

KinX

Bringing families together

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INTRODUCTION & MISSION STATEMENT

KinX is a mobile-based application designed for families, currently in its early stages of prototype development. Prior to proceeding to further development of the app, it is important to carefully test the suggested interface to ensure that the most user-friendly iteration of the prototype is developed. In addition, through our testing process, we wanted to identify the features that were most valuable to our potential users.

The mission of KinX is to bring families together through technology. An apt analogy may be: Facebook is to individuals as LinkedIn is to professionals as KinX is to families. In the world today, it is very easy to loose touch with other family members for three reasons: (1) we live in a workaholic culture, particularly in the United States, (2) fewer people meet in person due to vast online social networks, and (3) there is not enough clear overlap in people's free time. The explosion of data in the context of family has created a new opportunity for better management and social connectivity. KinX brings families together through 3 broad categories: (1) Family - help families member communicate with each other; (2) Organization - help families operate, such as planning events, parenting, assigning tasks and creating reminders; (3) Connection - help families communicate with other families and get reviews of everyday services.

PROTOTYPE DESCRIPTION

The prototype is composed of a series of screens (iPhone 5 size) to accomplish the three pre-determined tasks, including starting a family chat, sending an event to all family members, and posting a note on a family forum.

The home screen is designed to provide fresh news and direct navigation to frequently used function units in one or two steps. The home screen greets the user with intra-family and inter-family latest news under "Family" and "Explore" tabs respectively. The four icons in navigation bar on the bottom link to homepage, an event list, a private file system and personal profile. The plus button in the middle leads to a pop-up window consisting of a item list where the user can choose to create an event, upload a picture or an audio, write a note or rate a service/product concerning family life.

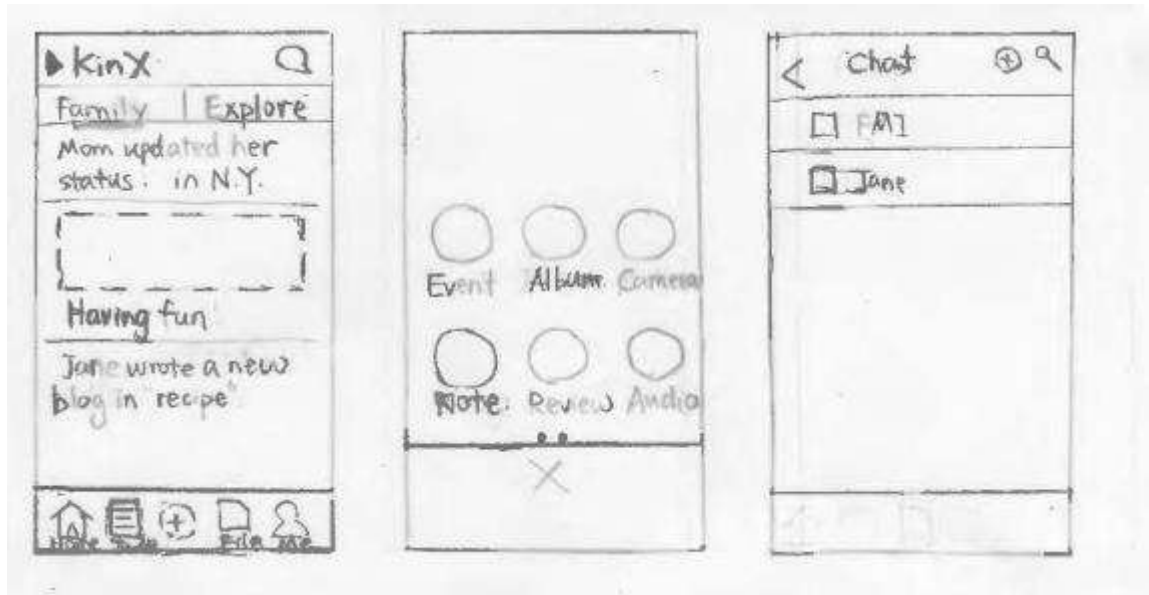


Fig. 1 Home screen, creation menu and chat screen (from left to right)

For the first task to start a chat, the user can simply tap on the message button and a chat screen would pop out from right side, shown in Fig. 1. He/she can select an existing group in the screen view or create a new group by tapping the plus button on the top right.

For the second task to create an event involving multiple family members and add the event to calendar, the user has two approaches to get on the path, either by tapping event in the creation menu, which leads to “New Event” screen or the to-do icon in the home screen, which is followed by a screen view of an event list. The user can then tap the plus button to add an event. The task flow is shown in Fig. 2.

On the new event screen, the user selects invitee from a contact list, chooses whether to send notice and adds this event to his/her calendar. He/she can confirm and save the event to the family event list by clicking the tick icon on the upper right.

The event list screen shows a list of ongoing tasks with brief description for each. A quick tapping on a task brings up an extended view of its details. A long press on the task leads to a pie menu centered around the finger point, where the user can move his/her finger to mark the task as completed, delete the task or edit the task.

Fig.2 New event screen and event list screen

The most complicated task is to create a note, label it and post it to a family forum, which follows a similar action sequence with the first approach of task 2, see Fig. 3. The user first selects "Note" in the creation menu and is led to note screen. He/she can label it with the upper right bookmark icon and share it on a private platform only accessible by immediate families or on a forum of relatives and friends with the upload icon. After uploading the user is automatically brought to the home screen with the latest post.

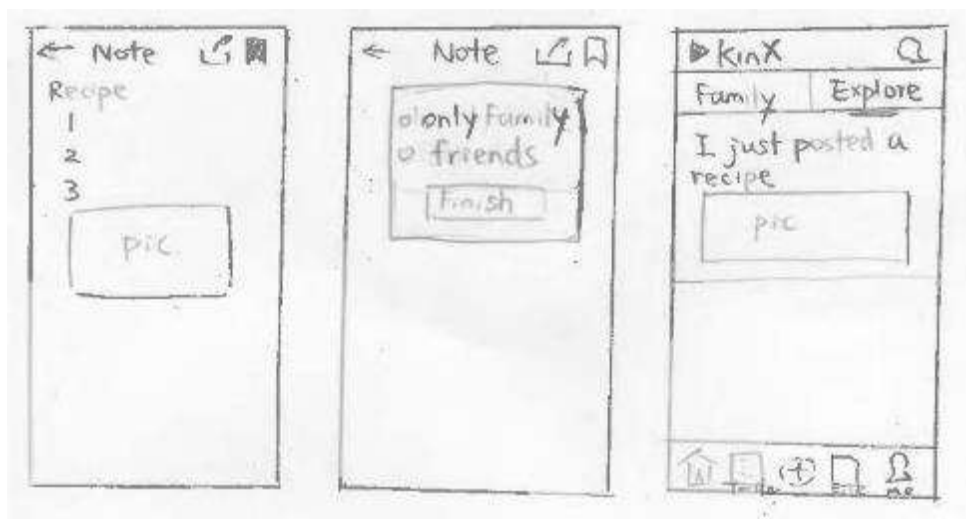


Fig.3 Notes screens

A complete view of all the screens used in user testing is shown in Fig.4.



Fig.4 A complete view of the prototype

METHOD

Participants

Subject 1: Australian PhD student that has been in the U.S. for about 1 week, plan to stay for 5 month. She communicates to parents using email and Facebook. Use Google Chat to talk to her sister. Randomly recruited, no compensation

Subject 2: Korean PhD student that haven been in the U.S. for about 1 month. She communicates to her parents using KakaoTalk and Skype about once a week. She never uses the phone.

Subject 3: PhD student. She uses Skype, WhatsApp to communicate with her family

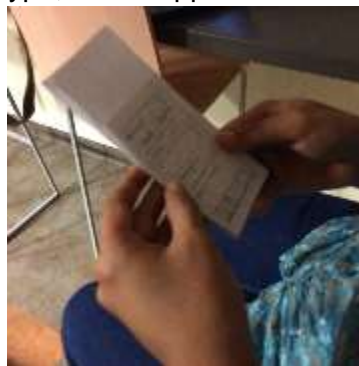


Fig.5 A participant using our prototype

Environment

Subject 1: Outside of Old Union where she was preparing for her class

Subject 2: Outside of the Escondido Village housing after dinner

Subject 3: We asked the subject to meet at our dorm building

Tasks

Scenario 1: You are sitting outside _____ and would like to send a text to your immediate family member notifying them that you will come home for Thanksgiving two days early.

Scenario 2: You are planning a family reunion next month and you would like to send a calendar invite to everyone in your immediate family add to your own calendar.

Scenario 3: You recently learned a delicious recipe. Create a note and label it as recipe and post it on the family forum to share with your relatives.

Procedure

We followed a simple 4-step process that we could replicate for each interviewee:

1. Introduction (see appendix)
2. Show basic functionality through a demo
3. Request the interviewee to perform the task (see appendix)
4. Solicit and gather feedback

Test Measures

We used 3 different measures in our testing process, rendering a final severity rating that took into account the performance of the user based on the each of the 3 measures:

1. Number of times the user was visibly confused
2. Number of attempts before finding the correct button
3. Time taken to complete the task (benchmarked against how long it took us)

RESULTS

Our results are summarized in a table below. For in-depth results on a per participant basis, please consult our appendix.

Problem	Location	Severity Rating	Possible Fix	Task Number
User unable to find the "Note" feature, and eventually gave up after several attempts	Home screen	4	Resdesign the bottom navigation panel	3
User expected to be automatically taken back to the original creation screen after selecting family members	New event	1		3
What is the text box on the home screen for?	Home screen	0		1
User can't go back to the home screen after adding a new event	Event screen	4	Make the navigation panel part of every screen	2
Took user few minutes to figure out how to access the pie menu in the to-list	To-do list screen	2		2
User couldn't figure out how to see her recent post	Home screen	3		3
Took a while to figure out where chat is	Home screen	2		1
Thought the selection box where online indicators in the chat selection screen	Chat	1		1
The user thought that by typing the title of note, it automatically converted the note to that file type	Note screen	3		3

Severity Rating

0 = no problem

1 = cosmetic

2 = minor usability problem

3 = major usability problem

4 = usability catastrophe

Fig.6 A summary of our results, associating a severity rating with each problem

DISCUSSION

We learned the pain points of our application and the difficulties throughout the interview process. Some of these pain points were the result of design failures, and other were the result of existing user mental models. However, all of the users were able to eventually complete the 3 tasks. First, users had hard time accessing the chat feature because our layout and icons were unintuitive. Most users explored for 2-3 minutes on the home screen before they discovered the

chat option. Second, existing user mental models hindered the completion of tasks. Users expected to be automatically taken back to the original event creation screen after selecting family members, and they were confused when this did not occur (2 out of 3 users). In another instance, a user thought that by typing "Recipe" in the title of the note, application automatically converted the note into a recipe. Lastly, there are few other minor issues we hope to address in the iteration. This includes trouble finding newly created notes (3 out of 3 users), access the pie menu for the to-do list, and how to use the status update feature on the home screen.

We learned that finding subjects was difficult due to the time constraint, but the candidates we did find were very interested in the application and offered many suggestions for improvements. One of our users suggested that we move the confirmation button towards the bottom of the screen vs. top right.

Here are the design changes we are considering in our next step:

1. Add a navigation panel to every screen to allow user to quickly access other parts of the application
2. Improve error handling, including an option to go back to the home screen
3. Make finding the chat screen more easily by changing the format of the chat button. Factors to consider are color, size and image
4. The experiment may not be able to reveal the following issues / problems.
5. If people would actually use the application instead of Skype, messaging apps, etc. In other words, how can we incentivize user to switch to our application?
6. After multiple usage, would usability improve?
7. If we introduced colors and implied textures, would usability improve?

APPENDIX

Instructions

Hello, my name is Tony and this is my teammate, Jackie. Would you be interested in trying out a prototype of our mobile application that we have designed in our class? This would take 5-10 minutes of your time.

Before we start, could we have you sign a confidentiality agreement consent form? We will only use your data within our team, and any personally identifiable information, such as your name, will not be collected.

Our experiment evaluates the KinX user interface, which is mobile application we designed to bring families together. The application focus on three aspects of family life: organization, communication within the immediate family and communicate with relatives and friends.

We will walk you through few tasks that we would like you to accomplish on the platform. Please think out loud and let us know if anything appears confusing or frustrating. If you would like to fill

any text field, please pretend that the text will appear as you type. To start the interview, could you tell us about yourself and your current interactions with your family?

Scenario 1: You are sitting outside _____ and would like to send a text to your immediate family member notifying them that you will come home for Thanksgiving two days early.

Scenario 2: You are planning a family reunion next month and you would like to send a calendar invite to everyone in your immediate family add to your own calendar.

Scenario 3: You recently learned delicious cake recipe. Create a note and label it as recipe and post it on the family forum to share with your relatives.

Raw Transcript / In-depth Results per Participant

Subject 1

Task 1

- Tapped on the message button
- She said “Oh man i don’t know..is that family?”
- Tapped on my family
- Tapped on the message and sent a message

Task 2

- She said “I don’t know what..to do?”
- She tried using the “To-do” button on the navigation, then Tapped on plus sign
- Tapped on “Add family”
- Selected all “All family”
- She said, “It wouldn’t it just go back?” after tapping “All family”
- Tapped “Add to calendar”

Task 3

- Tapped on “File”
- She said, “Nope must be wrong.”
- Tried the center text box
- Tried tapping “me”
- She said, “I am not sure where note would be, honestly I wouldn’t know.”
- We prompted her to use the plus sign
- She typed in a new recipe
- Tapped on the label, and selected recipe
- Tapped on “Share”
- Tapped on “With only family”, and “Share”
- She said that the bottom navigation menu was unclear.

Subject 2

Task 1

- Tapped on family, tapped on the status to see the status
- What does the box mean [on the home screen]?
- She thought the “add” screen could let you add something to the navigation bar
- Eventually found the chat button

- Tapped on the “family chat” button
- Wrote a message and sent it to her family

Task 2

- Tapped “To-do”
- Tapped “Add event”
- Then she filled in the details
- Tapped “add members”
- Selected “all family”
- How can I go back? Little tricky
- Eventually figured out to tap the “Ok” button in the upper right corner
- Selected “Add to my own calendar”
- Tapped the check mark to finish creating event
- Checked out the grocery list
- Suggested checkboxes, and popup menu to display the checklist
- Eventually figured out how to access the context menu for grocery list
- Asked how to go back to the home screen after the checklist

Task 3

- Tapped “File”
- Tapped “To-do”
- Tapped “Add events”
- No way to go back to the home screen [we restarted the computer]
- Found the note screen
- Tapped “Note”
- Uploaded a picture and filled out the description
- Tapped “Label”
- Tapped the “Recipe” label
- Tapped the “Upload”
- Limited sharing to friends
- Went back to the home screen
- What should I do, should i click on “friend” or “explore” to see my post

Subject 3

Task 1

- Seems very confused
- Tapped the text box
- Tapped “Family” heading
- Tapped the first status on the screen
- Tapped the first recipe on the screen
- Tapped “Explorer”
- Tapped “Recipe”
- Tapped “Chat”
- “No one is online?”
- Tapped “All Family”
- Sent a message

Task 2

- Tapped “File”
- Tapped “+”
- Tapped “Event”
- Fill out the details
- Tapped “Add members”

- Tapped “All Family”
- Tapped “Okay”
- “It would be better if the “okay” button is at the bottom”
- Tapped “Add to calendar”

Task 3

- Tapped “+”
- Tapped “Note”
- Filled in the details
- Tapped “Upload”
- Thought when you type recipe in the title, it automatically makes the note a recipe

More Prototypes

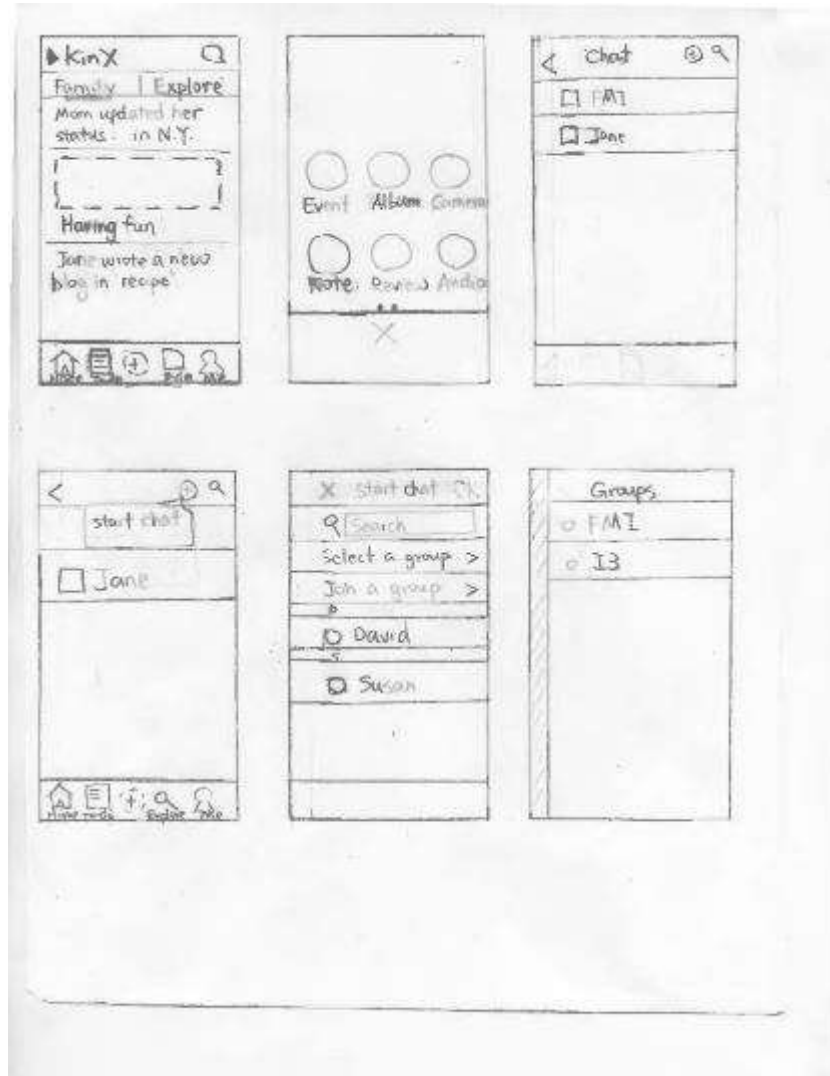


Fig. 7 Additional prototype 1

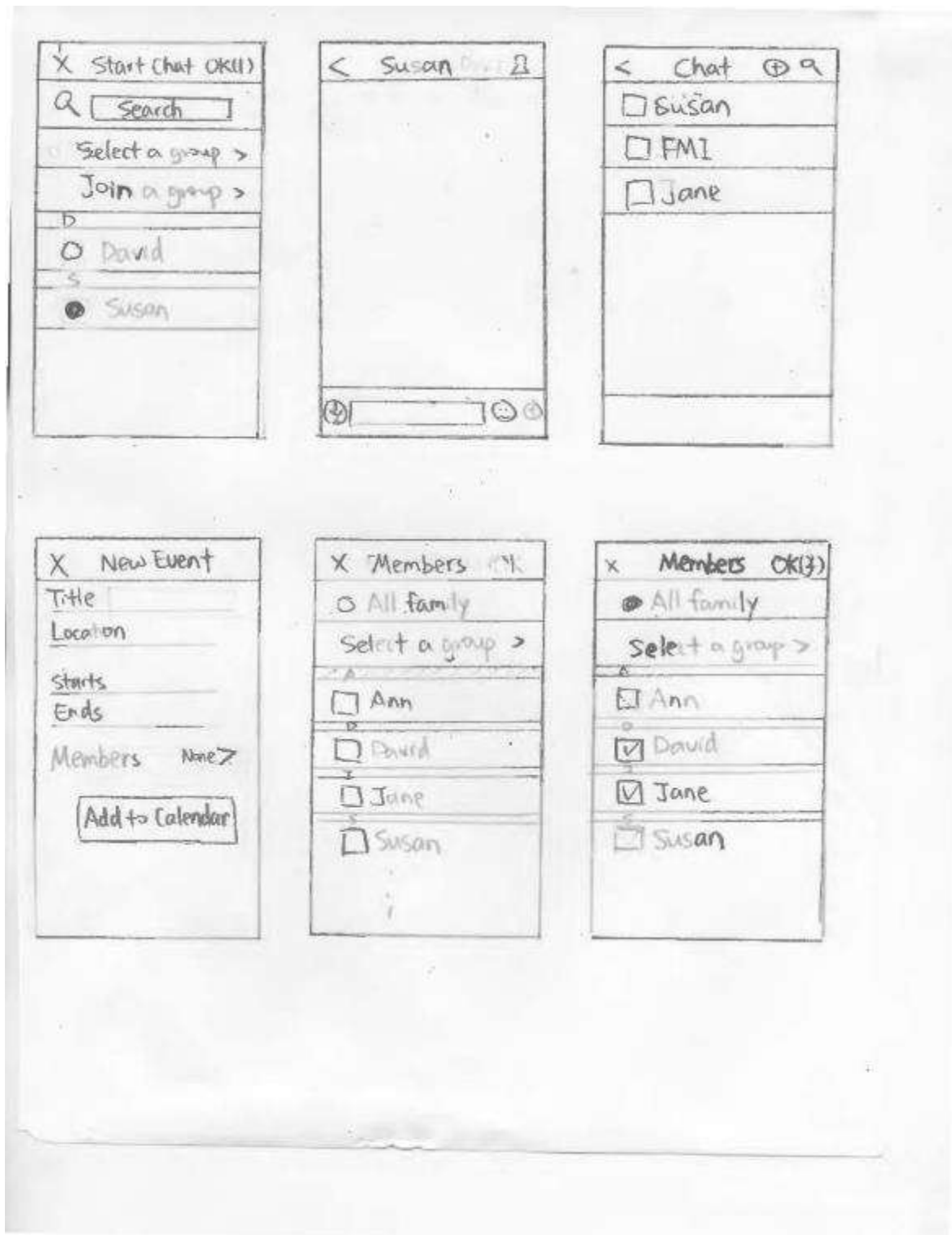


Fig. 8 Additional prototype 2

X New Event ✓

Title Reunion
Location AMD

Starts 8 a.m Oct 16
Ends 5 p.m Oct 17

Members David (3) >

Send notice

Add to calendar

X New Event ✓

Title Reunion
Location AMD

Starts ---
Ends ---

Members David (3) >

Send notice

Add to calendar

Events +

Grocery shopping

Movie

Reunion

Home Tasks +

Events +

Grocery shopping
tomatoes, lettuce,
spinach

Events +

Grocery shopping

mark
★

Done Finish

Events +

✓ Finished

Grocery shopping

~ Ongoing

Movie

Reunion

Fig. 9 Additional prototype 3

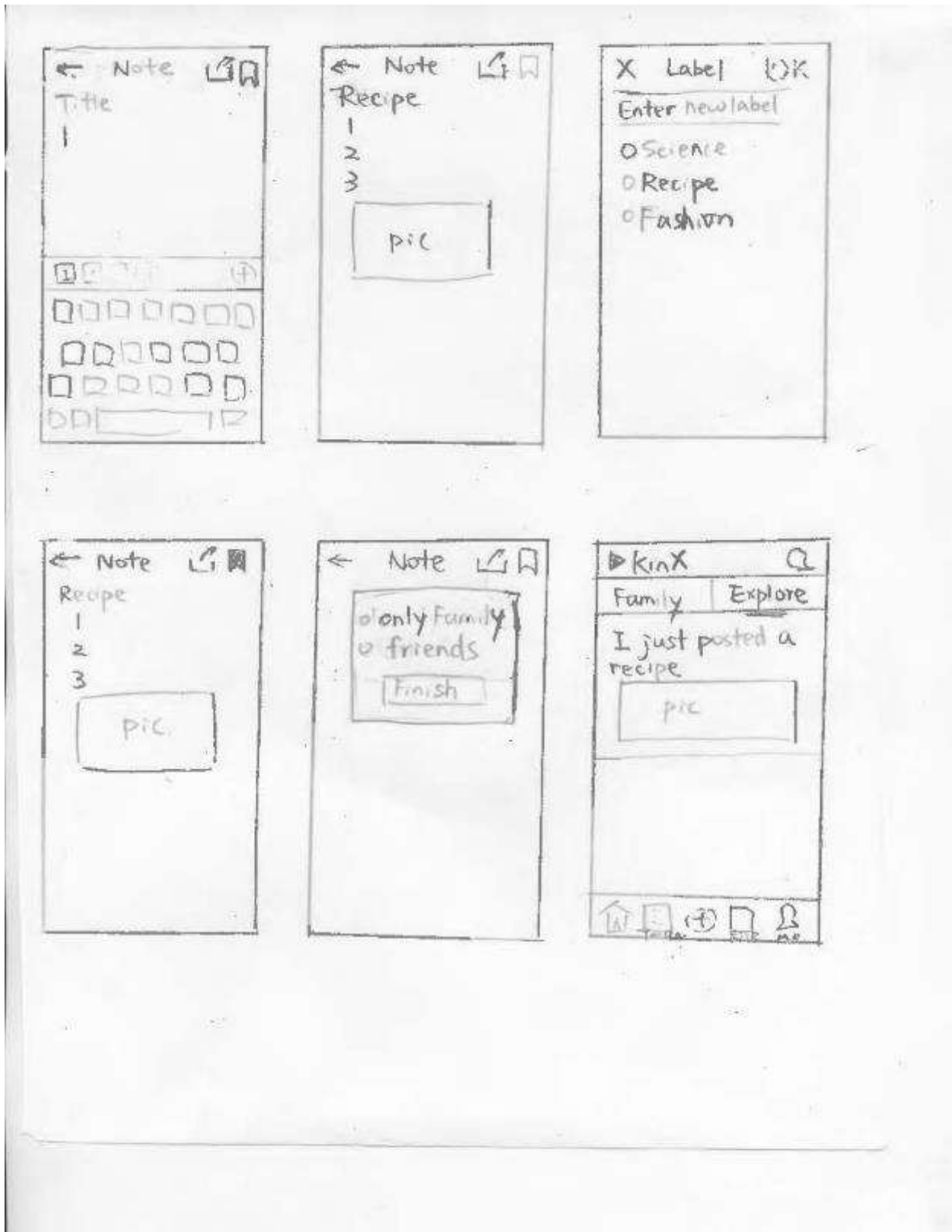


Fig. 10 Additional prototype 4