

A festive market scene with a man in a red apron and a woman in a blue dress. The background features colorful bunting and market stalls. The man is standing on the left, and the woman is on the right, holding a red shopping bag. The text "Assignment 6" is centered in the middle, and "Cultured Cardinals" is written below it in a cursive font.

Assignment 6

Cultured Cardinals

Our Team



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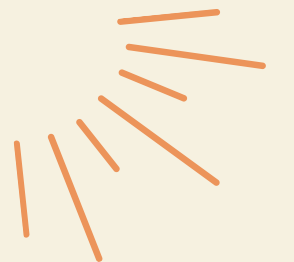
Problem

After meeting a Latina cashier at EVGR, we identified the problem that many first and second-generation people mostly maintain their native language via older family members.



Solution

Our solution is to **eternalize language connection** between the user and their family & friends **via their 'language footprint'** made of texts and calls, and provide **data insight** on each user's language use, thereby assisting the user to preserve their multilingualism.



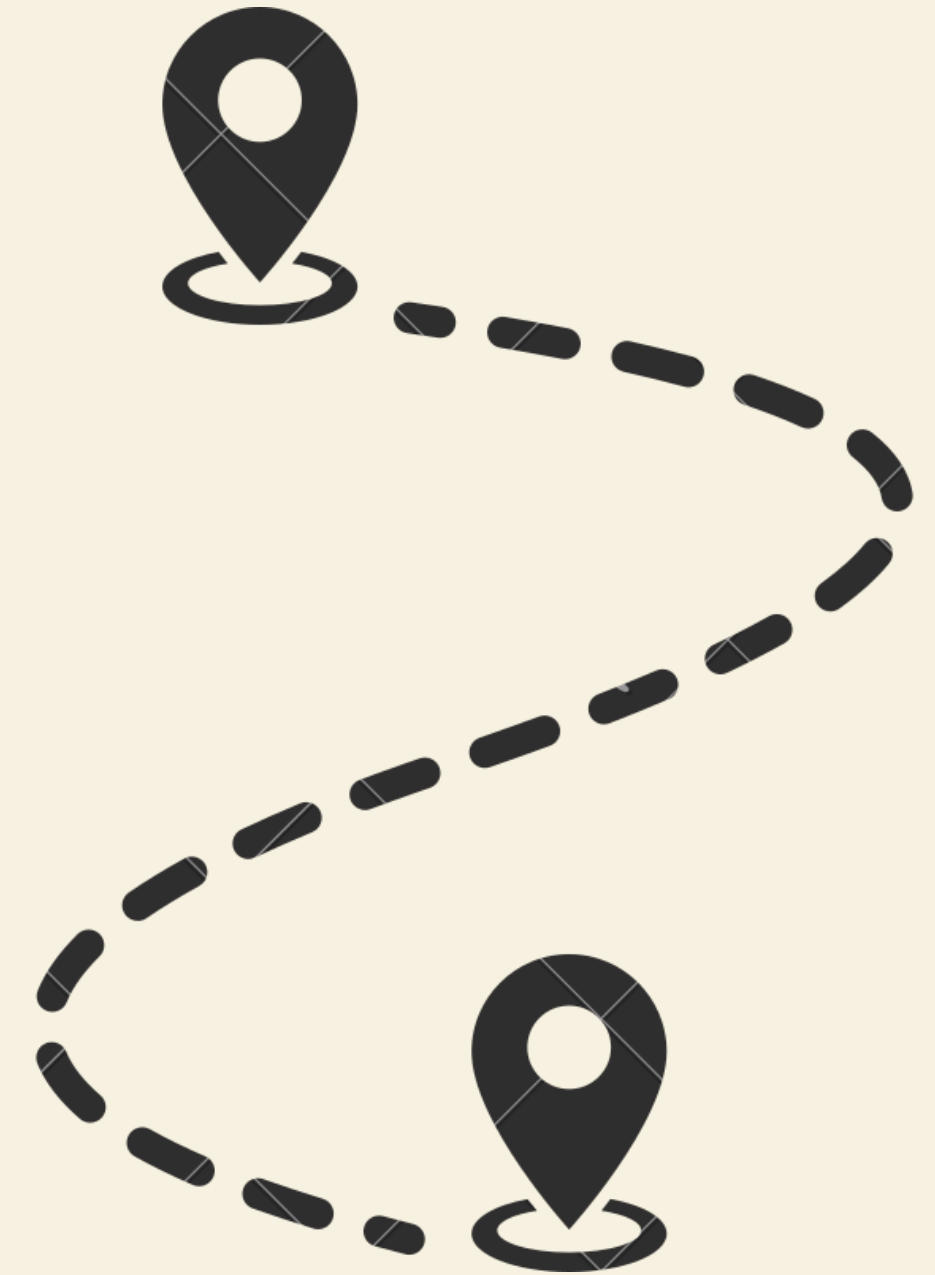


Circling

A way to preserve, keep track of, and share your language using your day-to-day conversations with your family & friends circle.

Outline

- Values in Design
- Tasks & Revised Task Flows
- Usability Goals & Key Measurements
- Revised Interface Sketches
- Med-Fi Task Flows
- Prototype Implementation





Values in Design



Values

Language Preservation

- See texts in different languages
- View insights into your language use
- Set tangible goals



Privacy

- Protect user data
- Privacy policy and privacy settings



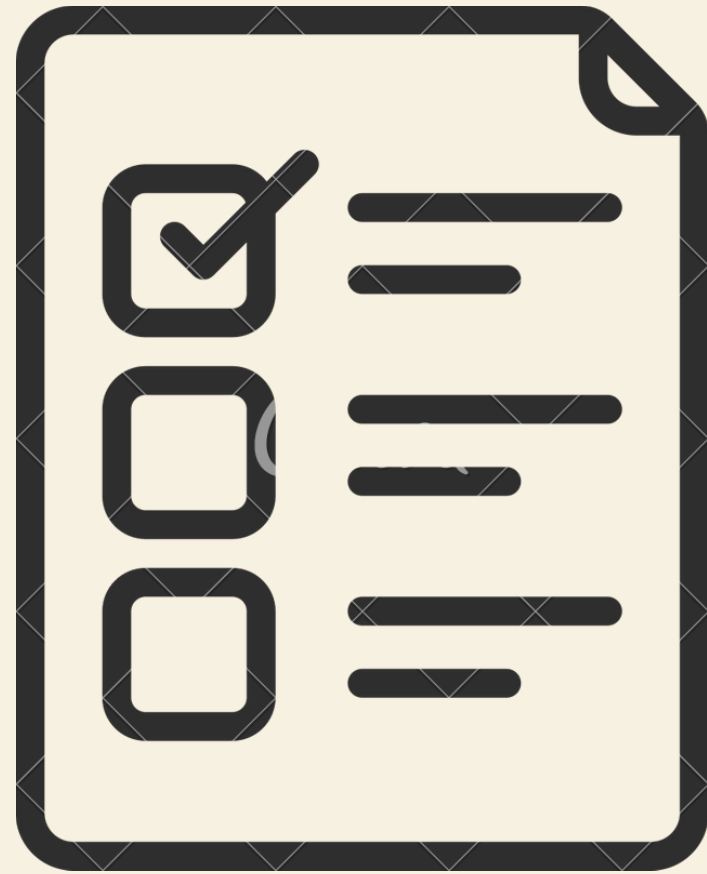
Collaborative Learning

- See text insights with friends
- Create goals with friends
- Get recommendations on language speaking with friends



Informed Consent

- Allow users to choose what they want to display and who to display to

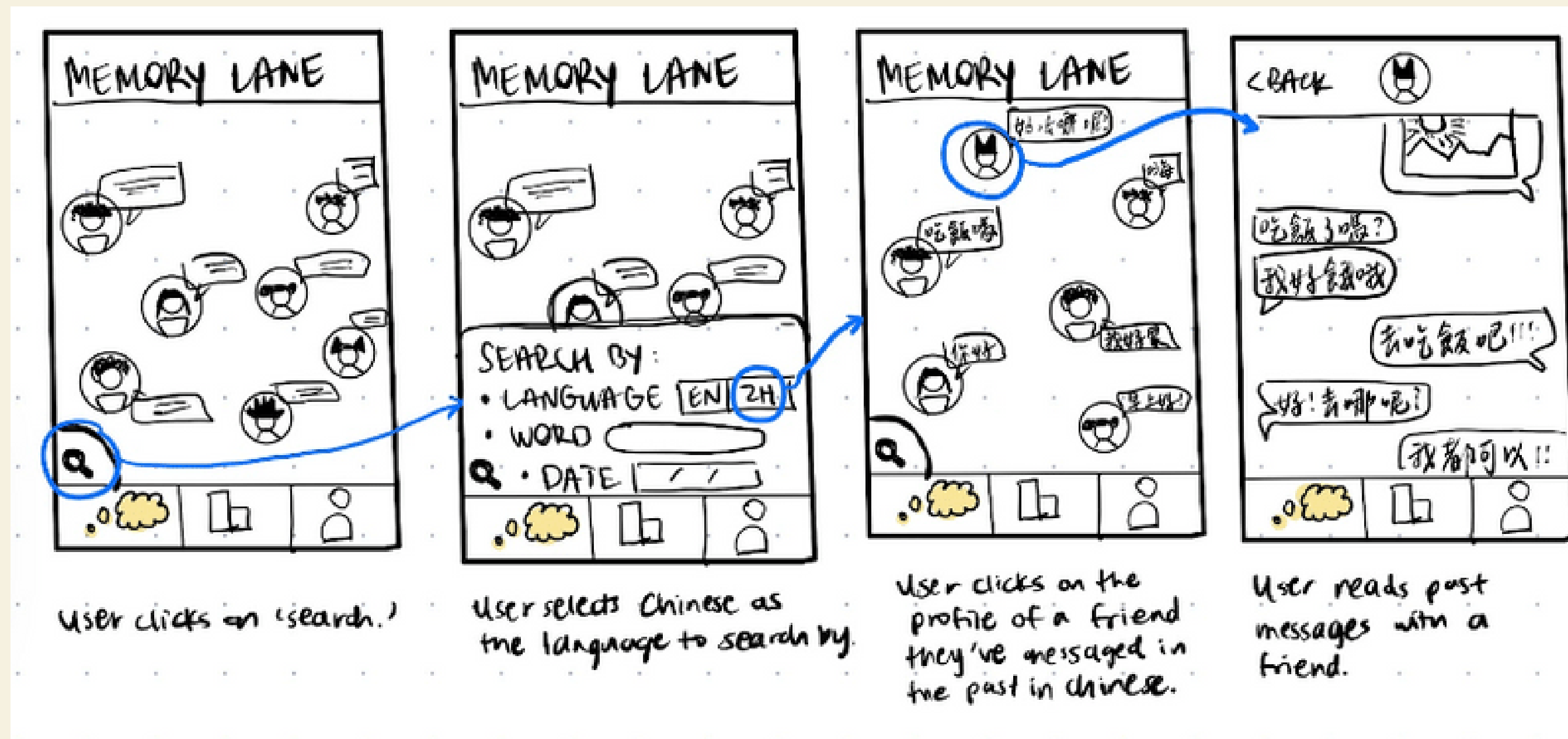


Tasks



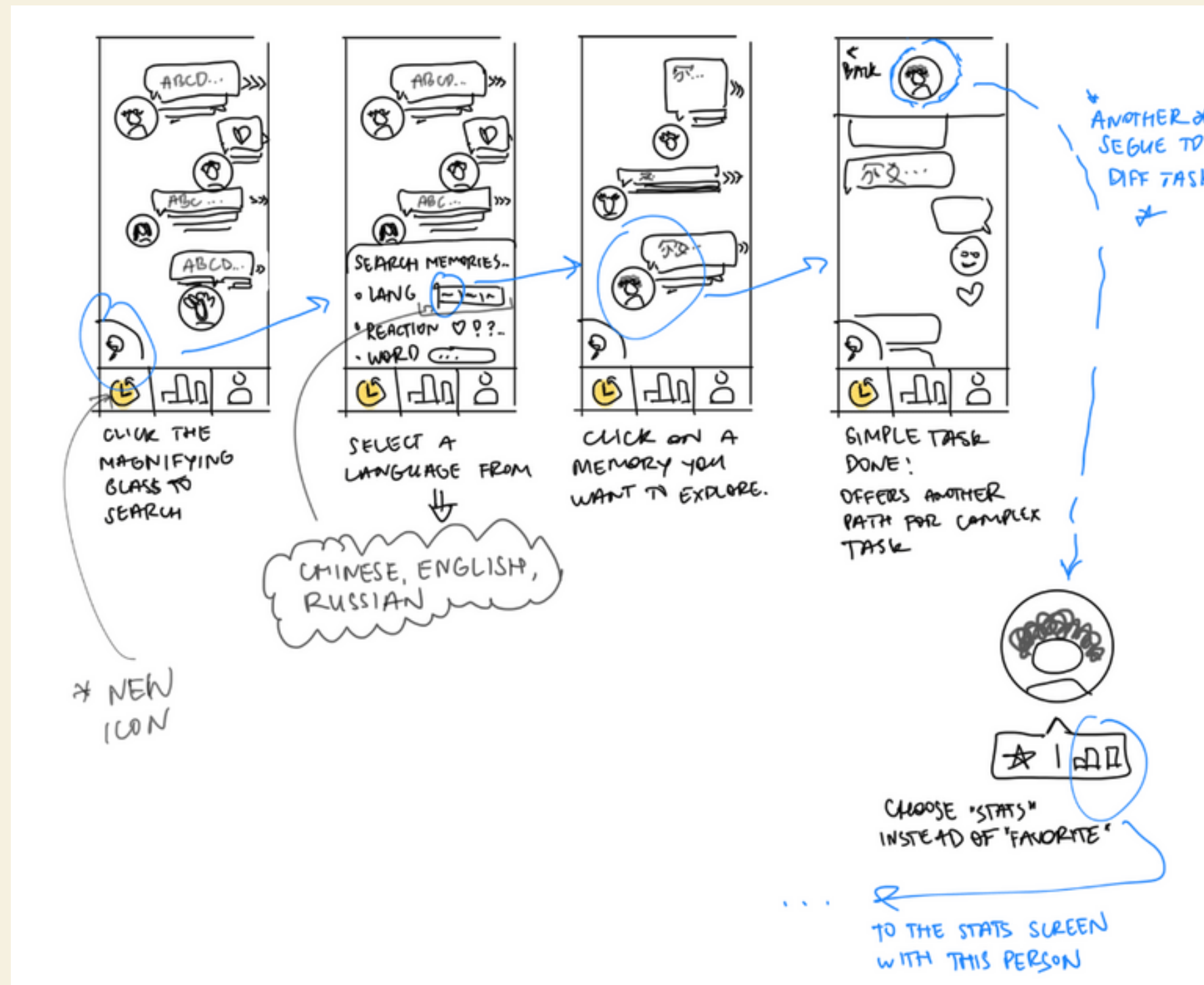
Simple Task-Flow [old]

View a random text memory in Chinese.



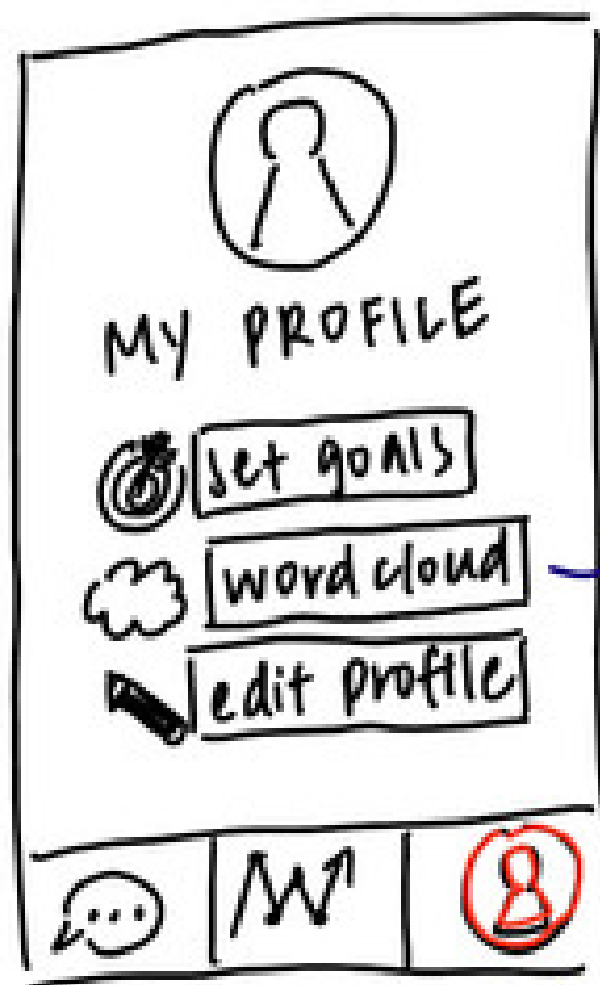
Simple Task-Flow [new]

View a random text memory in any language.

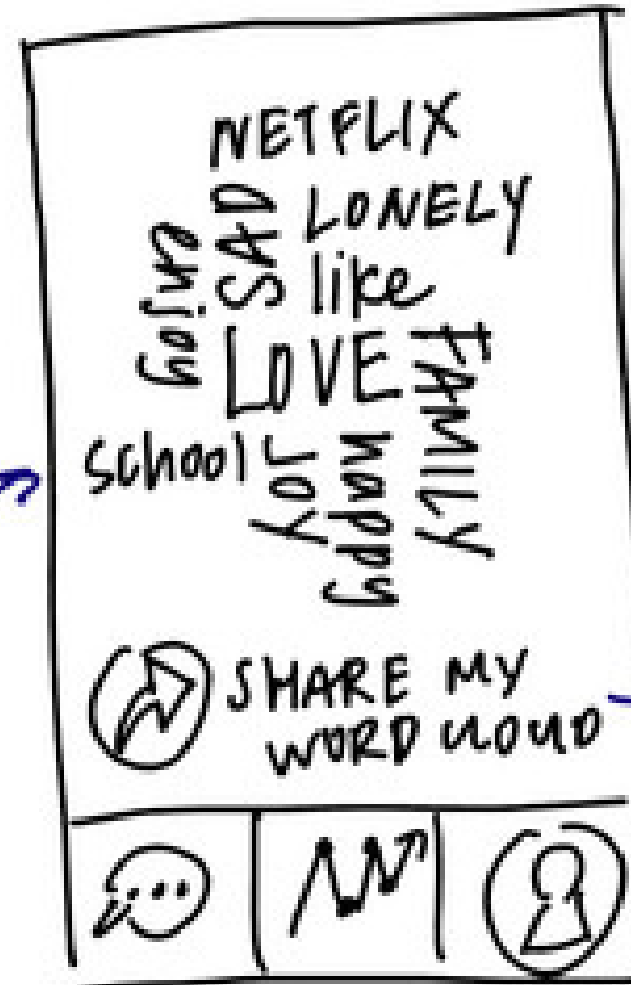


Medium Task-Flow [old]

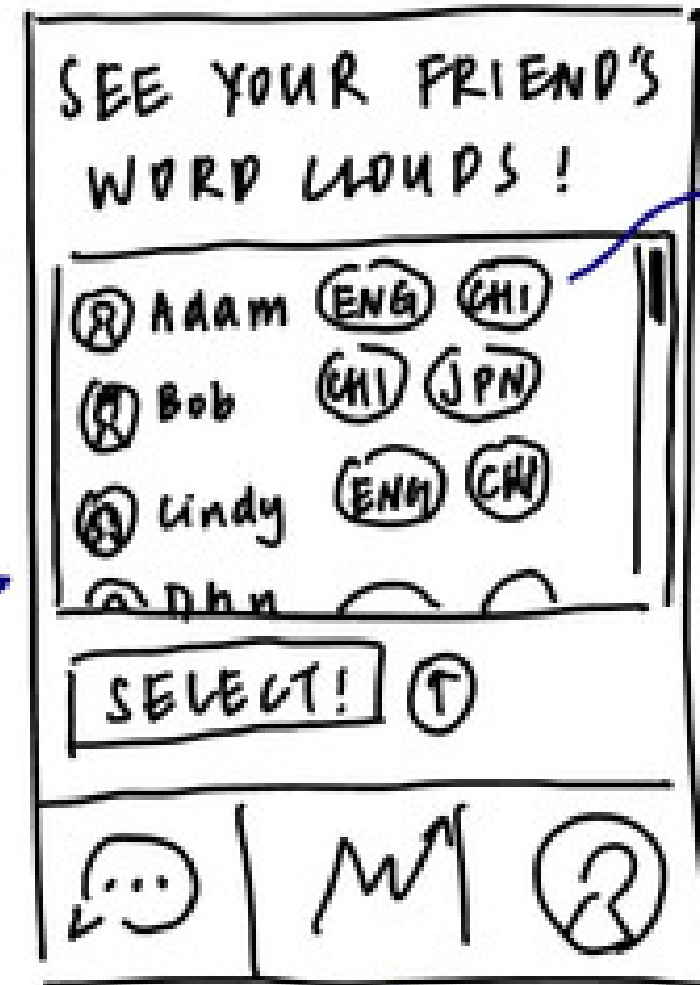
Share your Word Cloud with a friend.



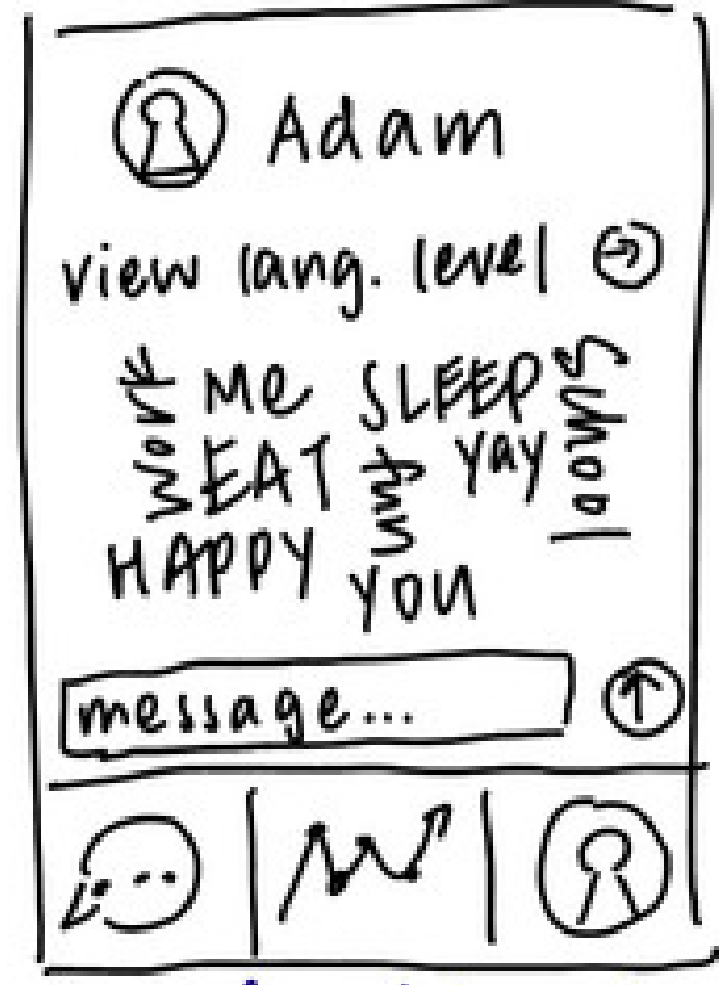
"word cloud" tab under my profile



view own word cloud and can share to others



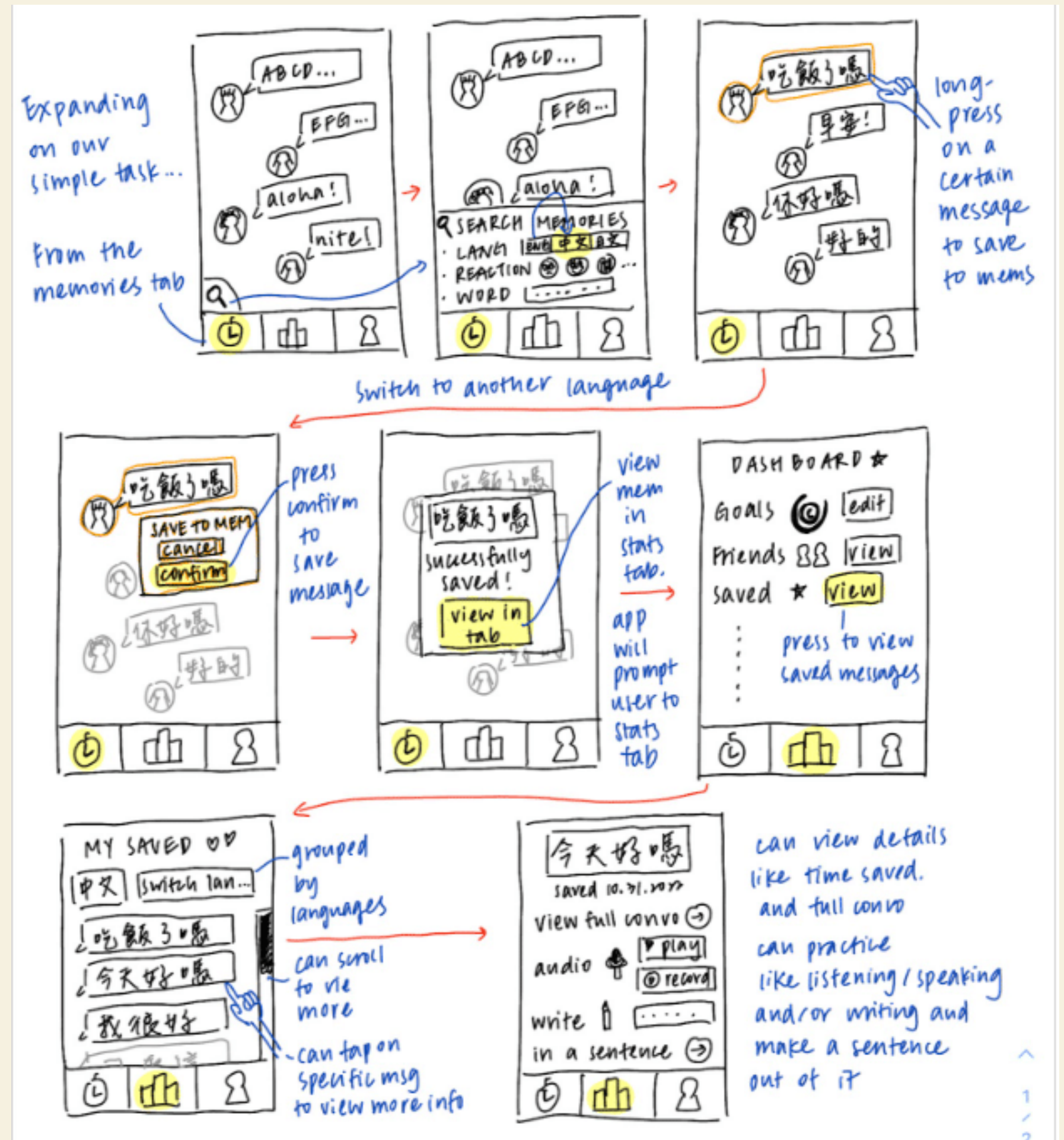
can select & view friends' word cloud



view friends' word cloud + message!

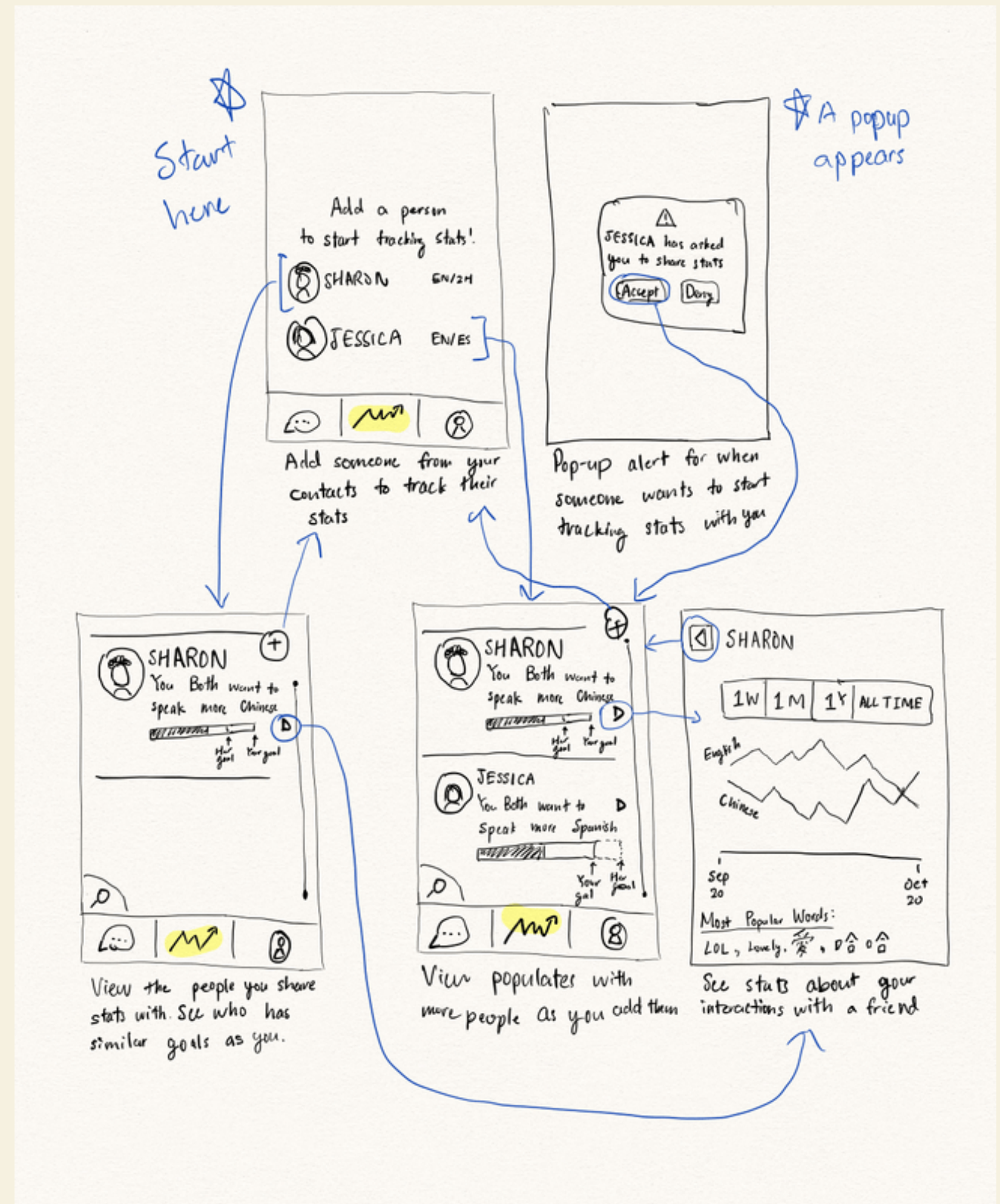
Medium Task - Flow [new]

Save a memory in text.



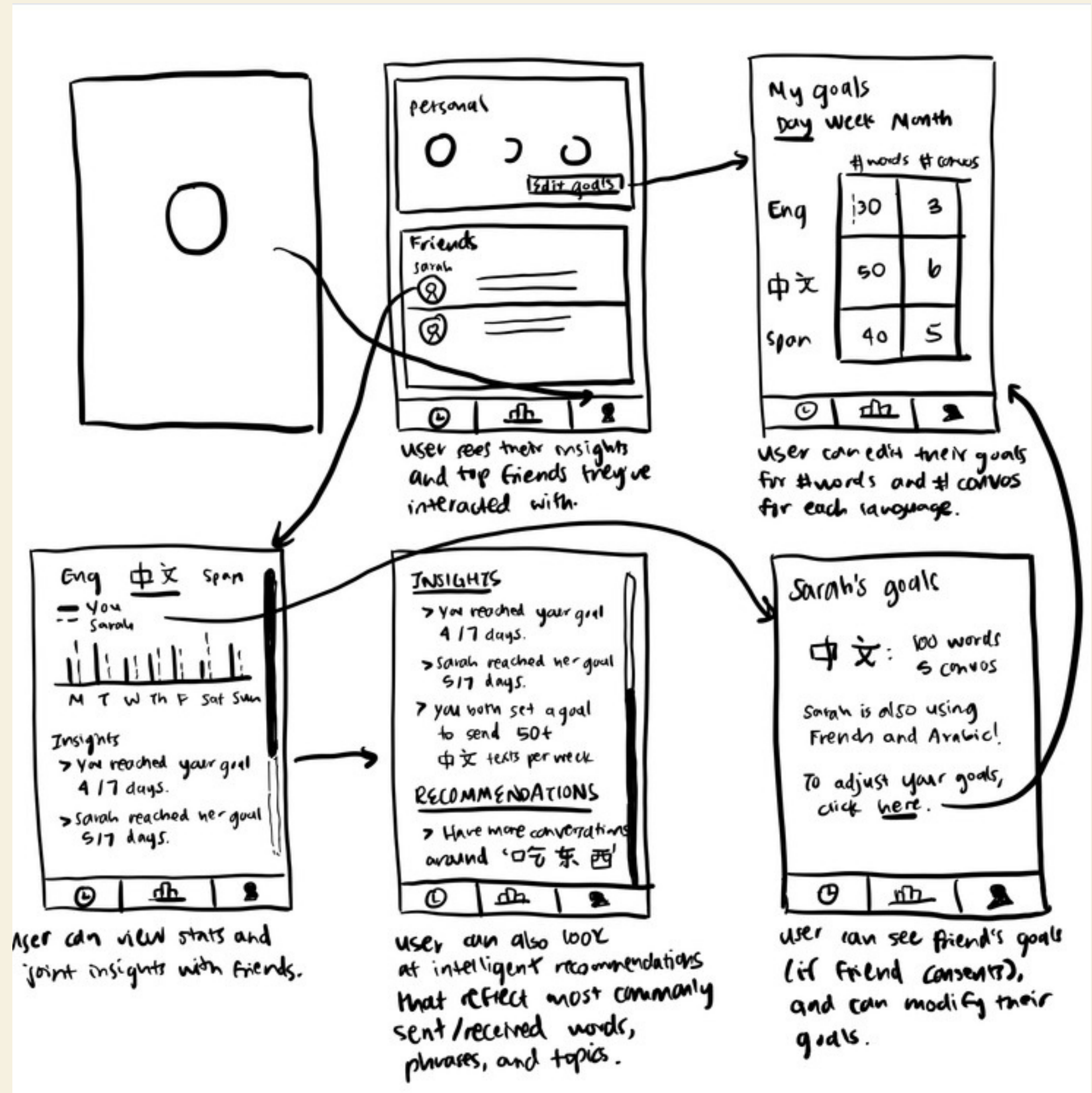
Complex Task- Flow [old]

Add a Chinese-speaking friend to the app and view your joint language-use statistics.



Complex Task- Flow [new]

See how your language use overlaps with a bilingual friend.





Usability Goals & Key Measurements



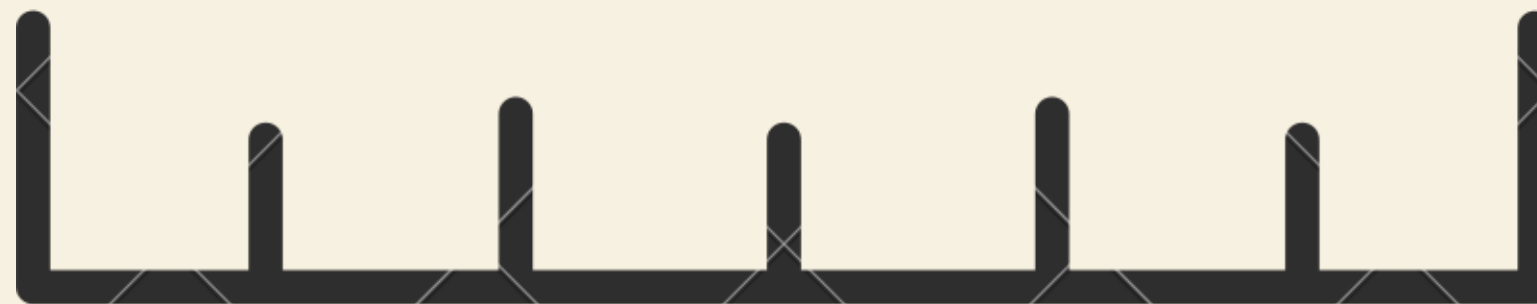
Revisit Goals & Measurements

Fun

- # of positive feedback

Efficiency

- Time of task completion



How Are We Improving?

Fun

of positive feedback

- Dynamic UI to see memories with friends
- Customizable avatars for friends
- Saving memories with friends
- Clear goal-setting

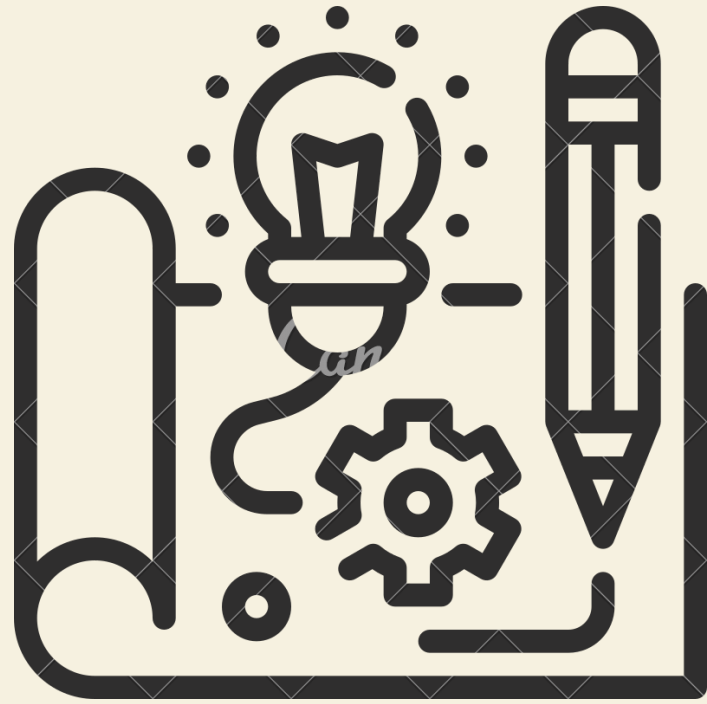
Efficiency

Time of task completion

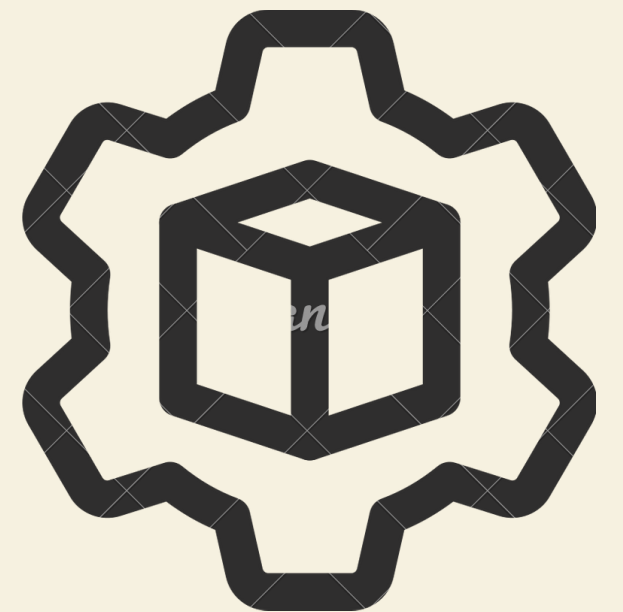
- Simple, clear navigation bar
- Prioritized and simplified features including goals, personal insights, & friend insights

Updated Statistics ($n = 8$)

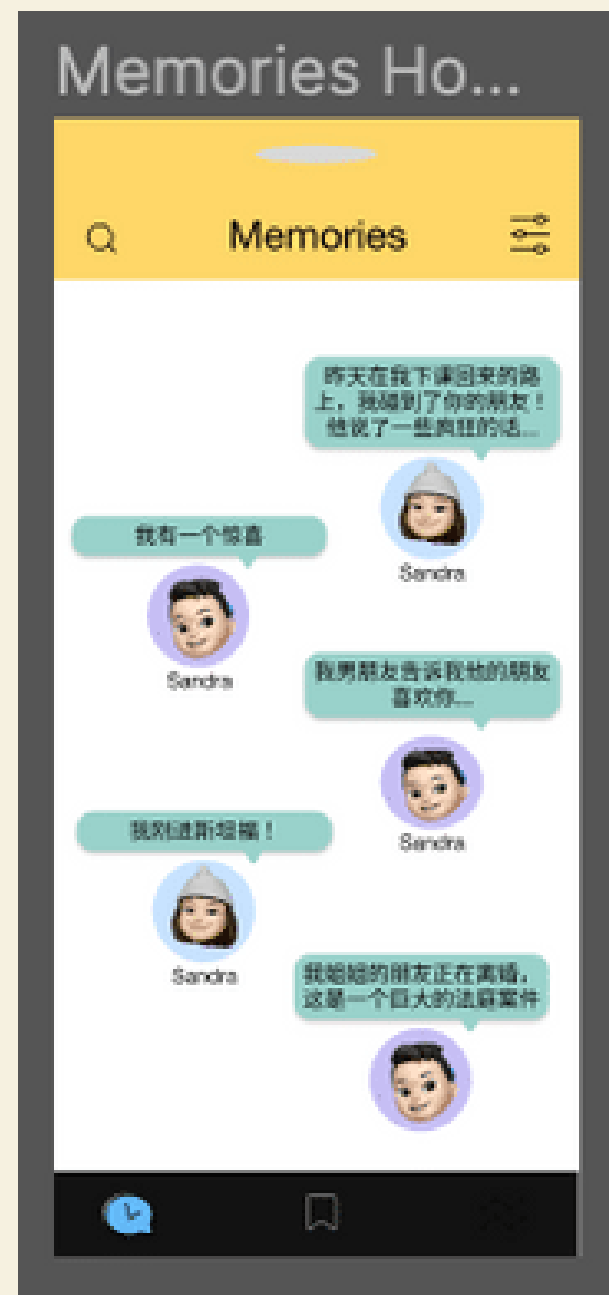
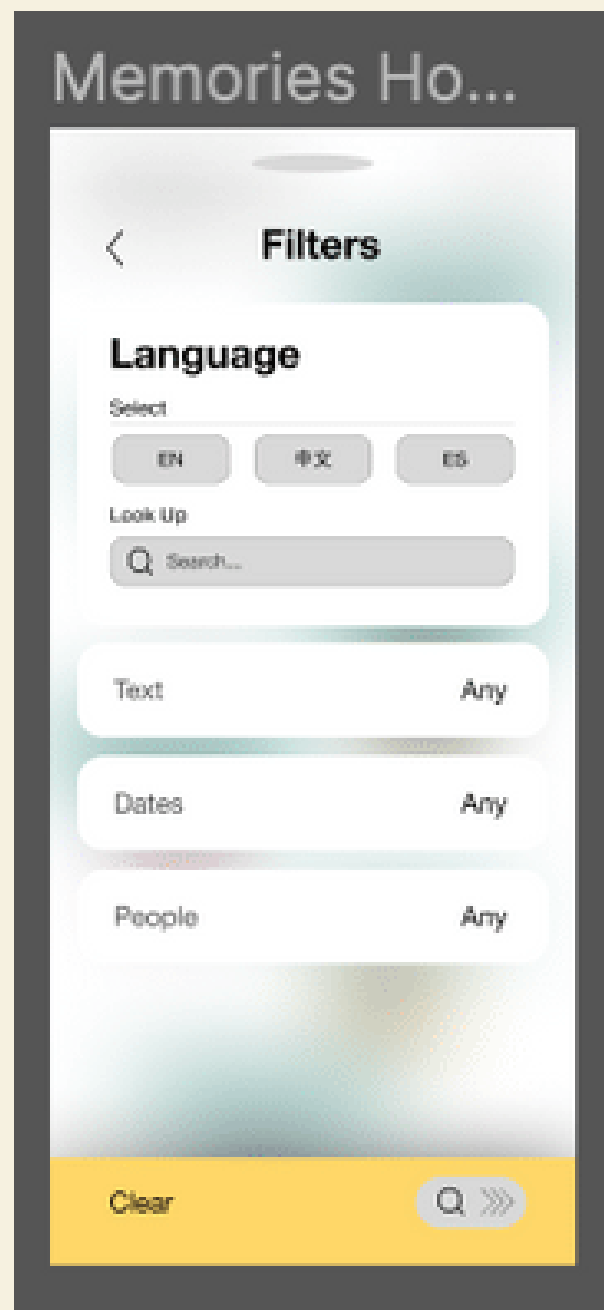
	Simple	Medium (new)	Complex
Mean time:	0.524 min	0.882 min	1.022 min
SD time:	0.249	0.344	0.385
Num pos emotions:	8	6	8



Revised Interface Sketches



Overall Design Colors



Before

- Yellow + White
- Complement color for some features
- ex: chat bubbles and memory icon)

Feedback

- Too cartoony
- Colors are too vibrant

Overall Design Colors



After

- Yellow + Black (dark mode)
- Remove complement color
- Keep color scheme simple

Feedback

- Looks comfortable
- Easier for the eye

Change 1: Savable Memories

Added 'save' feature in memories home page and 'saved memories' page

Before



Home

After



Home



Saved Page

Change 1: Savable Memories

Added 'save' feature in memories home page and 'saved memories' page

- **FEEDBACK**

- **Memories:** [studio] memories are scattered – how can we make them more organized and meaningful?
- **Word Cloud:** [participants] word cloud is a cool idea. [studio] word cloud is too narrow of a task.

- **CHANGES**

- 'Saved memories' page
- 'Save' feature gives people autonomy over which words & memories they choose to save

- **USABILITY GOALS**

- Users can reflect on **fun, positive** memories
- Enables greater **efficiency** in locating important memories

- **RESULTS (Task 2 - saving a memory)**

- Mean time (min): 0.882 (new) vs 1.782 (old)
- # pos emotions: 6/8 (new) vs. 2/5 (Task 2)

Change 2: Set Goals

Created new subtask

Before (after lo-fi prototype testing)

My goals

Day Week Month

words # courses

Eng	30	3
中文	50	6
span	40	5

⌚ | 🏠 | 👤

Set goals page



After

9:41

Add Language

Edit Goals

English 400 words/day

Chinese 150 words/day

Spanish 150 words/day

Save

1 2 3
4 5 6
7 8 9
+ * # 0

Set goals page

Change 2: Set Goals

Created new subtask

- **FEEDBACK**

- Intrinsic motivation: [CAs] how can we motivate users to continue practicing different languages?
- Tracking progress: [participants] they wanted an intuitive way to track progress/ set goals

- **CHANGES**

- Made goals ring-based to feel satisfying
- Created a new 'set goals' page in our revised sketch, asked participants if it was intuitive
- Further simplified it to only include goals by # words used per day

- **USABILITY GOALS**

- Goal-setting and the act of accomplishing goals is innately fun
- Rings help people efficiently check their progress

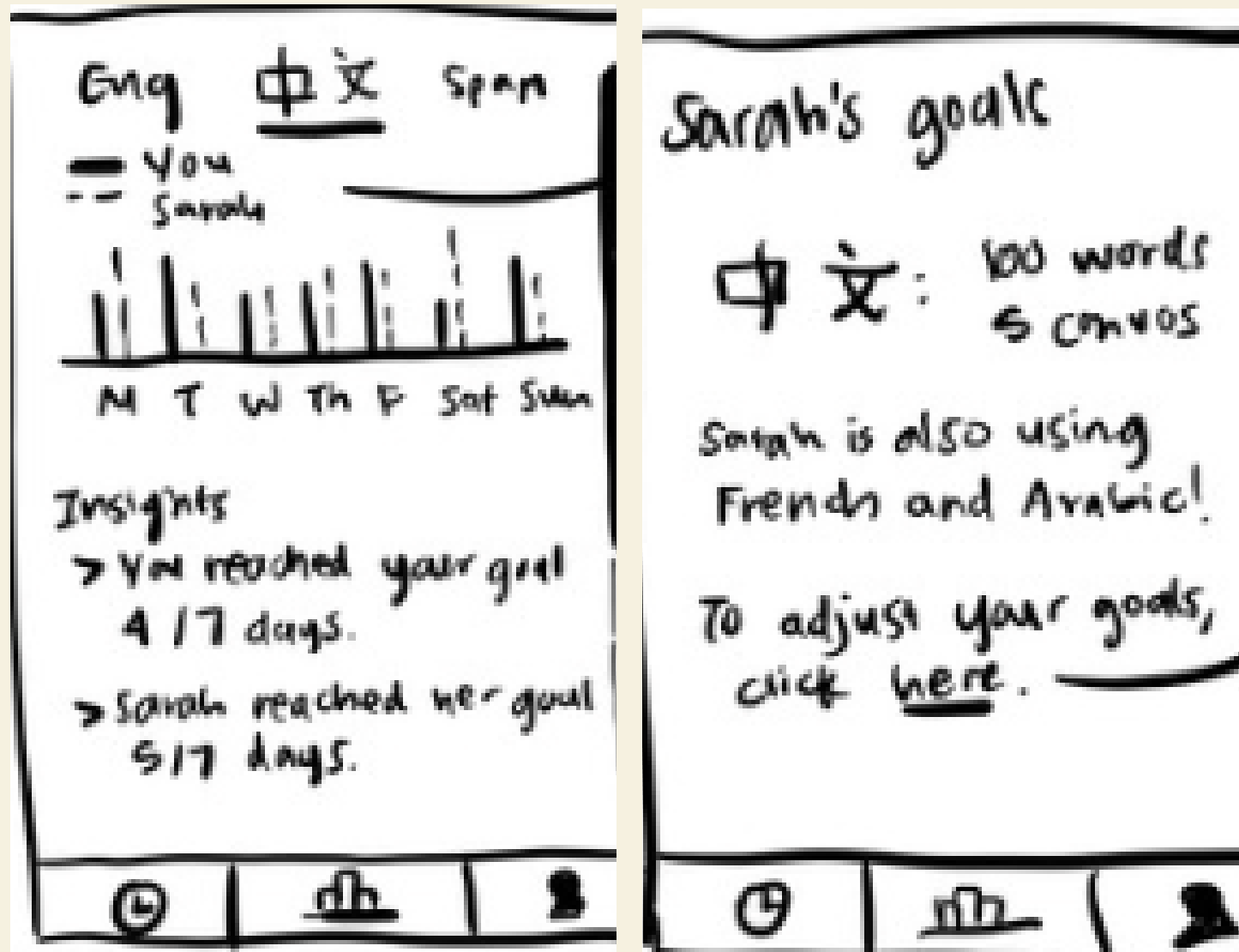
- **RESULTS**

- Mean time: 0.644 min
- Pos emotions (5/8)

Change 3: Insights Page

Added rings, filters, and additional insights (i.e. top phrases)

Before



Personal

Friend

After



Personal

Personal

Friend

Change 3: Insights Page

Added rings, filters, and additional insights (i.e. top phrases)

- **FEEDBACK**

- Learning with friends: [participants] expressed interest in seeing friends' progress. Lo-fi UI was confusing.
- Defining insights: [studio] insights being purely data-based doesn't tie well to the emotional aspect of memories

- **CHANGES**

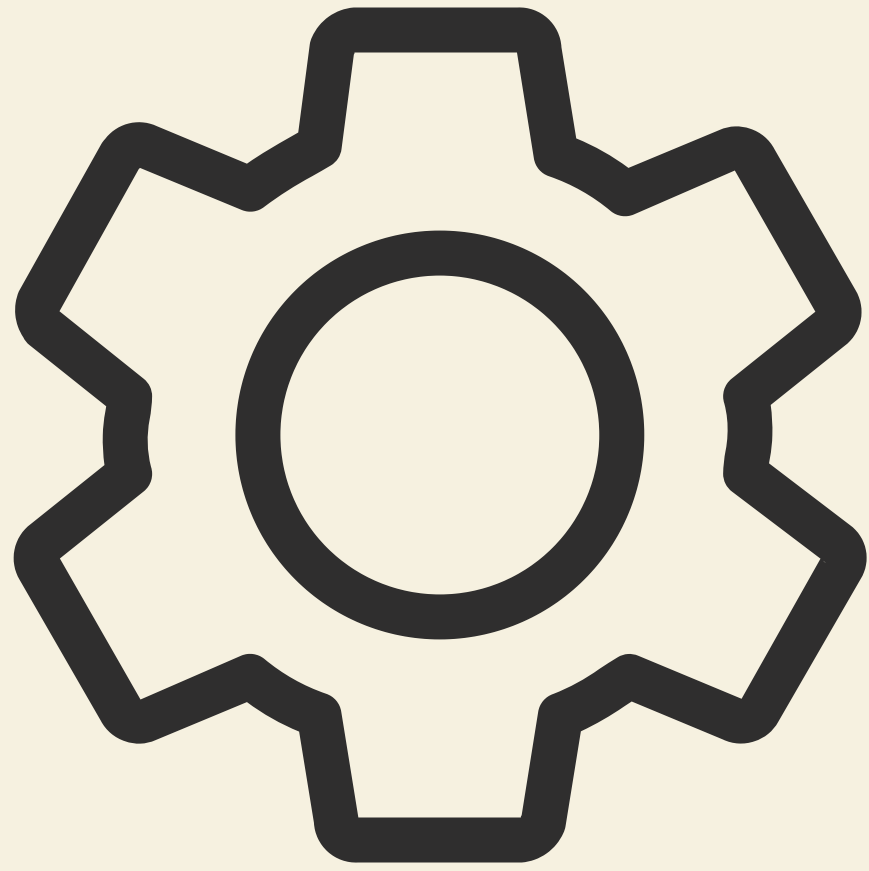
- Setting clear headers for insight sections
- Adding a separate page to learn with friends
- Creating language filters to improve UX

- **RESULTS (Task 3)**

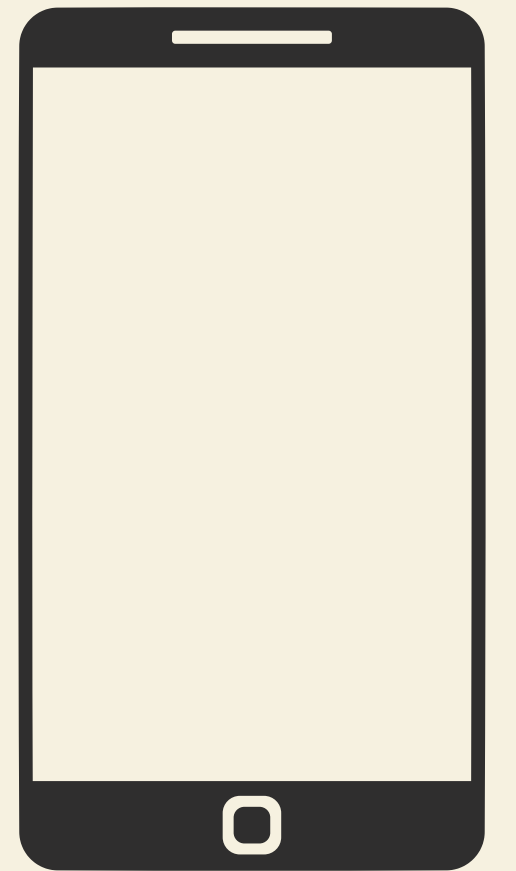
- Mean time (min): 1.022 (new) vs 1.4 (old)
- # pos emotions: 8/8 (new) vs. 2/5 (old)

- **USABILITY GOALS**

- Fun for users to see their progress alongside friends'
- Efficient, one-sentence language learning recommendation



Medium-Fidelity Prototype

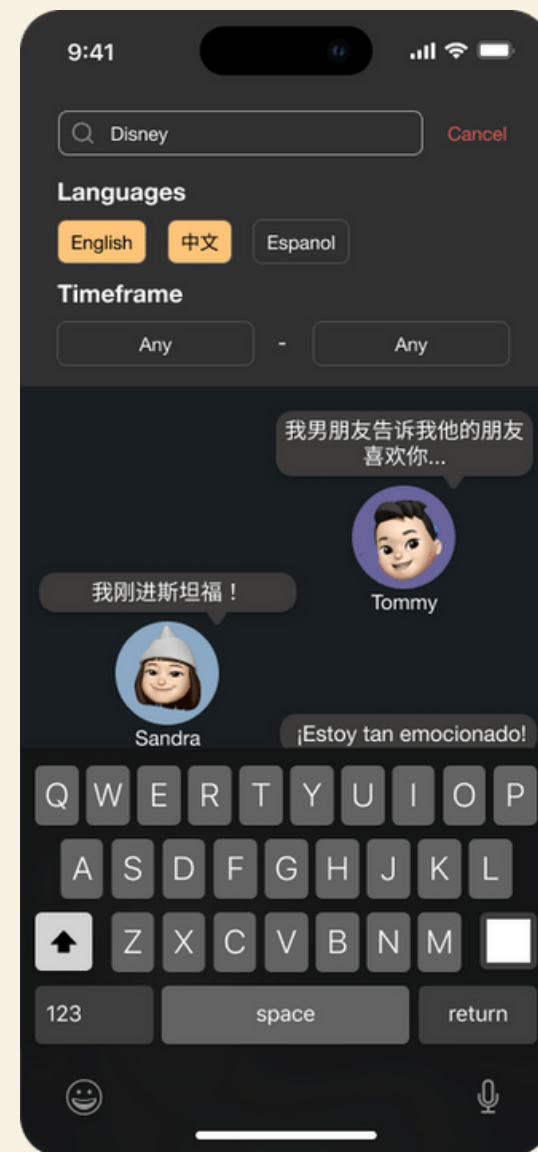


Simple Task

View a memory in Chinese text



Feed of your memories

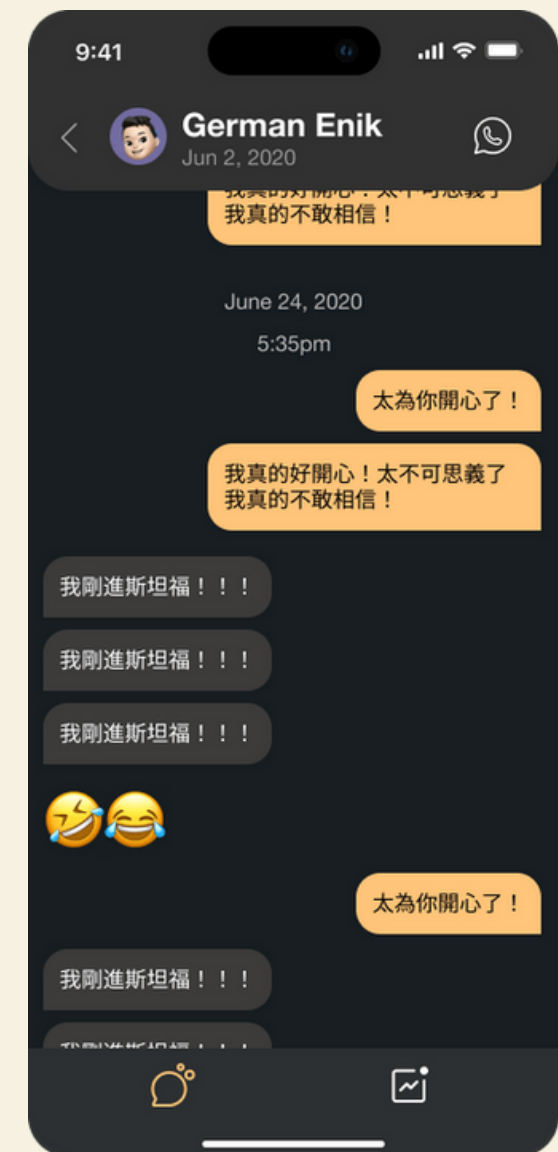


Search through your memories by text or filter

Scroll downwards



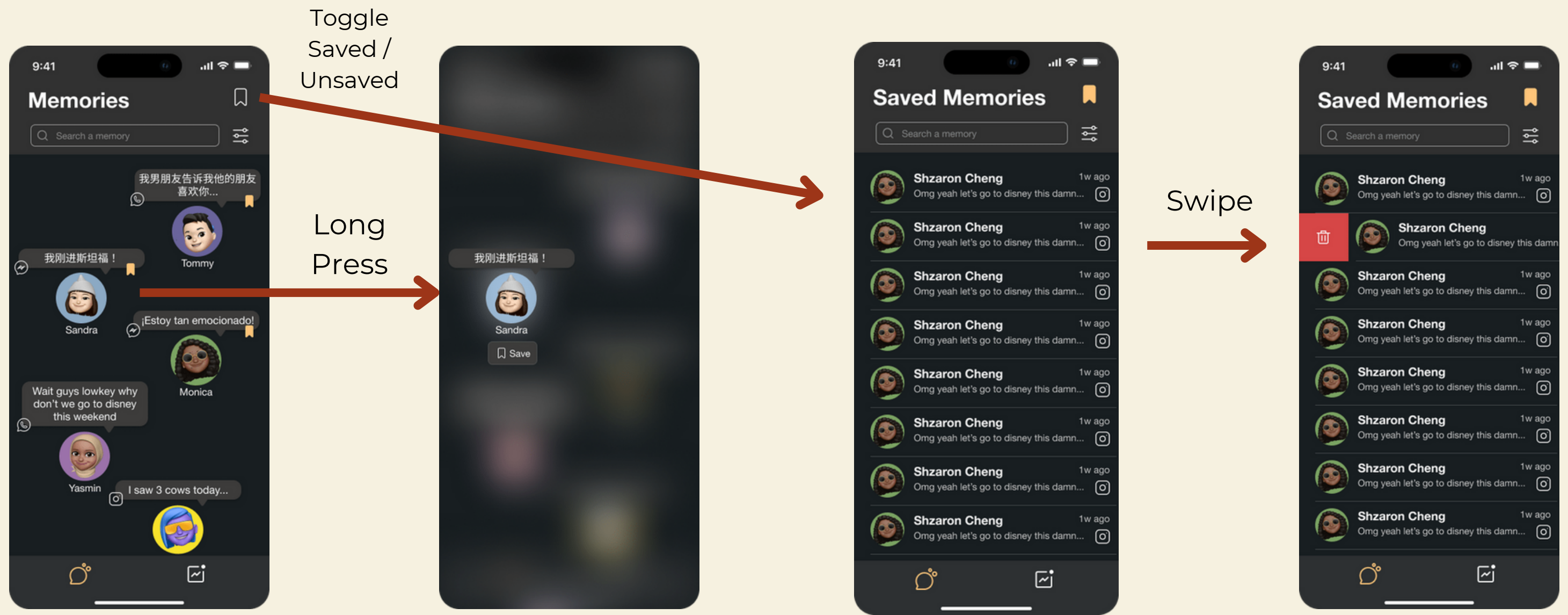
As you scroll, the top bar simplifies to show the filters you selected



Clicking on a memory shows you the original text thread

Moderate Task

Save a memory in text



Feed of your memories

Long press to highlight a specific message. Option to save

View of all saved memories

Swipe to delete a saved memory

Complex Task

See how language use overlaps with friend

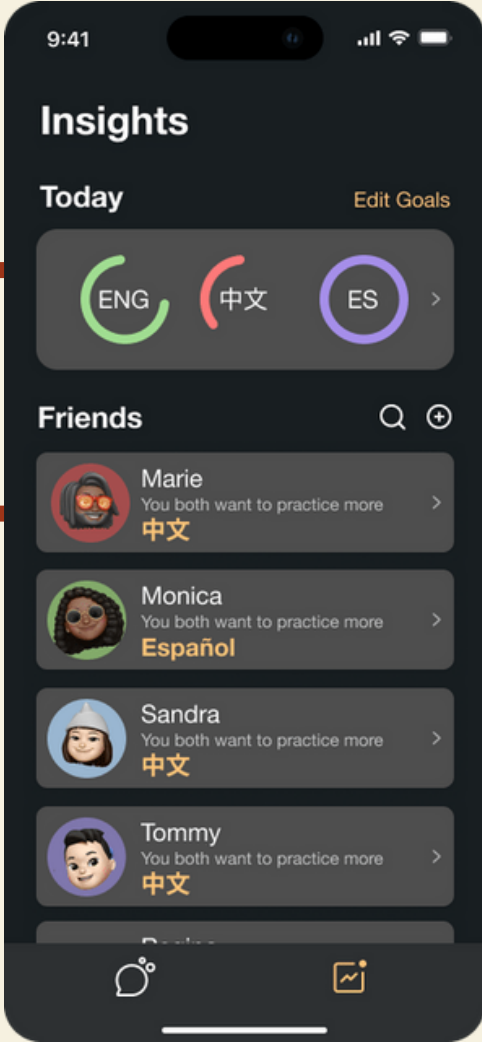
Finding people



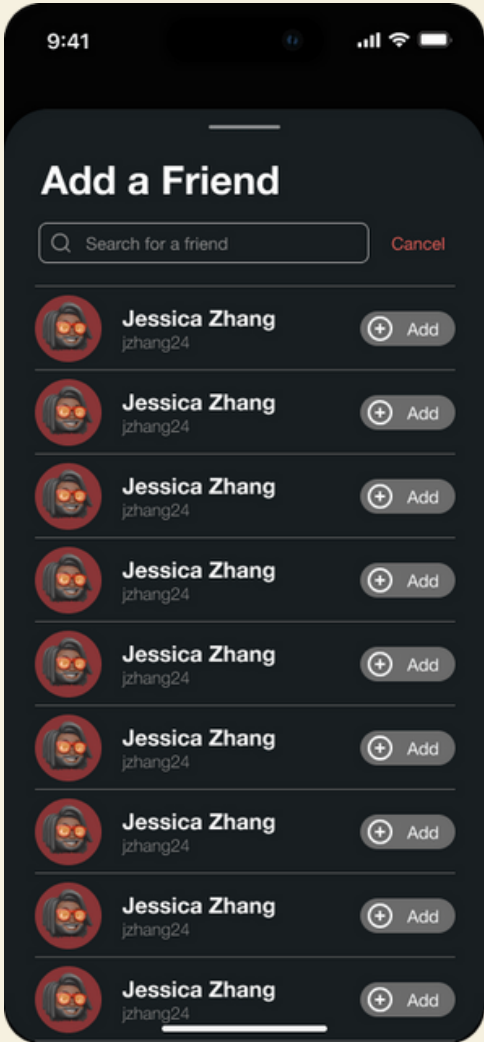
Detailed breakdown of your own insights



Insights between you and a friend (Marie)



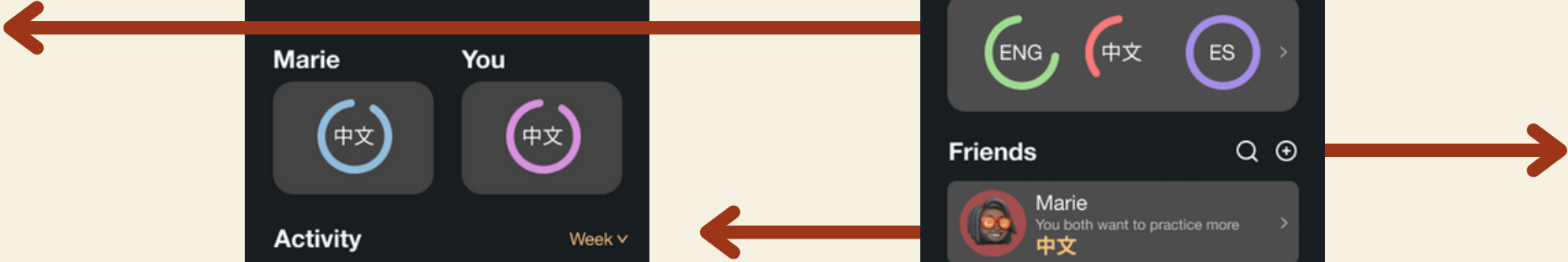
Overall view of your language insights



Adding a Friend to Track



Searching through existing friends



Tool Used: Figma

✦✦ Pros ✦✦

- Accessible & easy to use
- Helpful tools like grids for alignment
- Reusable components & color styles
- Easy imports for images
- Seamless collaboration

☀ Cons ☀

- Learning curve for people who aren't familiar with the platform
- Sometimes leads to lag
- Prototyping can be difficult when there are lots of connections between screens

Limitations

- ⚠ **Not every interaction is represented**
 - Many combinations of possible filters
 - Many combinations of activities
- ⚠ **Onboarding**
 - We didn't curate an onboarding experience that gives user insight into privacy, choosing messaging platforms to import from, etc.
- ⚠ **Settings**
 - There are more details to how users can choose which data CircLing can access, which data is shared to friends, and more settings on data & privacy

Hard-Coded Items

⇒ Profile Information

We hard-coded all profile information including that of all the friends in the friends tab. These information include avatars, names, and usernames.

⇒ Conversation Filters

We hard-coded the conversation filters including what language the user wants to filter and the timespan of selected conversations and design the output screen accordingly.

⇒ Goal Setting

We hard-coded the goal setting portion. We hard-coded the language options and also the specific number of words per day users can set as their language goal.

⇒ Statistics & Activity Details

We hard-coded the insights page which includes statistics and activity details – specifically, the goal completion rings of each language and the activity bars.

Wizard of Oz Features

⇒ TFIDF

We would typically use TFIDF to pull out the most semantically important phrases for 'top phrases.'

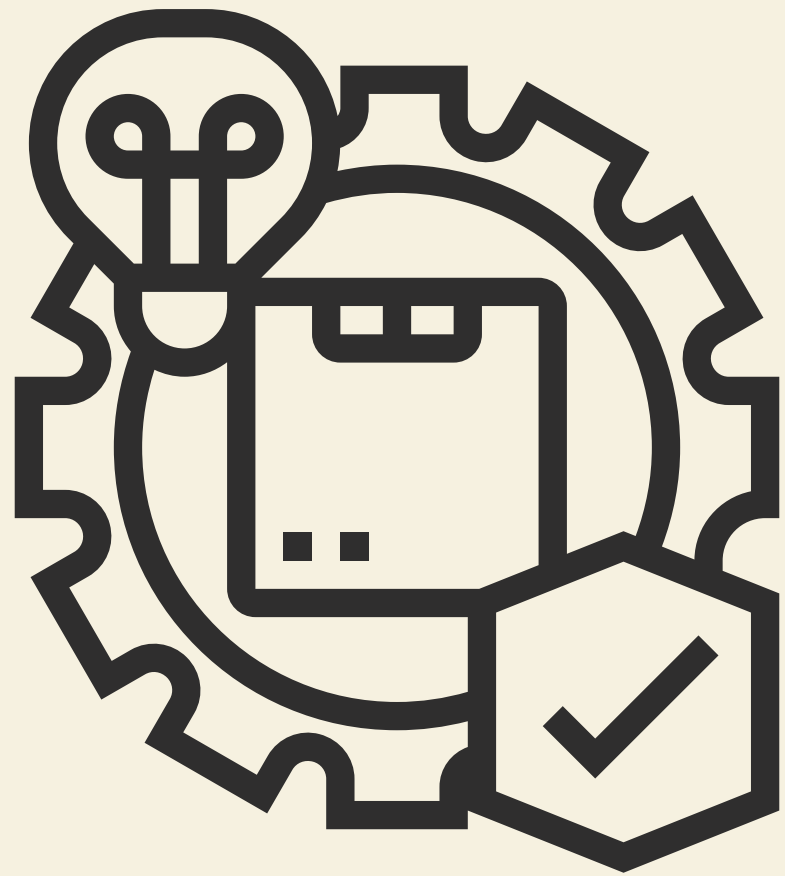
⇒ Displaying friends

Our app will use AI to see which friends are most relevant to a user and put them at the front of language buddies to encourage them to practice together.

⇒ Practice Recommendation

Our recommendation algorithm uses data to generate recommendations for users about which languages they should practice with friends.

Appendix



Figma

Interactive Prototype

