CSE 323: Final Report
Product Name: Do-Things

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What we are trying to solve

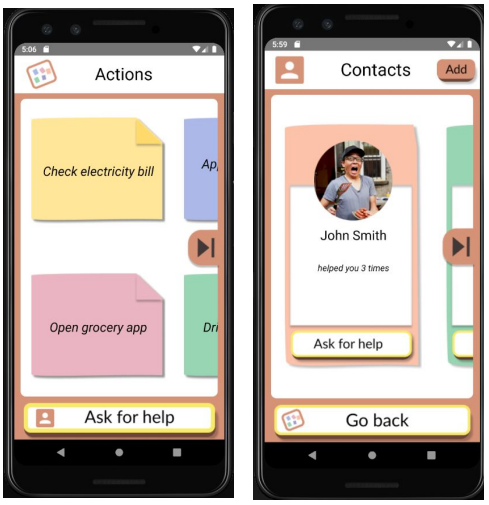
To allow greater accessibility for technologically challenged people by allowing them to receive help remotely, record the help that they were given, then be able to repeat those exact actions as needed. We chose this workflow because our research showed that direct supervision was by far the best method to provide help and that oftentimes people would need repeated help on the same tasks.

We also wanted a solution that was universal and not reliant on certain apps or services while also being easy to understand. Naturally, this led to us deciding to use touch input. Since it is the primary way to interface with a phone, our app would have the same level of access and all users would already be familiar with it. Also, we anticipated that the people providing the help would be experienced but not expert users of the system and the person receiving help would not need to do overly complicated tasks, so the use of touch would be sufficient.

This simplifies the recording process as well as we will just have to record touch positions. A limitation could be that people's phone layout might change and make recorded actions obsolete, but from our research people do not often change their screens, which also prolongs to lifespans of the recorded actions.

General Design Philosophy

Our primary goal is to improve accessibility of phones for those who face difficulties with technology, particularly the elderly. To do this, our design incorporated elements of skeuomorphism to mirror more familiar physical interfaces. For example, in our actions screen, we recreate the feel and look of a post-it note board. In our contacts screen we display profiles as cards with enough space for large profile pictures and text for visibility.



As an extension of this thinking, we also implement physical buttons in addition to horizontal scroll with the idea of extensive accessibility in mind.

In terms of colors, we chose soft but entertaining colors that are suitable for older age groups with good contrast in the background for visibility. All text is made large and with appropriate line weight for visibility.

We made the user interface as friendly and accessible as possible.

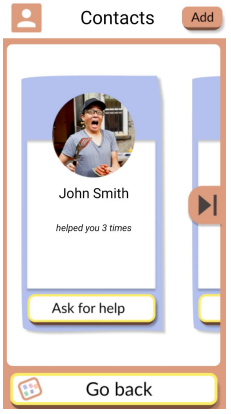
We also highly valued minimalism, so in total our app only has two primary screens from which everything can be controlled.

From Prototype 1 to Prototype 2

A lot of our additions are elements that we had envisioned during the mid-fi stage but hadn't the time to implement. We added physical buttons to the Actions and Contacts screens to allow for multi-modal accessibility. To this, we also allowed snapping to columns of cards. We also significantly improved the overall styling to match the mid-fi, such as by brightening the Actions screen with more colors for the notes.

In the contacts page, based on our feedback from our user research, we added a new add button at the top corner so that the user does not need to scroll through to the left end to add a new user. Another bit of feedback we got was that at the end of recording, it wasn't clear what the continue button did so we changed the wording.

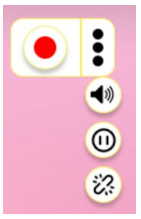
Task 1



Task 1 was to add a new user, done by the helpees. From the landing page it's already clear how this is done - "Ask for Help" at the bottom. On the contacts page, we opted for accessibility over convenience. One potential design was to list the helpers, but from our initial assumption that helpees would only have 4-5 helpers and our user research which showed that people preferred accessibility, we decided to go for large cards with instantly accessible buttons. When adding a helper, we integrated with normal Android share to allow people to send an invitation from whatever platform they're most familiar with.

Task 2

Task 2 was to allow for remote access which will be done by both the helper and the helpee. Here we opted for security over convenience. Allowing complete remote access is a security risk and we decided that the risk of a helpee (already unfamiliar with technology) accidentally handing over control of their phone was too high. The helpee must initiate remote access, the helper can only choose to Accept or Deny the request. If the request has been accepted, the helpee only has the option to disconnect, as other control is handed over to the helper. From the helper's perspective, we considered that providing help would not be something that we expect the helper to provide on a regular basis and so additional options may cause more confusion than ease of use. Additionally, the primary means of interface is always touch so we kept the toolbar as unobtrusive as possible. We allowed for voice communication during the recording process to ease communication without having to juggle other apps. Once recording is finished, it is given a name and description and saved.



Task 3

Task 3 was to replay actions, done by the helpee. We made this by far the easiest task to execute because we anticipate that it will be the primary feature. Everything is on the first page sorted by most recently used for ease. Since we assume that the helper will only have around 5-10 macros they use on a regular basis, we could afford to give more space to presentation. Each note has a large header for easy identification. However, we opted to have the user have to open the details page in order to execute the macro because otherwise the risk of an accidental execution is too high. We placed large buttons for navigation because we wanted to make it clear how to navigate the screen, for people who might have trouble with swiping gesture navigation. During execution, the helper can choose to stop at any point so that they can continue where the action left off, allowing for further flexibility (such as recording an action that does things in a sequential order where you can stop when it reaches the position you desire).