

# Iterative Design and User Testing

In an attempt to better understand the purpose of iterative design and user testing in the context of user interfaces and user experience (UI/UX), we chose to create a prototype for the startup DEX and test our prototype with various audiences.

## What is DEX?

“ **Dex:** Dex is a personal CRM. You sync up your contacts/calendars, and it finds the people you haven't kept in touch with and reminds you to reach out. You can add notes about a contact — like what you last spoke about, or what's going on in their life — to help with the conversation next time you see them. ”

## Introduction

The startup Dex is here to better connect the world by reminding users to reach out to people they haven't been in contact with recently. Dex allows users to sync their contacts and calendars in order to keep track of their socialization with various people. It also helps users organize and keep track of their conversations, by allowing for note-taking based on previous conversations, life updates, and more. We chose to design a mobile app for smartphones, in order to easily sync with common phone features, such as contacts, calendars, text-messaging, and calling.

## Part 1: Sketching

As we begin to think about our prototype design, we must consider a few pre-design questions, which help guide us towards creating a usable, effective, and clean interface.

### Pre-Design Questions

1. What is a group of people that will be directly impacted by your interface? A group of people is directly impacted by your interface if they are involved in any stage of the interface.

*We envision our interface being used by college students, young adults, and parents with an overall age range of 18-60.*

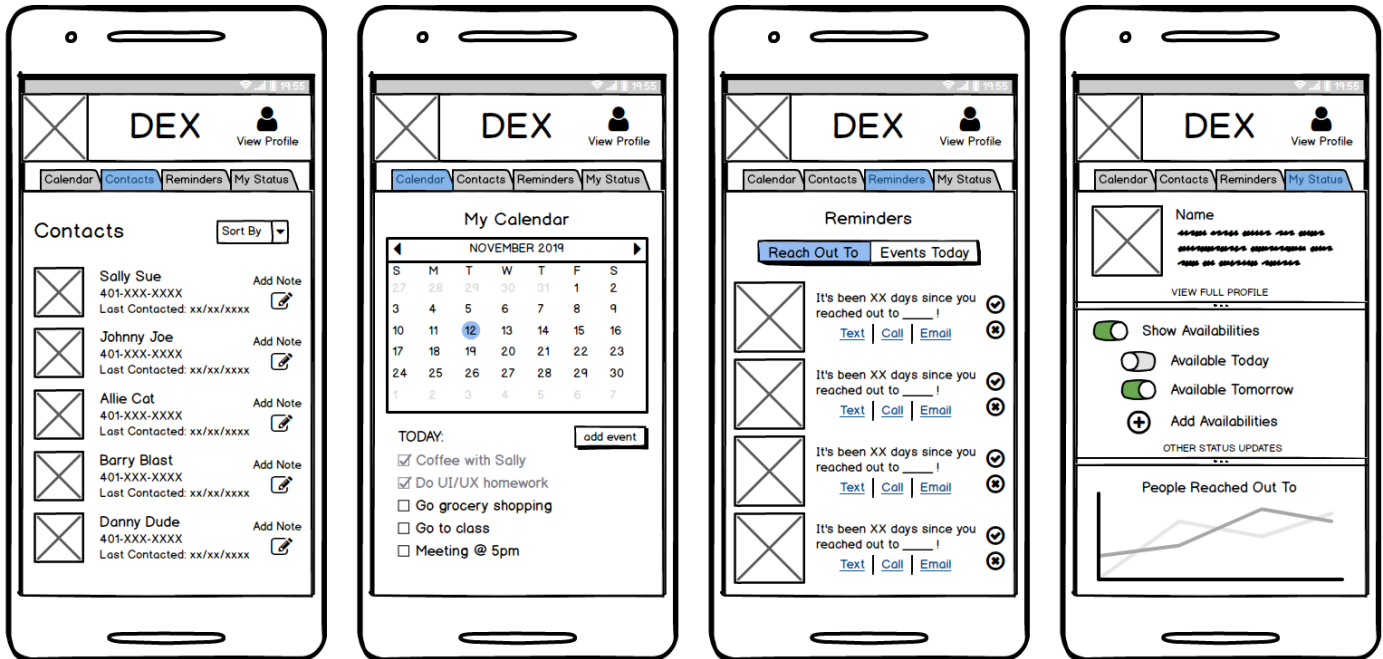
2. What is a group of people that will be indirectly impacted by your interface? A group of people is indirectly impacted by your interface if they are involved in an intended or unintended side effect of any stage of the interface.

*All of the contacts of Dex users will be directly impacted by our interface.*

3. How are these groups affected by your interface? What are some questions that your interface should address to ethically handle these effects?

*The group of people that are directly impacted by our interface will likely use the interface to connect with friends and family, organize their calendars, and overall to organize their social lives. The group of people that are indirectly impacted by our interface are affected because the Dex users will be notified to contact them and they will likely be contacted as a result of the interface. Overall, our interface affects people by encouraging contact between them, thus increasing communication and socialization. Our interface should address the questions: "Are people voluntarily being put in contact with each other?", "Is there a way to report inappropriate users?", "How can we ensure that users are over the age of 18?", "How can we make sure that the system doesn't discriminate against certain contacts?", and "How do we maintain the user's privacy?".*

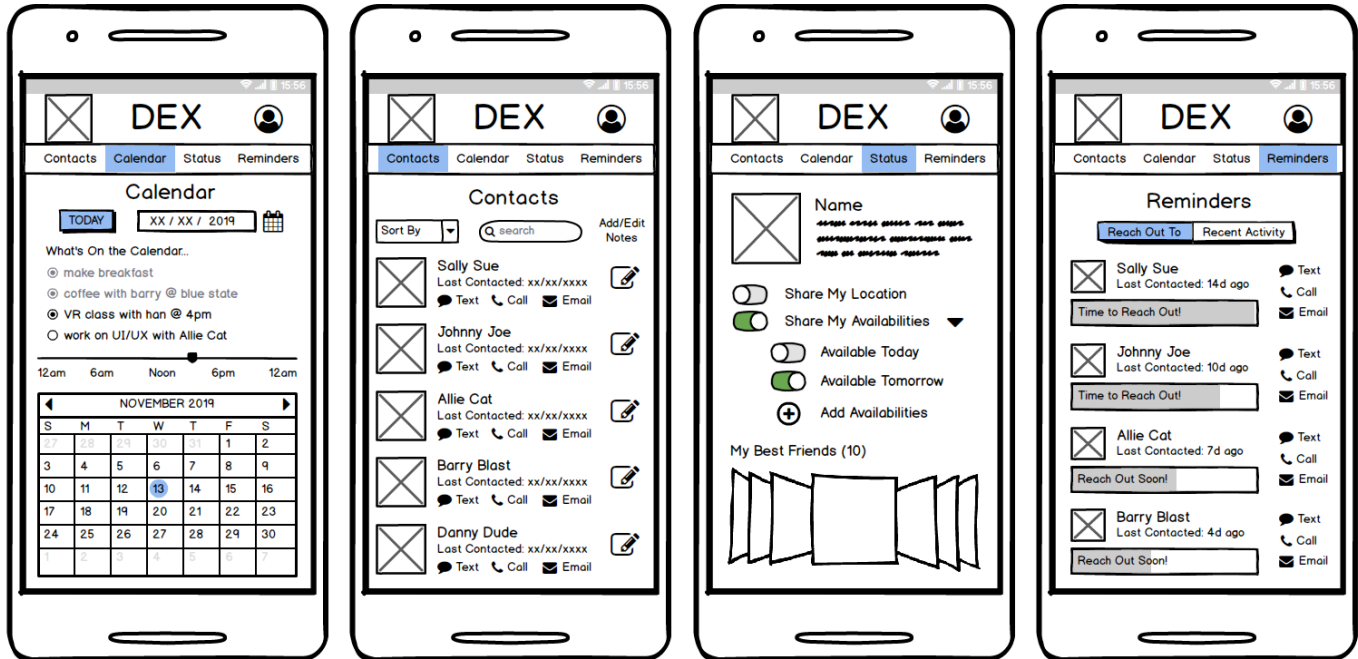
# Sketch: 1



# Sketch: 2



## Sketch: 3



## Sketch: 4



## Part 2: Mockups

View our high-fidelity prototype here:

[https://www.figma.com/proto/uPxQNqkCFWF00kaYINuiRB/DEX?node-id=313%3A31&scaling=scale-down&fbclid=IwAR1hwHOx0sJ9\\_NGDvwol8f8xQdz7e3fbdAIAFsIFmiADDY57cstk6w4Jilo](https://www.figma.com/proto/uPxQNqkCFWF00kaYINuiRB/DEX?node-id=313%3A31&scaling=scale-down&fbclid=IwAR1hwHOx0sJ9_NGDvwol8f8xQdz7e3fbdAIAFsIFmiADDY57cstk6w4Jilo)

### Justification of Changes from Original Interface

In making our first prototype, we focused mostly on creating a simple, aesthetic, and logical prototype that would complete the task outlined by DEX. We also dedicated time to ensure that this app would maintain the user's privacy, by allowing the user to manually mute notifications, block, and update notes as they please. After watching the user attempt to navigate our interface at the critique, we noticed that they were confused by the functionality of certain icons and buttons. Similarly, the critique helped provide us with valuable insight into the concerns that users might have when using the interface—specifically regarding the order of the pages, size and choice of icons, unexpected ease of blocking people, and more. In order to alleviate these issues, we altered many of our icons per the suggestions of the critique, and changed certain wordings in the interface that had accidentally implied blocking a user rather than simply removing a notification.

### Contact the Startup:

Our Dex Prototype

November 19, 2019 at 7:04 PM

Details

To: contact@getdex.com, Cc:

Dear employees at Dex,

As part of a UI/UX class assignment at Brown University, we were inspired by the description of your startup on TechCrunch. We designed an interactive interface that allows users to easily see their contacts, reminds users to reach out to each other, and allows users to take notes on their friends to ease conversation in the future. You can access the interface [here](#)! If you have time to check it out, we'd love to know what you think, since you've been working on this a lot longer. Just wanted to share!

Thanks,

Kevin Sun

November 19, 2019 at 7:20 PM

Details

Re: Our Dex Prototype

To: Cc: contact@getdex.com,

Thanks for sharing folks! If you're curious, I have a new set of designs for a mobile app we'll actually implement over the coming months.

P.S. since it looks like you might be new at UI/UX, I might recommend refactoring UI as a read!  
<https://medium.com/refactoring-ui/7-practical-tips-for-cheating-at-design-40c736799886>

Kevin

See More from

--  
You received this message because you are subscribed to the Google Groups "Contact" group.  
To unsubscribe from this group and stop receiving emails from it, send an email to [contact+unsubscribe@getdex.com](mailto:contact+unsubscribe@getdex.com).  
To view this discussion on the web visit <https://groups.google.com/a/getdex.com/d/msgid/contact/BA85D572-FC2A-49CC-81B0-273D2E2E380B%40brown.edu>.

## Part 3: UserTesting

In order to test our high-fidelity interface further, we posted our prototype to UserTesting.com. Below we have outlined our hypotheses and intended user tasks, along with the results of these tests. Also linked above, the interactive prototype we used for our user testing is located here:

[https://www.figma.com/proto/uPxQNqkCFWF00kaYINuiRB/DEX?node-id=313%3A31&scaling=scale-down&fbclid=IwAR1hwHOx0sJ9\\_NGDwwol8f8xQdz7e3fbdAIAFsIFmiADDY57cstk6w4Jilo](https://www.figma.com/proto/uPxQNqkCFWF00kaYINuiRB/DEX?node-id=313%3A31&scaling=scale-down&fbclid=IwAR1hwHOx0sJ9_NGDwwol8f8xQdz7e3fbdAIAFsIFmiADDY57cstk6w4Jilo)

## Hypothesis & Test Instructions

### Our Hypotheses

1. Users can easily navigate through the app and identify more than half of the designed functionalities as well as their corresponding features.
2. Users can successfully execute the task they wish to perform without any confusion or difficulty.
3. Users can complete all sub-tasks in less than 60 seconds.

### Tasks

Navigate through the app and find out the number of people you have reached out to this month.

- Subtask 1: Navigate around the interface and access all pages available.
- Subtask 2: Identify relevant functionalities and features on each page.
- Subtask 3: Locate the feature and button for showing the number of people you have reached out to and use them to find out the number for this month.

### Explanation of Proposed Testing

Hypothesis 1 is tested by subtasks 1 and 2.

Hypothesis 2 is tested by subtask 3.

Hypothesis 3 is tested by the total time taken to complete all 3 subtasks.

### Remote Usability Tests on UserTesting.com

<b>UserTesting Support</b>	11/18/19
Your UserTesting video... Inbox - Brown	
Hi Sicheng, Your session is complete and your video is available to watch! L...	
<b>UserTesting Support</b>	11/18/19
Your UserTesting video... Inbox - Brown	
Hi Sicheng, Your session is complete and your video is available to watch! L...	
<b>UserTesting Support</b>	11/18/19
Your UserTesting video... Inbox - Brown	
Hi Sicheng, Your session is complete and your video is available to watch! L...	

## Feedback

**Summary:** Despite the three different types of error our users made, the first two hypotheses are strongly supported by the UserTesting results based on the 100% completion rates of all subtasks. However, the last hypothesis failed since it took our users approximately 50% longer than expected to perform the task.

## Quantitative Analysis

Subtask	Completion Rate	Error Count	Time on Task (sec.)
Subtask 1: Navigation	100%	1	4
Subtask 2: Identification	100%	3	84
Subtask 3: Execution	100%	1	4

## Evaluation of Metrics

- **On sub-task 1:** All users managed to successfully navigate through the app and access all available pages. The only error was a mistake when one user clicked on the DEX logo and profile picture fixed on the very top of the screen—both of which were not designed to be interactive.
- **On sub-task 2:** Though there were lots of guesses and misses, all users managed to identify more than half of the designed features and their functionalities. However, there were quite a few mistakes such as misunderstandings on the purposes of specific features.
- **On sub-task 3:** All users managed to perform the task successfully, though the time they took vary largely. One user was able to identify and perform the task instantly without clicking through all the pages, while another revisited all four pages several times before correctly locating the features to perform the task.
- **In general,** 2 out of 3 users found the interface satisfactory, but 1 user felt confused and wished there was better clarification on what each page does. We feel that the interface design is mostly satisfactory, but the effectiveness and efficiency could be improved so that users can identify purposes of features and perform tasks more easily and quickly.

## Errors Made

- **In subtask 1:** clicking on a heading that isn't clickable (mistake)
- **In subtask 2:** misunderstanding the purpose of a feature (mistake)
- **In subtask 3:** looking for a feature relevant to a task on the wrong pages (lapse)
- **Methodology:** error counts are calculated by summing the number of times each user made a different type of mistake.

## Potential Interface Changes

Based on our UserTesting results and feedback, a few interface changes we would make include:

- Make the DEX logo and profile picture on top of the screen interactive, since it appears to be intuitive in many contemporary designs. The logo can connect to a settings page with notification management or other internal customization.
- Add icons of events on the calendar table on Calendar page to indicate event schedule.
- Show the relationship tag, i.e. family, Best Friend, etc., on Contacts page and modify the Sort By button so that users can filter contacts by relationship tag.

## Testing Experience

- The testing was overall successful in that we managed both to acquire enough information to sufficiently test the hypotheses we raised and to identify how we can improve the interface.
- The subtasks provided clear instructions for the users as well as sufficient information for us to test our first two hypotheses.

- However, the task instruction for UserTesting could be made more precise so that it better relates to the last hypothesis we planned to test. For instance, the last hypothesis, which measures the time it takes for users to complete the tasks, is not accurately reflected by the test results. We initially thought that the users would execute the task first and then move on to the explanation. But in reality, all three test users were performing and explaining the task at the same time, resulting in longer Time on Task measurements than real-life scenarios. Thus, for any hypothesis regarding Task on Time, we should explicitly ask users to finish performing the tasks before explaining their thoughts.
- As for areas for improvement in our interface, we learn that “less is more” is essential in UI/UX design. In order to reach the widest range of audience, we have to assume the minimal amount of memory space required to use the app. It is important to make sure that our users don't feel lost or confused when they are looking for a certain feature that's necessary to accomplish their goal.