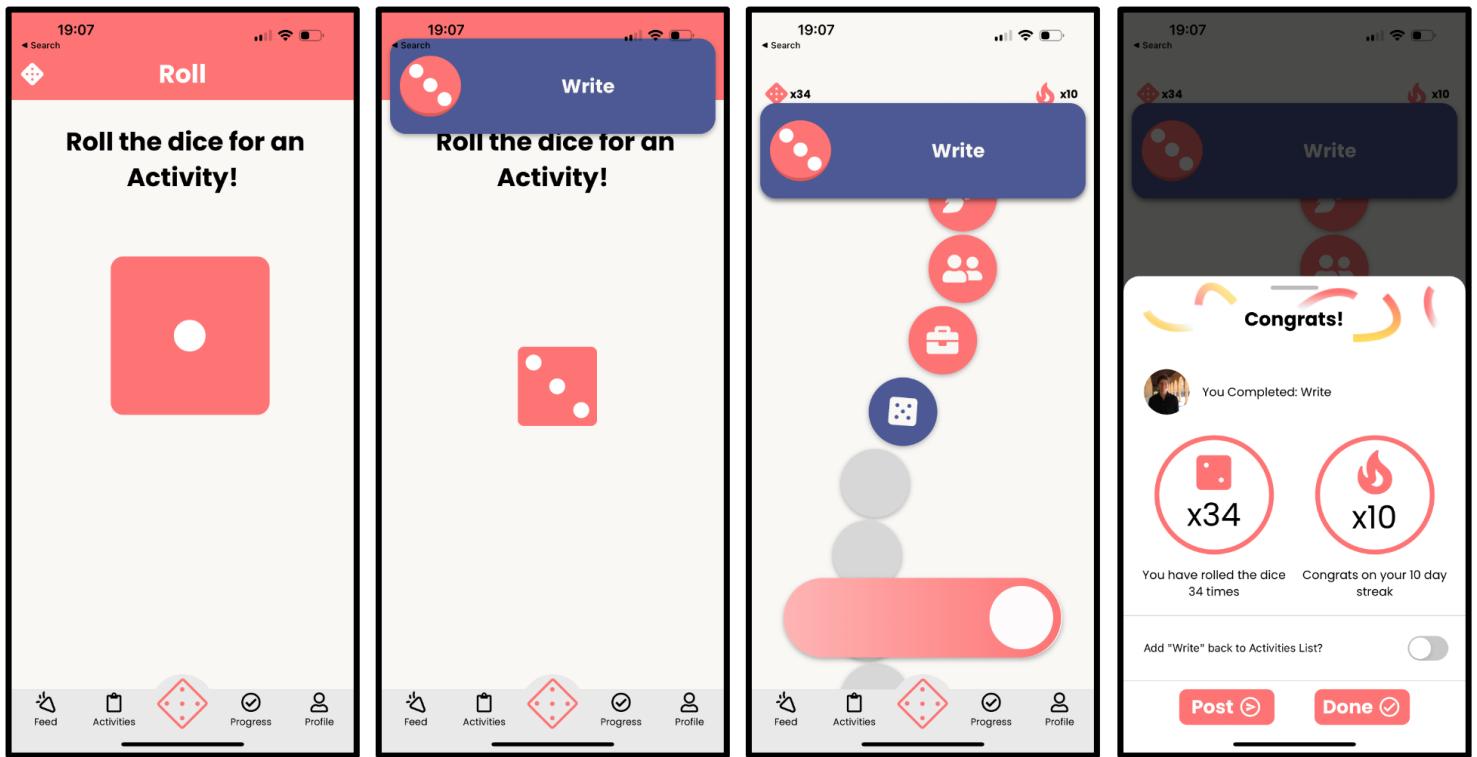
We changed our task from completing a group activity to interacting with user posts, as the task flow for completing group activities seemed to be the most problematic one, and we realized that that task was not only harder to implement in our high-fidelity prototype but also because it clashed with 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.

Hi-Fi Prototype V1

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

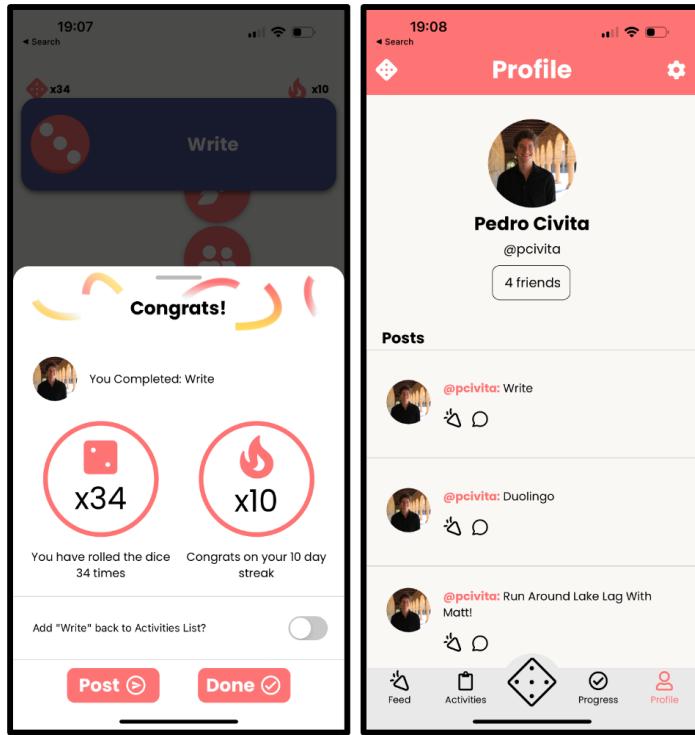
Completing an activity is the core functionality of the platform. It is the task we believe users will accomplish most frequently and is the most straightforward. The task requires that users roll their die to randomly receive an activity and swipe the slider bar to mark it as complete. The completion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

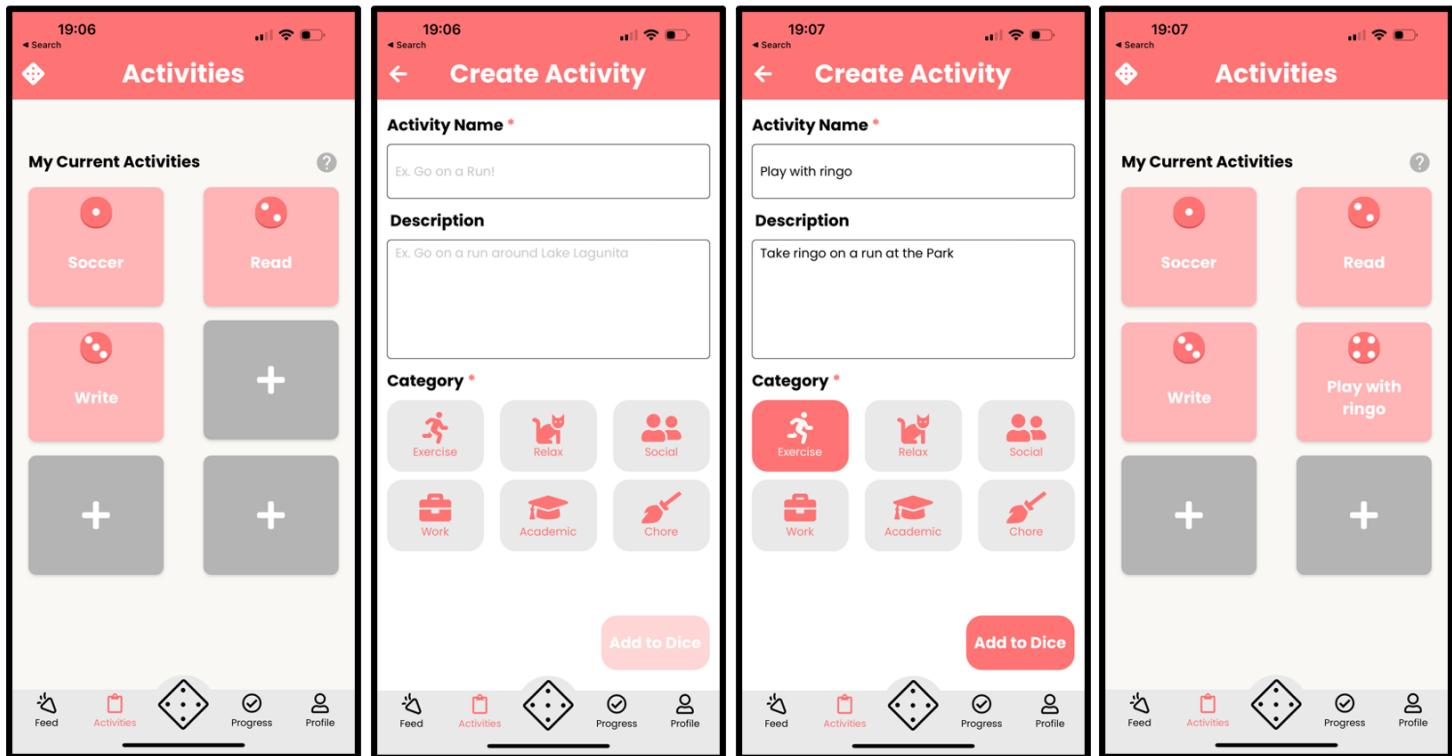
To help build a supportive community and encourage the celebration of task completion, we allow users to post about their activity completion to share with friends. This promotes social interactions, which we hope will increase engagement with our app and encourage further activity completions. These 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

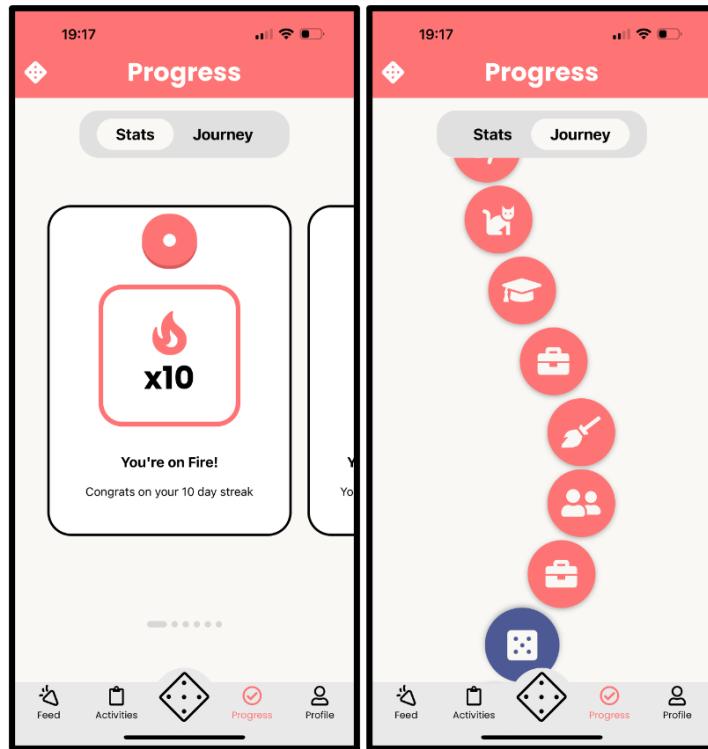
To have a populated die and receive randomized activities to complete, the user needs to create a list of activities they want to do. Creating a new activity is another task that is essential to our app's function, but that can be accomplished with slightly lower frequency than completing an activity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

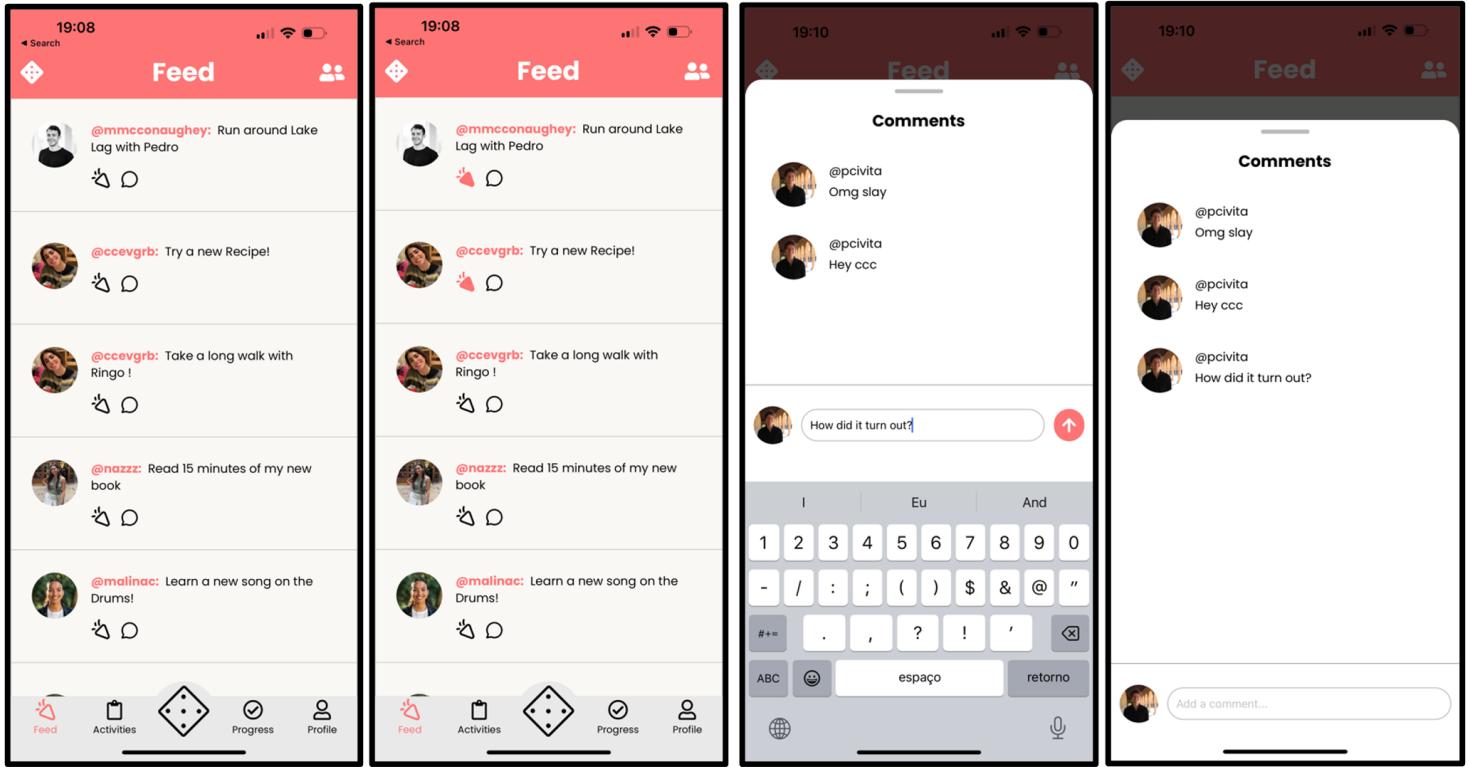
As habit-building and motivation are important goals of our app, we wanted to increase the visibility of users' activities and completion. The users can access the progress page to check their "journey", or a path of their past completed activities, as well as various statistics such as streaks. This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

Hi-Fi Prototype V2

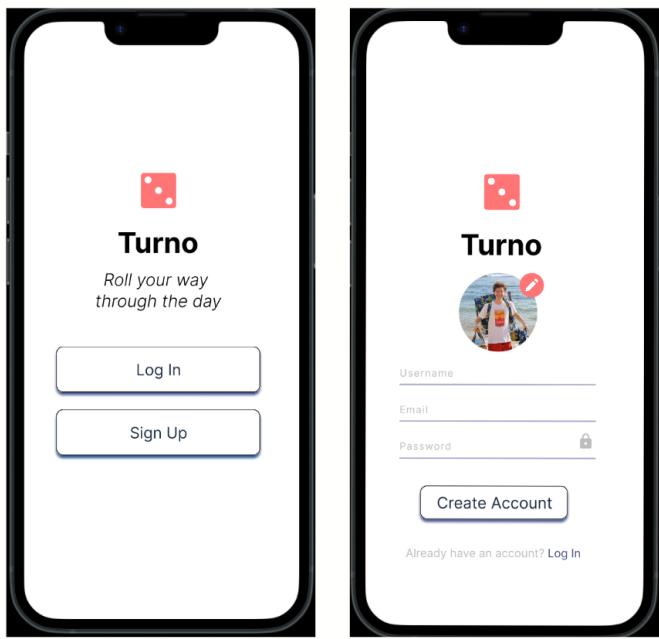
Concept Change

At the beginning of CS194H, we made a **concept shift** with Turno from long-term habit-building to daily decision-making. The essence of dice rolling lies in its variance and randomness, offering a departure from consistency. We highlight situational decision paralysis, where rolling the dice facilitates quick decisions. Introducing multiple dice with customizable options based on selected themes, such as restaurant choices, enhances the experience. Moreover, the dice can be shared and rolled by others, serving as a recommendation engine, particularly useful for exploring new experiences like travel.

Added Features

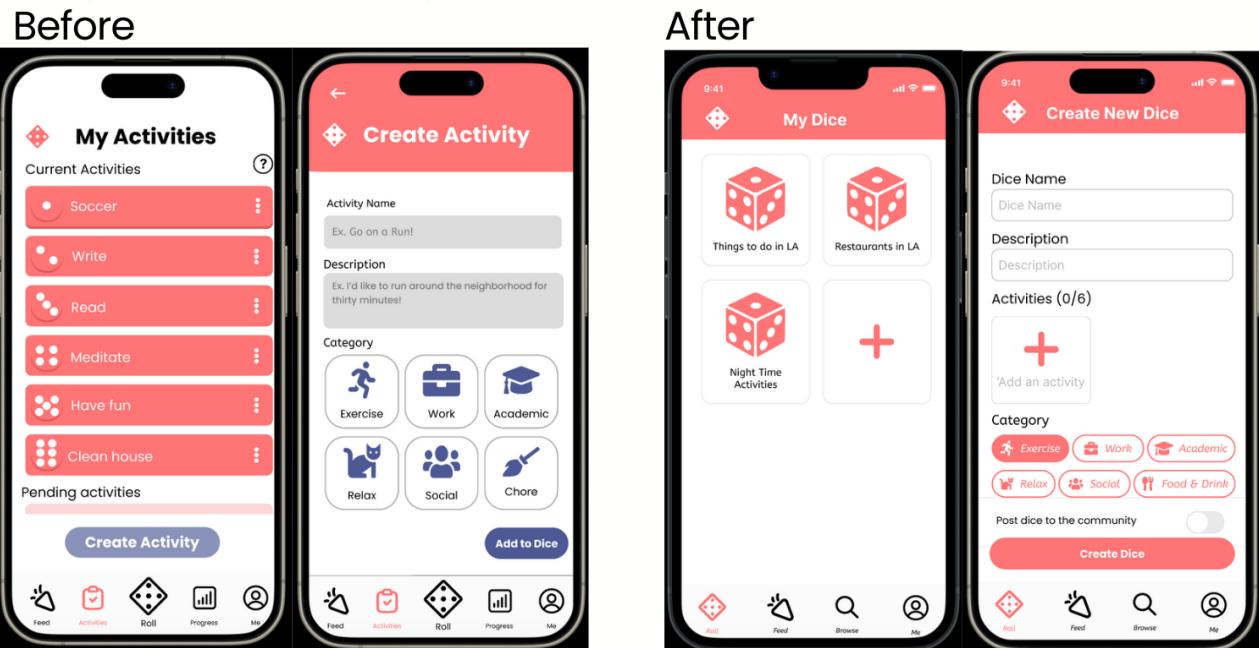
- Users can have multiple dice
- Live community feed/database of dice organized by theme (ex. ability to filter dice by 'restaurants')

Design Changes: Onboarding



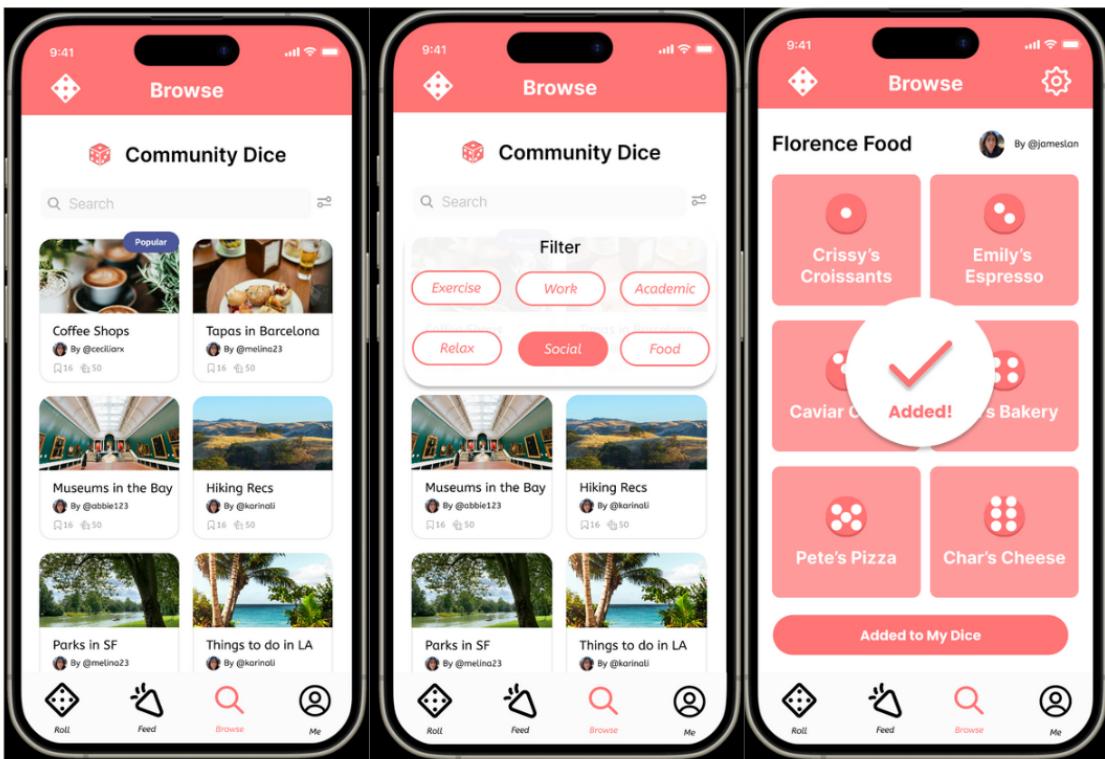
We have integrated the functionality to establish a personalized Turno account using Firebase Authentication. This feature provides the flexibility to store user data securely in a database, facilitating future enhancements such as saving dice configurations and search history for a more tailored experience.

Design Changes: My Dice Home Screen



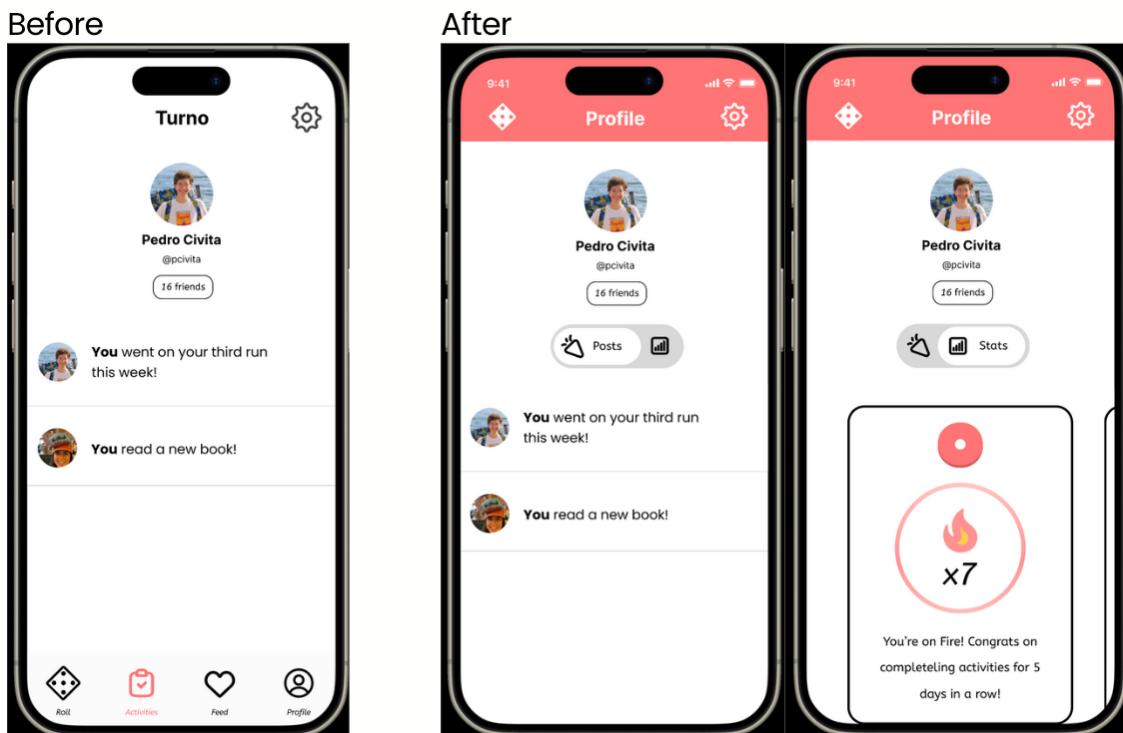
We have introduced the capability to create multiple dice directly on the My Dice home screen. Users can customize each side of the dice with their chosen activities, enabling personalized experiences. Additionally, users have the option to share their custom dice with the community, fostering collaboration and idea sharing.

Design Changes: Browse Community Dice



Users now have the ability to search for and roll other users' dice. They can also add community dice to their personal suite of "My Dice."

Design Changes: Profile Screen



We consolidated the "progress" and "me" pages into a single profile screen. Additionally, we updated the types of stats that are available to reflect the new dice concept changes we introduced in this version.

Lab Usability Test Findings

Methodology

- Target audience: Young people who would find our approach to the gamification of solving decision paralysis useful and entertaining
- How: scheduled & randomized interviews.
 - Pre-scheduled interviews with potential users from our personal networks
 - Randomized interviews with people sitting at dining halls/Tressider for greater variety
- Compensation: promise that they could be our first set of users in our final usability test of the quarter :)

Apparatus:

- Software: Expo Go, React Native, video camera, Excel sheet for recording usability metrics
- Equipment: iPhone to run Expo prototype and record usability test
- Locations: Twain lounge, Toyon lounge

Procedure:

1. Read usability test script introduction
2. Brief Expo Go run-through
3. Start recording
4. Explain task to complete to user
5. Take notes on usability metrics
6. Give user guidance if unsuccessful in completing a task
7. Ask task follow-up questions from script
8. Once all tasks are completed, user is asked a final set of questions about the overall UX.

Test Measures:

1. Time spent creating an account
2. Number of errors when completing an activity
3. Ratio of users clicking "Post" vs "Done" upon activity completion
4. Number of people who choose to comment
5. Misclicks when interacting with user posts

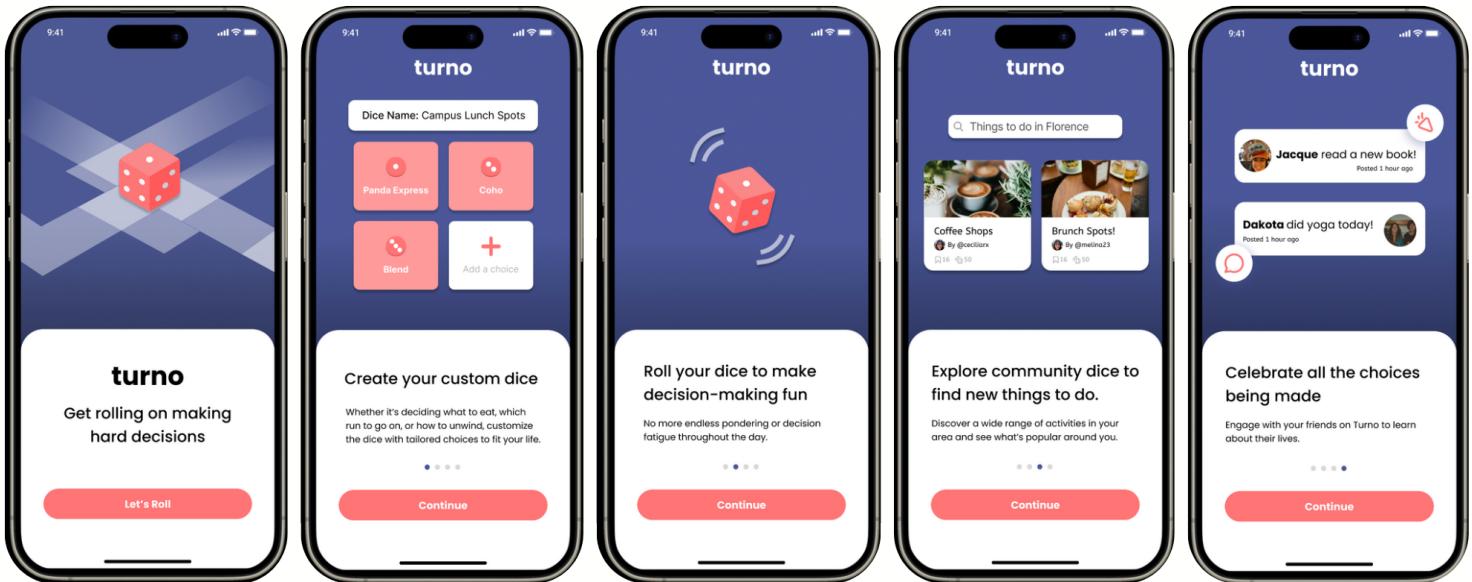
Results

	Time Spent Creating an Account	# errors when completing an activity	Clicked “post” vs “done”?	Did the person comment?	Misclicks when interacting with user posts
Alex	46s	5	Post	Yes	7
Emily	32s	3	Post	Yes	4
Kabir	57s	2	Done	Yes	2
Gaby	39s	4	Post	No	2
Josh	19s	1	Post	Yes	3

- Creating + Rolling Dice
 - Key Findings:
 - Confusion about how to roll dice
 - Tap/Shake phone
 - Dice creation felt repetitive/tedious
 - Two separate description fields
 - Unclear about having to create 6 activities in total
 - Navigation bar unclear that “Roll” is the “My Dice” page
 - Modifications:
 - Including an arrow with a pop up when rolling so user knows to swipe
 - Simplifying dice creation by making descriptions clearly optional
 - Change messaging on Activities “Up to 6”
 - Modify navigation bar titles
- Interacting w/ User Posts
 - Key Findings:
 - Wanted clickable and expandable posts
 - Icons were difficult to click
 - Interface had slow responsiveness
 - Issues with keyboard disappearance
 - Modifications:
 - Add ability to click on profiles such that comments and “Kudos” are expandable
 - Larger icons for interaction points
 - Make all icons clickable even when keyboard is available
- Browsing Community Dice
 - Key Findings:
 - Was not intuitive that community dice were located under “Browse”
 - Users liked the community aspect of the app

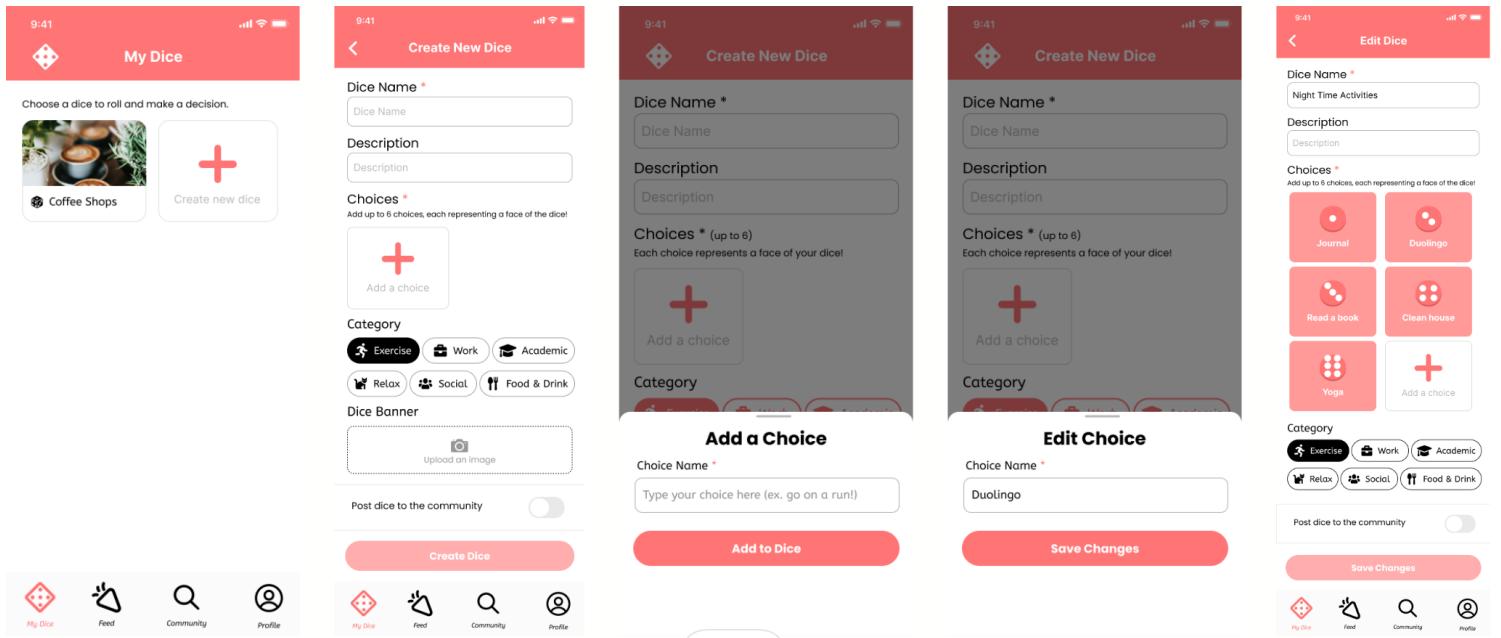
- Users thought the filter and search would be helpful
- *Modifications:*
 - Change “Browse” on the navigation bar to “Community” with a corresponding icon
 - Need to implement updating the database in “My Dice” when user adds from the community page
 - Need to make filtering and searching functional
- Lack of Instruction + Help
 - *Key Findings:*
 - Users were very confused about how to roll a dice
 - Navigation bar was not clear. The page details and the text on the tab did not align.
 - Confusion when creating a dice
 - Confusion on how to actually get to rolling the dice
 - *Modifications:*
 - Add background information about the app and basic functionality in the onboarding
 - Implement automated tags and pop-ups throughout the app to provide more clarity on functionality

Task #1: Create an account and log into the app

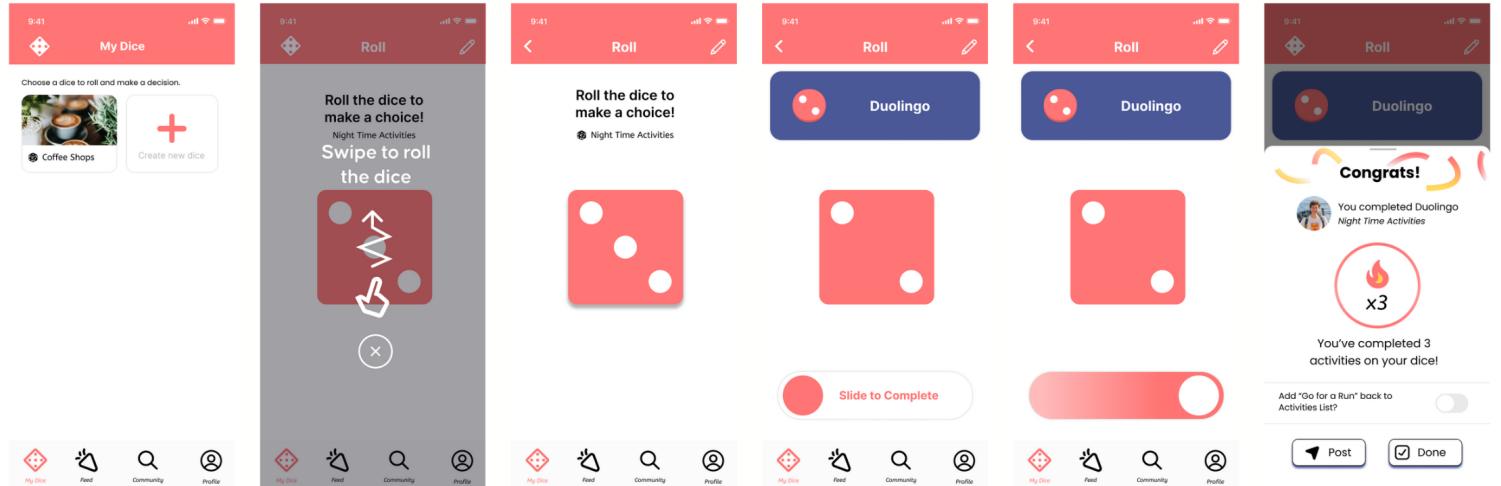


Based on previous usability tests, users lacked a fundamental understanding of **turno’s purpose and functionalities**. Therefore, we added an onboarding flow to give users a visual flow of what can be done in turno.

Task #2: Create a new dice and complete an activity

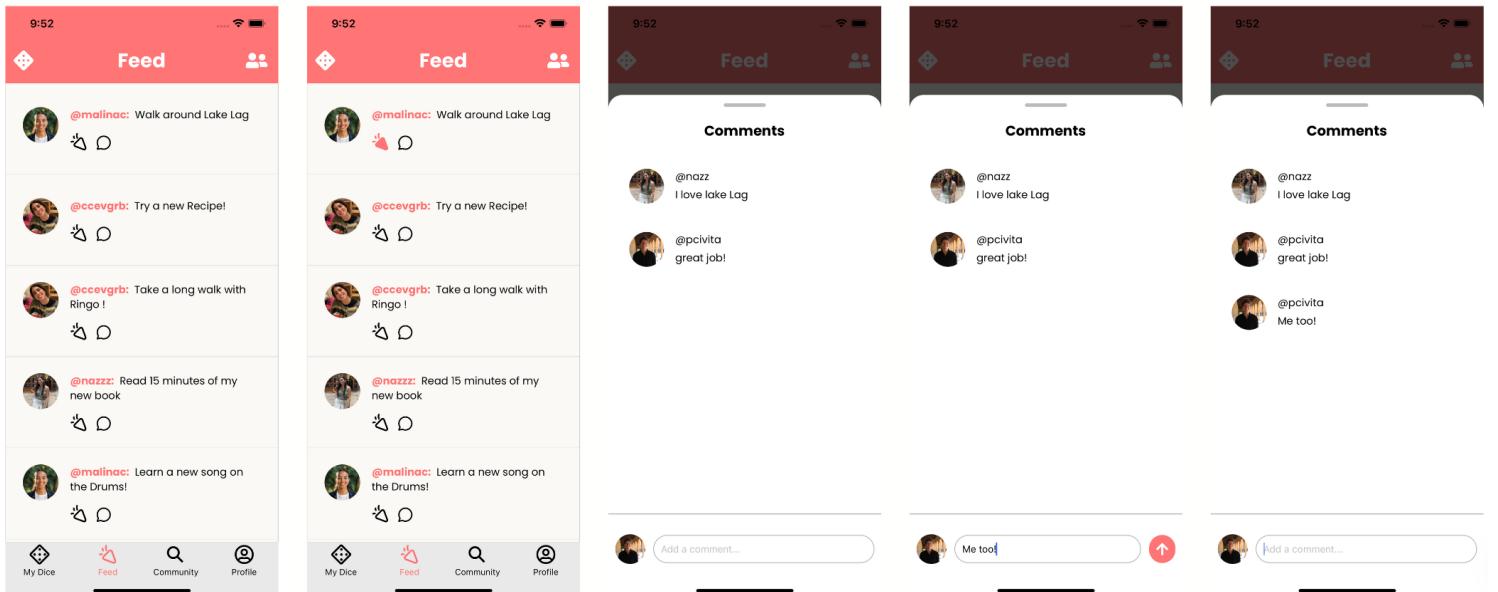


Users were unsure whether they could input less than 6 options. Users associated the word “activity” with physical activity (run). Therefore, we added explicit instructions for adding dice, changed “activity” to “choice”, and made it visually obvious what is required vs optional.



Users did not know how to roll the dice; most tapped on it. We added written and visual instructions to show users how to successfully roll the dice

Task #3: Share results to the feed and interact with user posts



Field Usability Test Findings

We finalized our tasks to incorporate all features that were in our final solutions:

- Task 0: Create an account and log onto the app
- Task 1: Roll a dice and post your results to the feed.
- Task 2: Create a new dice and post it to the community.
- Task 3: Interact with user posts.
- Task 4: Browse through community dice and add one to your personal dice collection.

Methodology

- Target audience: Young people who would find our approach to the gamification of solving decision paralysis useful and entertaining
- How: Randomized interviews.
 - Randomized interviews with people sitting at dining halls/Tressider for greater variety
- Compensation: \$15 Amazon gift cards

Apparatus:

- Software: Expo Go, React Native, video camera, Excel sheet for recording usability metrics
- Equipment: iPhone to run Expo prototype and record usability test
- Location: Tressidder where people are likely to have decision paralysis choosing where to eat

Procedure:

1. Read usability test script introduction
2. Brief Expo Go run-through
3. Start recording
4. Explain task to complete to user

5. Take notes on usability metrics
6. Give user guidance if unsuccessful in completing a task
7. Ask task follow-up questions from script
8. Once all tasks are completed, user is asked a final set of questions about the overall UX.

Test Measures:

1. Time spent creating an account
2. % of participants who successfully roll the dice and post to feed
3. # of errors when creating a dice
4. Misclicks when interacting with user posts

These metrics were selected based on confusions from the last usability test.

Results

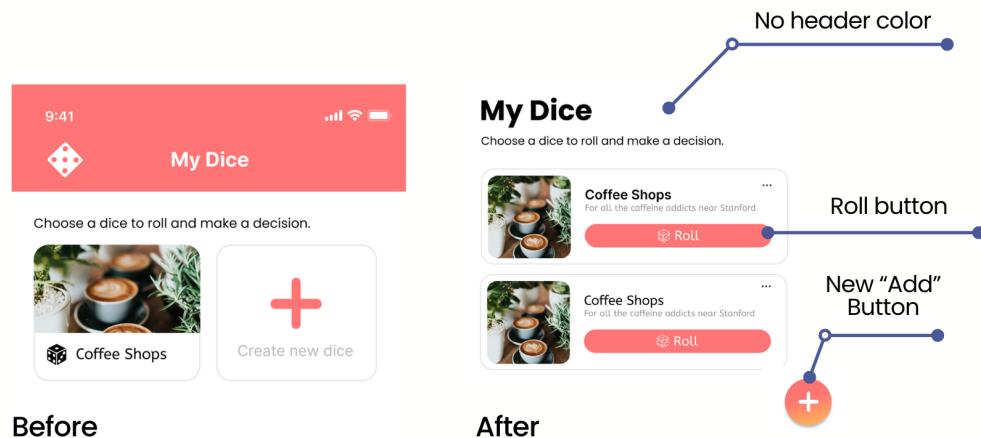
	Time Spent Creating an Account	Successfully rolled dice + posted?	# of errors when creating dice	Misclicks with user posts
1	41s	Yes	1	4
2	35s	Yes	0	0
3	50s	No	0	4
4	49s	Yes	0	0
5	51s	Yes	0	0

- Onboarding + Creating an Account
 - *Key Findings:*
 - Average time to create an account is 43.75 seconds
 - All but 1 participant skipped the onboarding. 1 participant went on to complain about lack of app instruction
 - Majority of participants understood the app concept well
 - Scrolling issues with signup
 - *Modifications:*
 - Fix keyboard scroll issues when users are signing up
 - Adjust graphics on onboarding to reflect current app state
- Rolling Dice + Posting to Community
 - *Key Findings:*
 - 80% of participants completed the task successfully

- 2 participants rolled it perfectly
- 1 participant chose to create a new dice first
- 1 participant tried swiping the screen first
- 1 participant was extremely confused and did not complete the task
- *Modifications:*
 - Make it more visibly clear that each existing box is a dice by increasing the size of the dice icon
- Creating a Dice
 - *Key Findings:*
 - Dice name and description fields are confusing
 - 4/5 participants believed that they needed to fill all six choices
 - Needed help adding choices to their dice
 - *Modifications:*
 - Change UX copy to become more clear
 - Include instructions on the creating a dice page
 - Provide more instructions for users when making their choices
- Interacting with User Posts
 - *Key Findings:*
 - Buttons sometimes did not work when posting to feed
 - 1 participant tried to click on the entire user post, multiple times
 - *Modifications:*
 - Test buttons throughout the entire app
 - Add detailed individual view of post when user clicks on the feed post

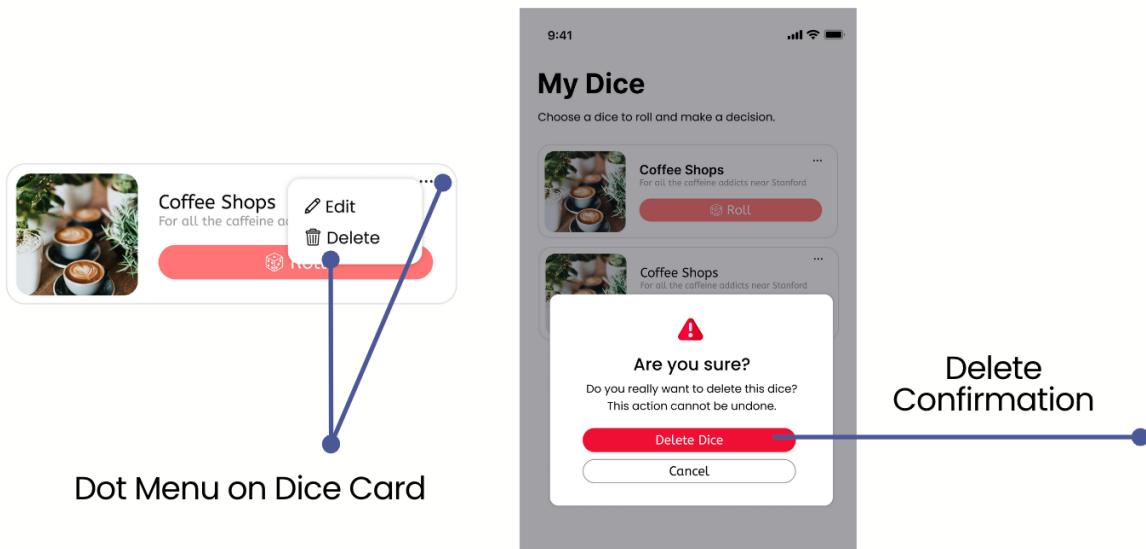
Hi-Fi Prototype V3

Design Changes: My Dice



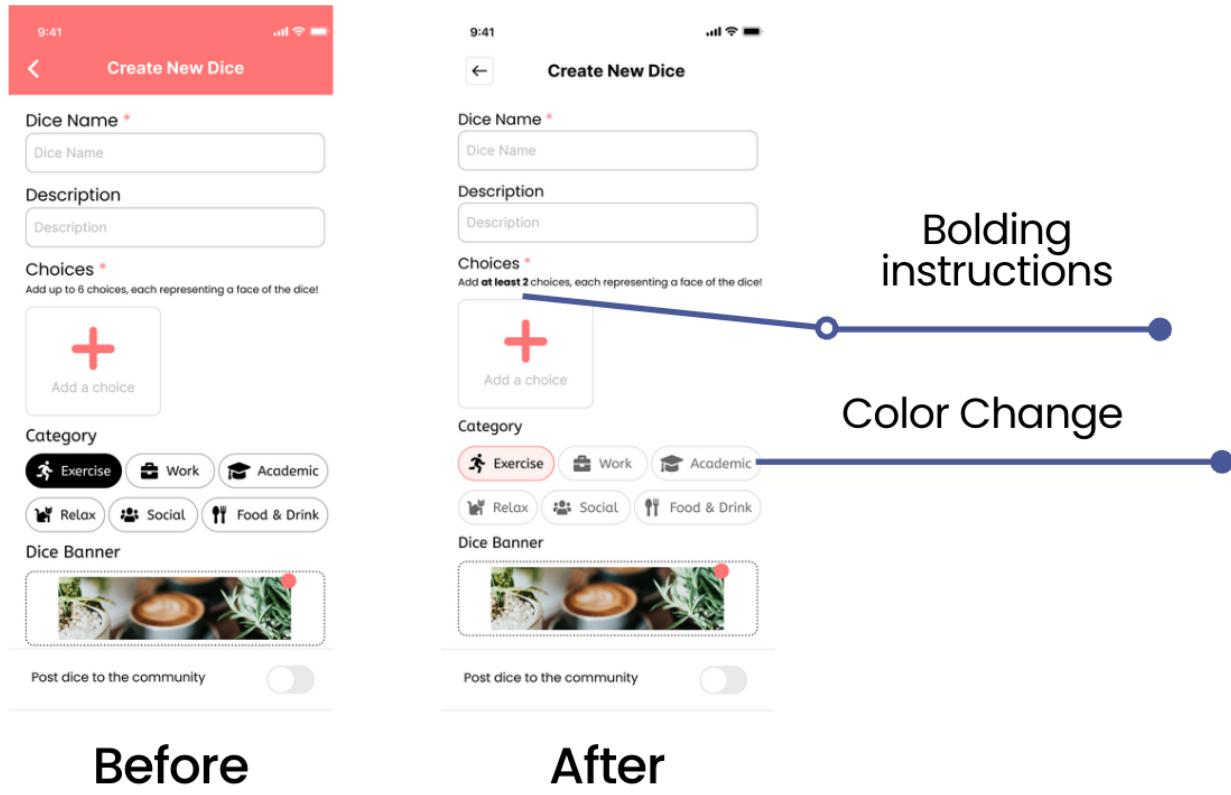
We aim to increase the intuition of how to roll a dice by incorporating a dedicated "Roll" button. We distinguish between dice cards and the creation of new dice by implementing separate user interfaces for each. Additionally, we enhance the visual appeal with a cleaner, more modern design by eliminating the header, resulting in a less gimmicky appearance.

Design Changes: Delete Dice



Previously, there was no method to address the "delete dice" scenario. The addition of a confirmation step now serves as a safety net for potential user errors. Furthermore, the options dots provide users with greater control over their dice cards.

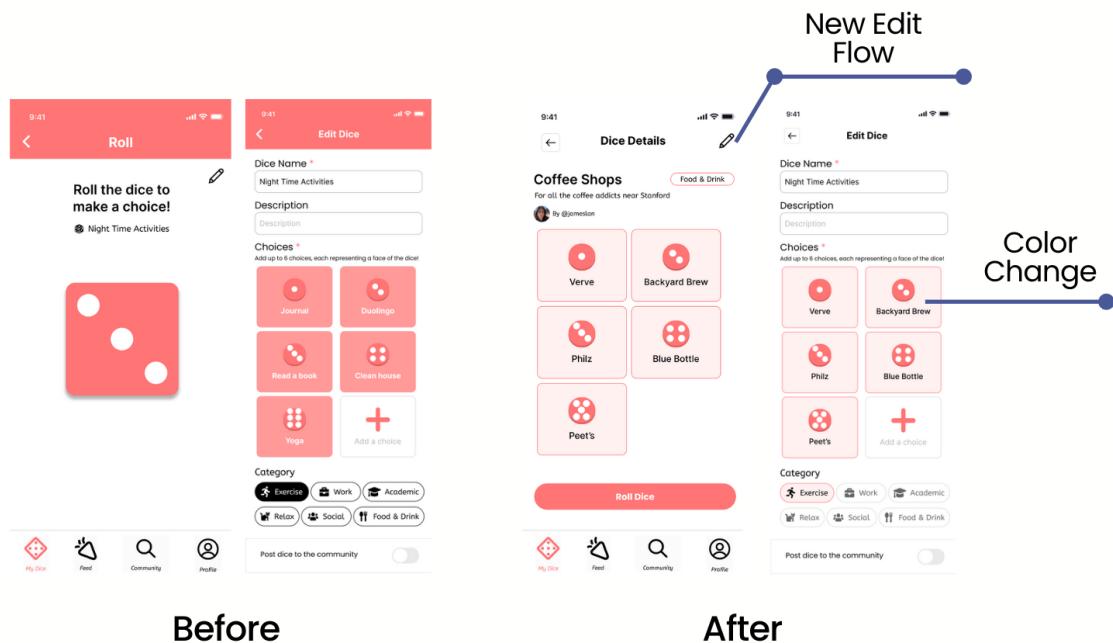
Design Changes: Create New Dice



To make it clear that users don't have to add six sides, we bolded the "at least 2" in the instructions. The black and white category tags were too intense and didn't match the color

scheme

Design Changes: Edit Dice



We realized that people should be able to view dice options before deciding to edit. We wanted to be more intentional about our usage of the bright salmon color

Final Prototype Implementation

Tools Used

1. We designed our entire app on Figma ([link](#)). See our revamped med-fi design.
 - Pro: Great for collaboration, flexible
 - Cons: Complicated to go back to old versions, steep learning curve.
2. We wrote our code in React Native using Expo.
 - Pros: Expo, easy to implement, easy to test, compatible with Figma
 - 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
 - Pro: Great for collaboration, easy to revert to previous code when mistakes are made
 - 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)

Final User Interface

The following features have been fully implemented on both the backend and frontend:

1. Account creation (including username, email, profile picture, and password)
2. Authentication state management (monitoring logged-in and logged-out states)
3. Storage of personal dice collection, ability to add community dice to personal collection, and display of "my dice" on the roll page
4. Dice creation
5. Dice rolling
6. Stat tracking (storing roll history for each user)

There are four primary use cases designed to manage the majority of user interactions:

1. **Rolling the dice:** To roll the dice, access the "My Dice" page through the navigation bar. Next, select the "Roll" button corresponding to the desired dice. In cases where no dice are available, users must create their own dice or add a community dice (see below for instructions). Upon clicking "Roll," users need to hold down on the dice, move their finger around, and release it. A selection will appear at the top with a slide bar for confirmation. After sliding, users will be prompted to either post the result or click "Done," which will not publish it to the feed.
2. **Adding a community dice:** Visit the browse page to explore a list of dice in the community. By clicking on a dice card, users can access a detailed view with various options. To add a dice to their collection, users should click the "Add to My Dice" button at the bottom.
3. **Creating a dice:** Head to the "My Dice" page and tap the floating plus button located at the bottom right. Fill out each field – including title, description, 2–6 choices, category, and the community toggle – then click "Create" to confirm the changes. The newly created dice will automatically be added to the user's collection.
4. **Interacting with the feed:** Navigate to the feed tab. To express kudos for a specific post, click the kudos icon on the left side (which will be filled or hollow based on previous kudos). To view and contribute to comments, select the comments icon. Users can type a comment and press the up arrow to post it.

We omitted the social interactions (friend profiles), a feed connected to backend, and advanced filtering/recommendation options as they did not align as closely with the class' scope. To facilitate testing of our app, we aimed to determine the feasibility of decision-making through dice and whether having community dice options was attractive to users. Given the potential to establish set recommendations through hardcoded choices, we believed that allocating development time to integrating friend profiles/recommendations might not be worthwhile, especially if the concept failed to gain traction.

We opted to hard code both our feed and recommendations on the browse page. Acquiring real users within a limited timeframe to engage with the application and create substantial digital content (dice and posts) would have been challenging. Hard coding offered us

flexibility in curating the displayed content. Most importantly though, this approach saved time, enabling us to focus on refining our design and validate our concept effectively.

Usability tests were most valuable in improving the usability of our prototype by enabling direct interaction with the implementation rather than relying solely on conceptual models or theoretical discussions. These tests provided insights on refining instructions, button placement, and text size, aspects that are not as effectively discerned through alternative evaluation methods. Even heuristic evaluations differ from user testing as they approach app assessment from a distinct perspective compared to an actual user attempting to accomplish specific tasks.

To develop the application, we utilized React Native for coding, incorporating dependencies such as Expo Media Library, Firebase for authentication and media storage, Supabase for user and media data storage, Expo Go for the development environment, and Figma for design. All the programs were highly intuitive, facilitated collaboration effectively, and operated without crashing or errors.

README AND DOWNLOAD INSTRUCTIONS

Making it Real

Our team is well-equipped to ensure the success of this project for two reasons. Firstly, our team boasts a diverse technical skill set. Each team member possesses a unique array of skills that position us effectively to excel in distinct areas:

- Abbie: Proficient in business skills and UI/UX design.
- Karina: Skilled in UI/UX design and full-stack development.
- Malina: Specializes in full-stack development with a focus on frontend.
- Caleb: Specializes in full-stack development with a focus on backend.

Secondly, our interests span across a spectrum of activities such as video games, dance, music, soccer, and travel. This diversity enables us to thoroughly explore various use cases of the application. With each team member being an end user of the app, our collective passion and motivation are strong driving forces behind our commitment to ensuring its success.

From a business perspective, we aim to apply insights learned from social computing (CS 278), emphasizing the strategy of starting off in a specialized niche to cultivate a devoted user base. Fortunately, college students present a promising demographic for our application. Our initial objective is to establish momentum and validate the desirability of our product. Upon achieving success within the Stanford campus, we will adopt a progressive expansion approach similar to Facebook's initial strategy.

As our platform evolves, we will analyze user preferences to identify the most appealing features, guiding our monetization strategy accordingly. For instance, if community dice prove popular, we may collaborate with businesses like Airbnb or restaurants that our app could drive engagement or revenue towards through digital dice. In return, these partners would compensate us to promote their content through digital dice. Alternatively, if our product is attractive enough, we could charge a subscription fee to access community dice or allow for a certain number of rolls.

Turno's dual identity as a decision-making app and social platform positions it to compete across various markets. The global decision management market, valued at 4.66 billion in 2020, is projected to triple in value by 2030. Meanwhile, the decision intelligence market currently stands at 10 billion in 2022. In parallel, the mobile application market, valued at 208.5 billion in 2020, is anticipated to quadruple by 2032. While it may be blasphemous to suggest Turno will dominate these markets, these figures indicate a robust foundation in established markets that we are confident we can find our place in.

In the long run, we hope Turno can be a platform for idea exchange and inspiration, promoting shared activities to foster global connectivity through tangible shared experiences rather than mere digital interactions like likes and comments.

Summary

What is your key innovation?

Through Turno, we have introduced a novel digital decision-making process that marries functionality with an element of enjoyment. Turno's key innovation is twofold. Firstly, it focuses on providing a user-friendly, spontaneous experience, distinguishing itself from solutions that are often lengthy, specialized, or challenging to navigate. Secondly, Turno emphasizes the aspect of connection. Drawing inspiration from the communal nature of music sharing on platforms like Spotify, Turno introduces 'community dice,' allowing any user to create dice for various scenarios. This feature promotes community involvement, facilitates idea exchange, and sets Turno apart from conventional decision-making tools.

What will your key impact on the world be?

When analyzing the impact of Turno, it is essential to consider ethical implications. One critique brought up was that Turno suppresses independent thinking. In reality, the creation of all content on Turno involves a designer who meticulously weighs and anticipates various choices. This intentional design process not only fosters critical thinking but also encourages forward-thinking rather than stifling it. In larger community settings, individuals can draw inspiration from existing dice to create their own, a practice that is fairly common on community platforms like Spotify and Pinterest. Ultimately, we see Turno's impact on the

world in minimizing time wasted on decision-making processes and fostering connectivity between ideas.

Thank you!

