

# Visual and Interaction Design Requirements

Version 0.1

## Key Features

- Webapp + Alexa Skill
- Webapp only allows the Amazon Echo owner to manage task information
- Can not be used as a stand-alone app

Prepared By

Team Go!

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## Frontend Components

- Login / Sign up
  - Standard email password sign in. Use Firebase's authentication service
- Roommates tab
  - List View displaying current added housemates (Empty if none)
  - Add new housemate
  - Delete housemates
- Tasks tab
  - Assign tasks to roommates
- The mockups for these components can be found later in the document.

## Backend Components

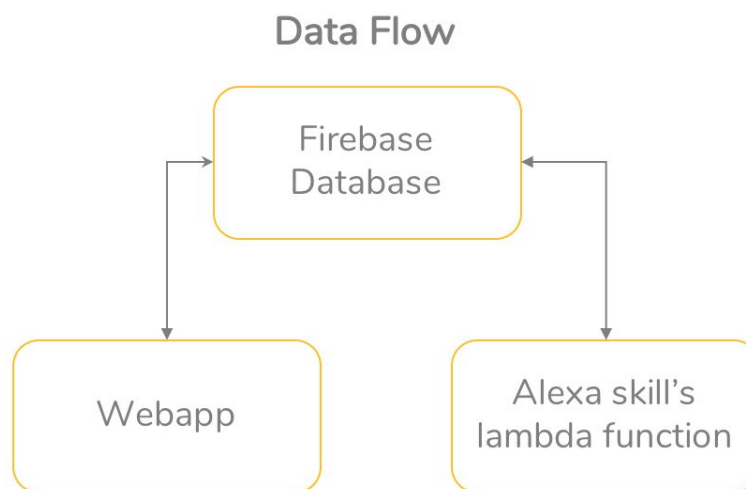
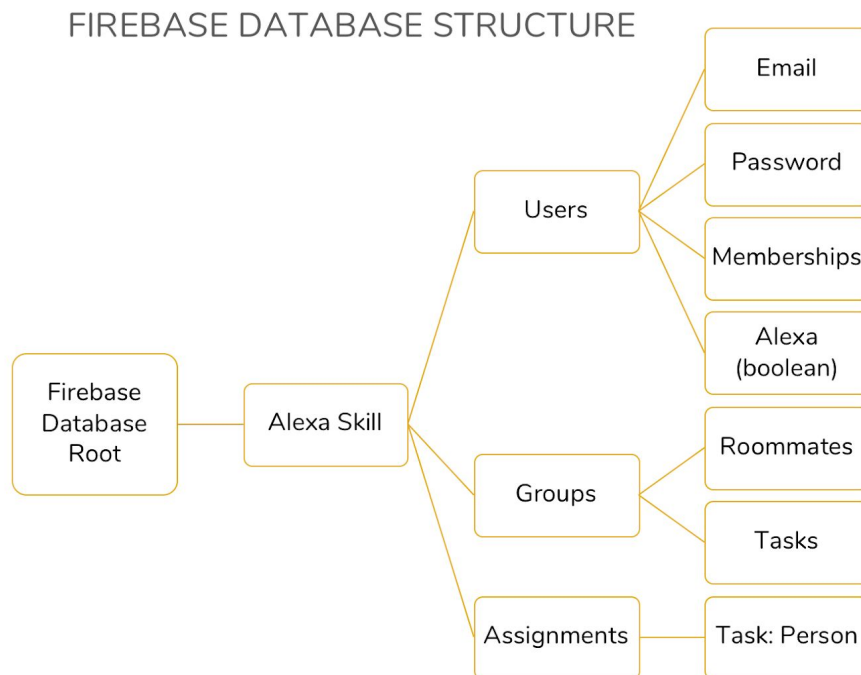


Figure 1: Data flow between different components of the app

- Use Firebase for user authentication; use Firebase's email & password authentication function.
- Write roommate and task assignment information to Firebase using user input from the webapp.
- Read Firebase database from the skill's lambda function and update the information as per the voice interaction model.
- Refer to *Figure 2* for Firebase database design



*Figure 2: Firebase database structure to store user and task information*

### Alexa Skill Requirements

- Activation
  - Utterance: "Alexa, open o'hana"
  - Response: "Welcome to o'hana"
  - Backend: Use the Echo device ID to retrieve user and task information from Firebase database.
- Get tasks
  - Use case 1:
    - Utterance: "Alexa, what is the next task for <person's name>?"
      - **BACK-END:** Recognize name and pull individual data from Firebase
    - Response: "<person's name>'s is assigned to <task>"

- Backend: Branch into the assignments data, find the person with the given name and retrieve the task assigned to them.
  - Use case 2: If the user doesn't have any tasks assigned to them.
    - Response 3: "<person's name> does not have any tasks."
- Mark tasks as complete
  - Utterance: "Alexa, mark \_\_\_\_'s task as done"
  - Response: "Ok! I marked the task \_\_\_\_ as done. Would you like to know your next task?"
  - Backend: Find and recognize task, then mark it as completed in the database. Rotate task to next person in list of users.
- Unregistered utterances
  - Response: "I'm sorry, I didn't understand"
  - If occurs more than 2 times
    - Utterance: "Would you like to know the available commands?"
    - If response is "Yes"
      - Utterance: "Try saying: What are the tasks assigned to Ethan?"
- Nice to have
  - Filter words flagged as inappropriate
  - Multiple ways to phrase a command

## Version 2 (Planned for Future)

- Webapp as a stand-alone app; or can be used to complement the skill.
- All roommates will be able to login to the app and manage tasks.

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## Visual Design of the Webapp

\*Dimension percentage calculated using 1920 x 973 window\*

### Global Elements

- Webapp background color: #FFA657
- Font: Nunito (otherwise specified)
- Location is specified with left and top side of the object in a square form from left for both current object and target object
- Unless specified, all color opacity is 100%
- Upper Bar (UB): Will stay fixed when scrolled

- Bar Color: #595959
- Bar Dimension: 100% Width 9.1% Height
- Logo : non-clickable
  - Dimension: Black circle with 65.1% of UB height with outer white stroke with 5.8% of UB height, black circle with 35.9% of UB height with outer skyblue stroke with 8.9% of UB height and isosceles triangle with 2% of UB width and 23.5% of UB height
  - Color:
    - Skyblue Stroke: #31C4F3
    - Black Circle: #595959
    - White Stroke: #FFFFFF
  - Location: Left side of the logo should be 3.3% away from x=0. Middle point of logo height should be aligned horizontally with middle point of UB height, Black circle with skyblue stroke is located in the middle of black circle with white stroke. Bottom point of triangle should touch the bottom of Black circle with skyblue stroke and right point should touch right side of black part of black circle with skyblue stroke
- o'hana Name: non-clickable
  - Text
    - Font: Quicksand
    - Thickness: Medium
    - Size: 6.1% of the website(W) height
    - Color: #FFFFFF
  - Location: 7.2% away from x=0. 1.7% away from y=0
- User Info (hello [name]!)
  - Text: non-clickable
    - Font: Quicksand
    - Thickness: Medium
    - Size: 39% of UB height
    - Color: #FFFFFF
    - Location: x: 86% of width of W, y: middle height of UB height

## 1. Log in / Sign up

- No new page when switching between two; no transition animations.

- Global Elements within Log in/Sign up page
  - Font Thickness: Regular
  - “Let Alexa Keep Track...” text
    - Size: 4.1% of height of the W
    - Location: 2.5% away from x = 0, 15% away from y = 0
    - Color: #FFFFFF
  - Black log in / sign up box (BB)
    - Dimension: 40% of W width, 44.7% of W height
    - Color: #595959
    - Stroke: Weight 10 outside stroke with 50% opacity of same color
    - Location: 8.7% away from x = 0, 35.2% away from y = 0
  - Log In/ sign up button
    - White log in/ sign up Box: When clicked (box and text in the box), proceed to user/task page (figure 2.1)
      - Dimension: 18.4% of BB width 7.1% of BB height
      - Location: Middle of the BB width, 66.2% of W height
      - Text:
        - Color: #595959
        - Size: 2.5% of W height
        - Location: middle of width and height of white box
    - Log in / Sign Up text below the white box: When clicked, proceed to figure 1.2 from figure 1.1 or vice versa depending on which state the page is in
      - Text
        - Color: #FFFFFF
        - Size: 2% of W height
        - Underlined
      - Location: 5.1% of W height apart from top of White Box
  - White square stacked up
    - Dimension for both boxes: 25.1% of W width, 56.5% of W height
    - Color: #FFFFFF

- Stroke: Weight 3 outside stroke with color #31C4F3
  - Location Bottom Square: 61.1% of W width, 31.4% of W height
    - Bottom square is below Upper Square
  - Location Upper Square: 64.6% of W width, 26.9% of W height
  - Lines in the Upper Square (US):
    - Dimension: 66.6% of US width, 0.4% of US height
    - Location of the highest line: Middle of US, 38.6% of W height
    - Vertical distance between two lines: 5.1% of W height
    - Total 6 Lines
- 1.1 Log In: Default stage
  - White Box next to username, password, and email credential (WBC)
    - Is a text entry box that accepts characters, numbers, and special characters
    - Input text will start at the left side of the box to right
    - Dimension: 31.5% of BB width, 7.5% of BB height
    - Location:
      - Username Box: 44% of BB width, 28% of BB Height
      - Boxes are separated by 14% of BB height vertically
  - Texts next to WBC
    - Size: 25
    - Color: #FFFFFF
    - Location: left side of text is 6.4% of BB width away from the right side of WBC, Middle of WBC Height
- 1.2 Sign Up: 1.1 becomes 1.2 when Underlined Text below White Box is clicked
  - WBC & Texts next to WBC
    - See 1.1 Log in WBC specification, behaves in a same way

Figure 1.1

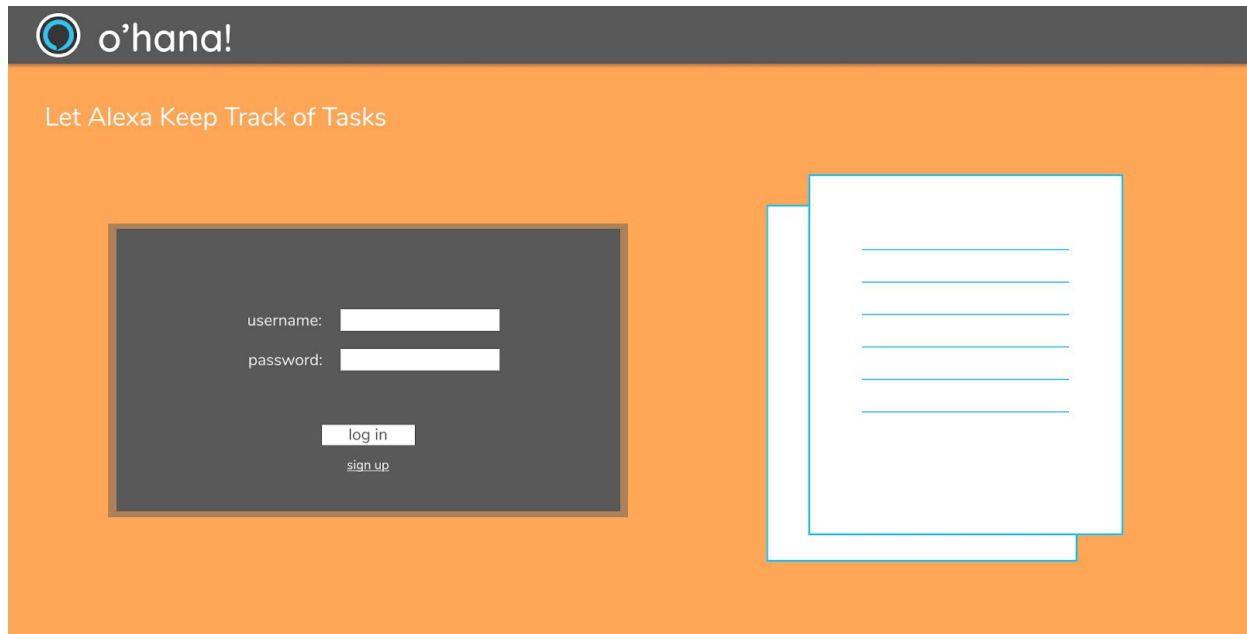
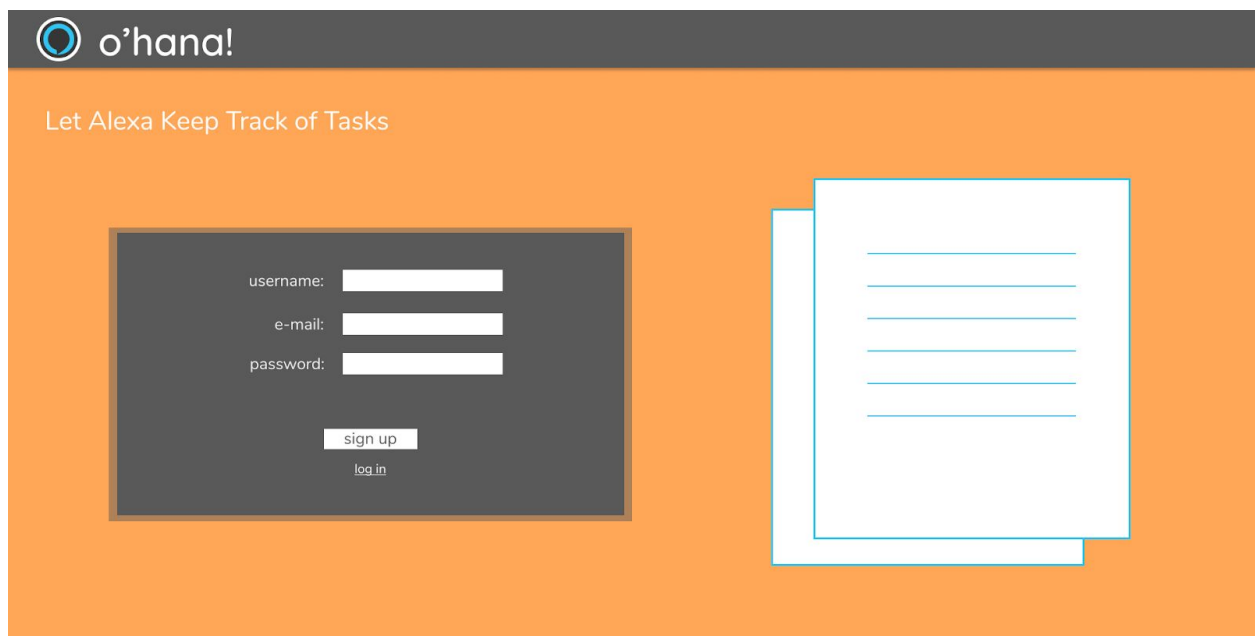


Figure 1.2



2. Tasks/Users -- No new page when switching between two

- States change only when an icon that is grayed out on the left side (not including texts below them) (i.e. users icon in 2.1, tasks icon in 2.2) is clicked
- State change does not have a transition
- Users/Tasks icon will not move when scrolled
- Users/task icon
  - Black circle:
    - Location: X: 7% px Y: 25.1%px
    - Dimension: 21.8% of W width
    - Color: #595959
    - Effect: Drop Shadow
      - Radius: 1.5% of W height
      - Offset: 0px, 1.5% of W height
  - Skyblue circle
    - Location: Origin of black circle
    - Dimension: 20.3% of W width
    - Color: #31C4F3
  - Skyblue circle
    - Location: Origin of black circle
    - Dimension: 18.7% of W width
    - Color: #FFFFFF
  - Users/tasks text
    - Size: 61.6% of W height
    - Thickness: Black
    - Location; Middle of circle vertically, 1.2% gap between text and outer icon circle (orange background gap between users and icon/ tasks and icon)
  - Users icon graphic
    - Location: Origin of the white circle
    - Color: #595959
    - Dimension: 64% of White Circle dimension
  - Tasks Icon graphic
    - Acceptable as long as the graphics look like an icon in Figure 2.1



- Location: Middle of the graphic should be origin of the white circle
  - Color: Black: #595959 White: #FFFFFF
  - Outer-stroke: 7% of circle width
  - Dimension:
    - Square: Width: 48.6% of white circle Height: 59.5% of white circle
  - Lines
    - Highest one location: Align with middle of the square on y axis. 19.8% of square height away from the square top
    - Dimension: Width: 67.3% of square width Height: 1.5% of square height
    - Separated with 15.2% square height apart
- For tasks icon in 2.1 or users icon in 2.2
  - 66.7% size reduction on task and icon
  - 35% less shadow effect
  - Location: 61.4% W height
  - Semi-graying out
    - Color: #323232
    - Opacity: 39%
- 2.1 Users
  - “Who are the... & list users in or...”
    - Text:
      - Size: upper text: 41.1% of W height, lower text: 30.8% of W height
      - Thickness: Black
    - Location: The middle of the texts should be the middle of the icon
  - Name box
    - Dimension: 14.7% of W width, 5.2% of W height
    - Stroke: Center stroke with 2% of W height with rounded edge
      - Color: #31C4F3
    - Color: #FFFFFF
    - Circle attached to the box

- Dimension: 4% of W height
- Stroke: 0.5% of W height with center align
  - Color: #31C4F3
- Color: #FFFFFF
- Location: Circle origin should be on the left side of the box and middle of box height
- User exiting box:
  - Settings Icon:
    - Dimension: fills up 80% of the white circle it is located in
    - Location: Origin of the circle it is located in
  - Once Clicked, brings up the edit/delete menu (See 2.1.2 for details on the menu)
- Type Here Box:
  - Plus Icon: diameter is 80% of the circle it is located in
    - Dimension: Each bar has height of 30% of the circle's width
    - Location: Origin of the circle it is located in
  - Once clicked, add the name typed in the box, move down type name box by 10% of W height and create name box where it was
- "Type here" Box: This is the only box on the screen when there is no data on the users
  - As user enters names, the box will move down by 10% of W height
  - Typeable; accepts inputs from left to right, if the text goes over the box length, when creating a user existing box, adjusts font size accordingly so that it fits the box with 5% of gap on each side from the end of white area of the box
  - Color: #BCBCBC
  - Displayed Text ("type here"):
    - Size: 75% of the box height
    - Thickness: Bold
    - Color: #8B8B8B

- Once a user clicks on it, the “type here” text will disappear and the #BCBCBC area will become #FFFFFF
  - Name Box:
    - Does not respond to any inputs
    - Text:
      - Size: 78% of box height
      - Thickness: bold
      - Location: Middle of the box vertically and horizontally
- 2.1.2 Edit and delete menu
  - Dimension: 5.9% of W width, 7.6% of W height
  - Color: #FFFFFF
  - Location: Right side should be on the left edge of the name box and in the middle of name box height vertically
  - Stroke: inside 0.5% of W height
    - Color: #31C4F3
  - Onclick edit, bring up text box with name already inputted
  - Onclick delete, remove the name box and reformat the box layout (boxes below the name will move up by 10% of W height)
- 2.2 Tasks
  - Texts next to the icon
    - Same requirements as 2.1 but font size is only upper text
  - Task box
    - Has same dimensions, fonts, and edit/delete/add as user name and type here box
    - Icons and behaviors are identical to name box on 2.1
      - Attached box with names
        - Bridge between the two should be in the middle of box height
        - Dimension: Attach the two like the figure 2.2, height with 20% of box height
    - Location: 57% of W width, same height as name box on 2.1
  - User Box

- Has same dimensions, and fonts as taskname and type here box
- Location: 74% of W width, same height as Task box
- Isosceles triangle: drop down menu; when clicked, display a dropdown menu on the existing users
  - Flips 180 degrees when drop down menu is activated
- Drop down menu:
  - Dimension: 80% of box width, content fills up 90% of height
  - Same stroke size with name bar
  - Location: Middle of name bar width
  - Names are 30% of font size apart from each other
  - Display all names in order separately as a drop down menu (2.2.2)
  - When hovered over a name, put shadow with 10% of font size underneath the name
  - When clicked, replace the name on the box with the one that was clicked
- Update bar: stays on the screen as is even scrolled
  - When clicked, proceed to 3
  - Dimension: 7.8% of W width, 52% of W height
  - Color: #595959
    - Opacity: 60%
  - “Update” Text:
    - Location: Origin is in the middle of height and width
    - Size: 4.6% of W height
    - Thickness: Bold
    - Color: #FFFFFF
  - Onclick update text and bar, proceed to screen 3, “update page”

Figure 2.1

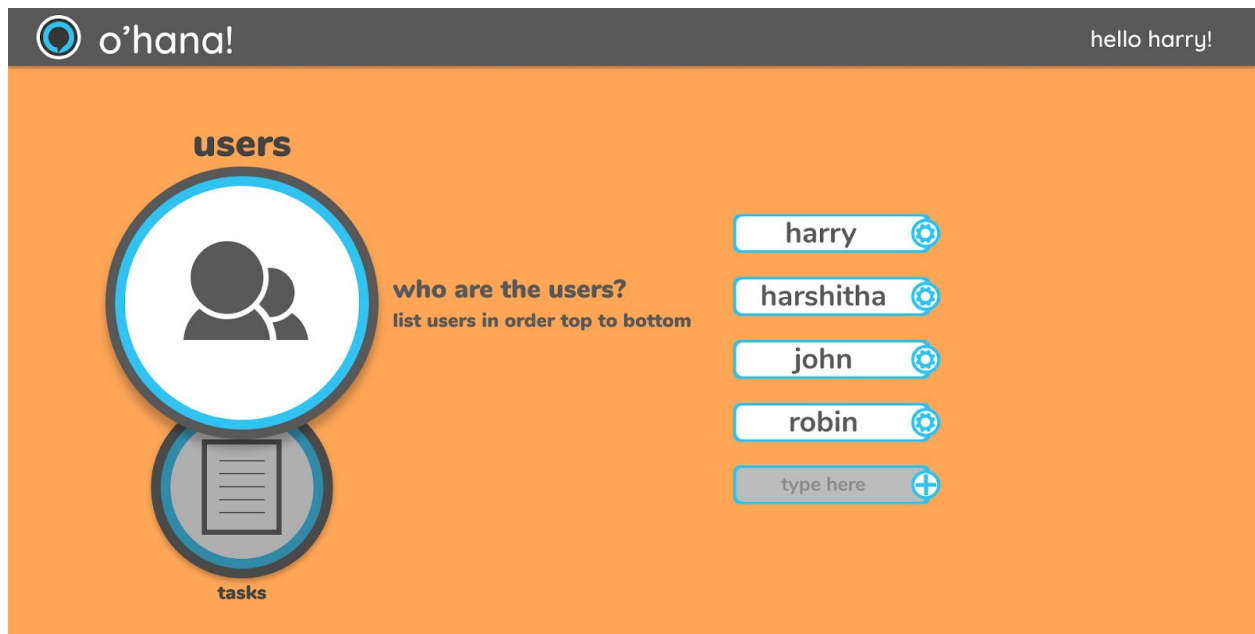


Figure 2.1.2

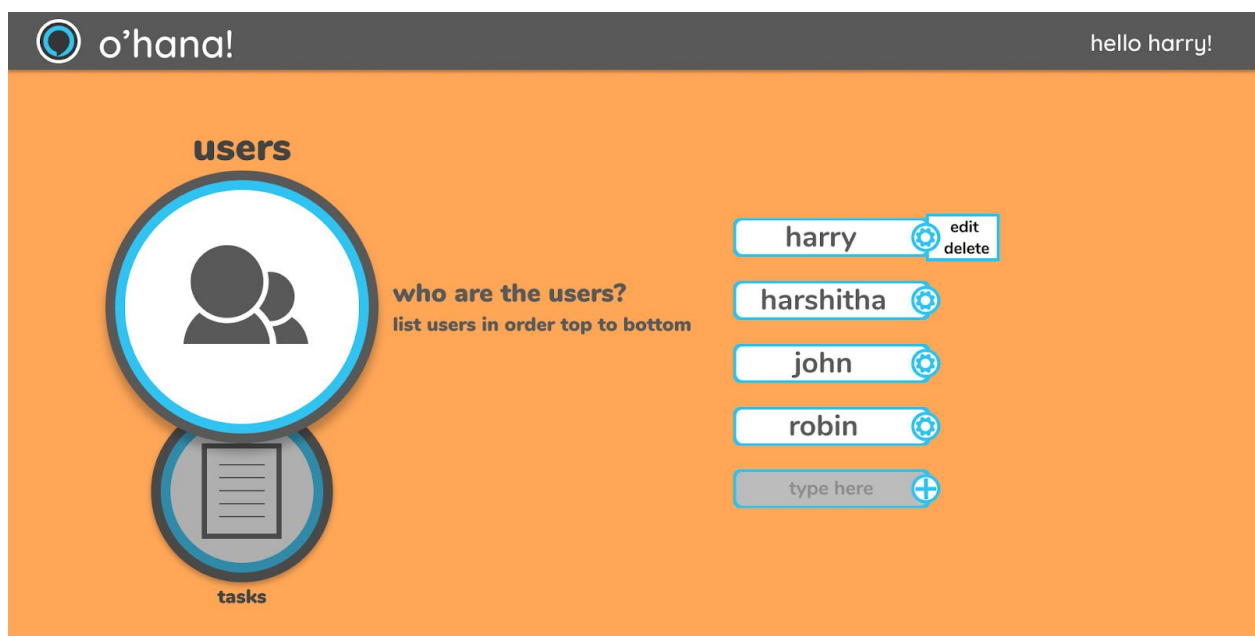
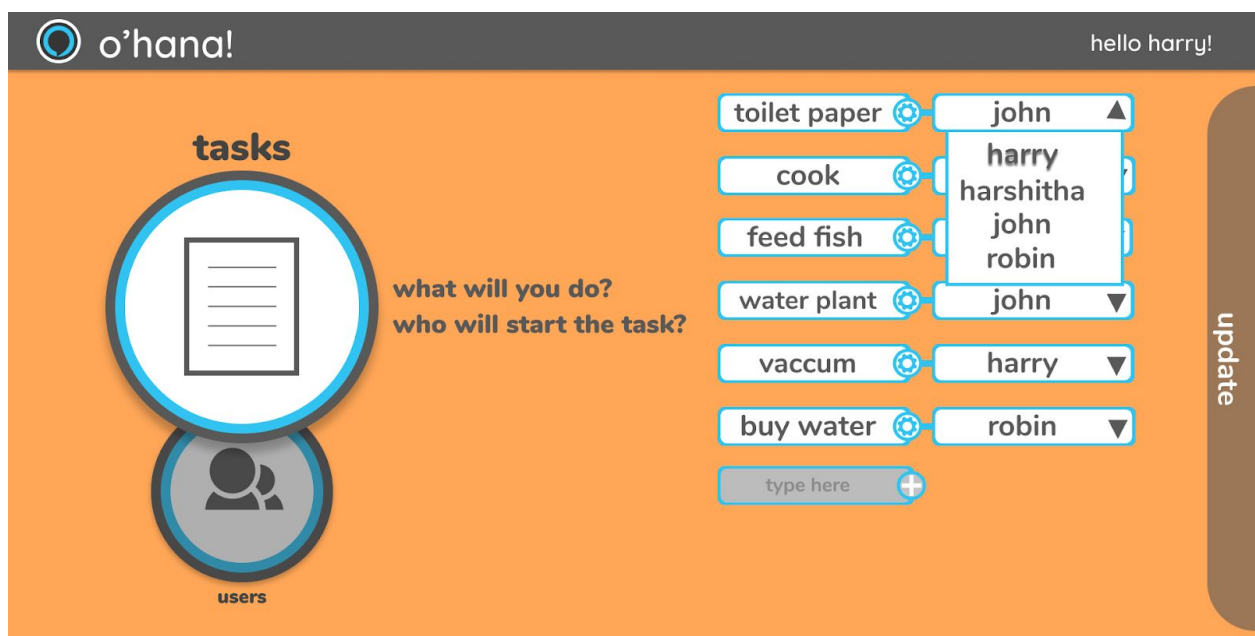


Figure 2.2



Figure 2.2.2



### 3 Update -- no new page load within these states

- Logo
  - Overall Circle dimension: 21.2% of W width
  - Location: 20.3% of W width, 33.1% of W height
  - Icon: use global element logo specification on making the logo icon
- Message Text:
  - Size: 4.6% of W height
  - Thickness: Bold
  - Location: Origin of the text is 63.3% of W width, origin of the text field is origin of logo circle
- 3.1 In progress
  - Logo spins in this stage
  - #31C4F3 colored bleeding effect spins with logo (the effect does not have to have exact dimension as the Figure 3.1. estimating is acceptable)
- 3.2 Update Successful/error
  - “Press any key” text : any input (keyboard tap or mouse click) returns the state to 2.2 “task page”
    - Color: #FFFFFF
    - Size and thickness are same as Message text
    - Location: 30% of W width, 89.5% of W height
  - Logo stops spinning
  - Effect similar to 3.1 happens but occurs separately from the logo and is two-sided
    - If successful, color is as is. If failed: color is #FF0000, icon included (3.2.2)
  - 3.2.2
    - Error message is included as following “uhhhhhhhh [error]... try again later”

Figure 3.1



Figure 3.2

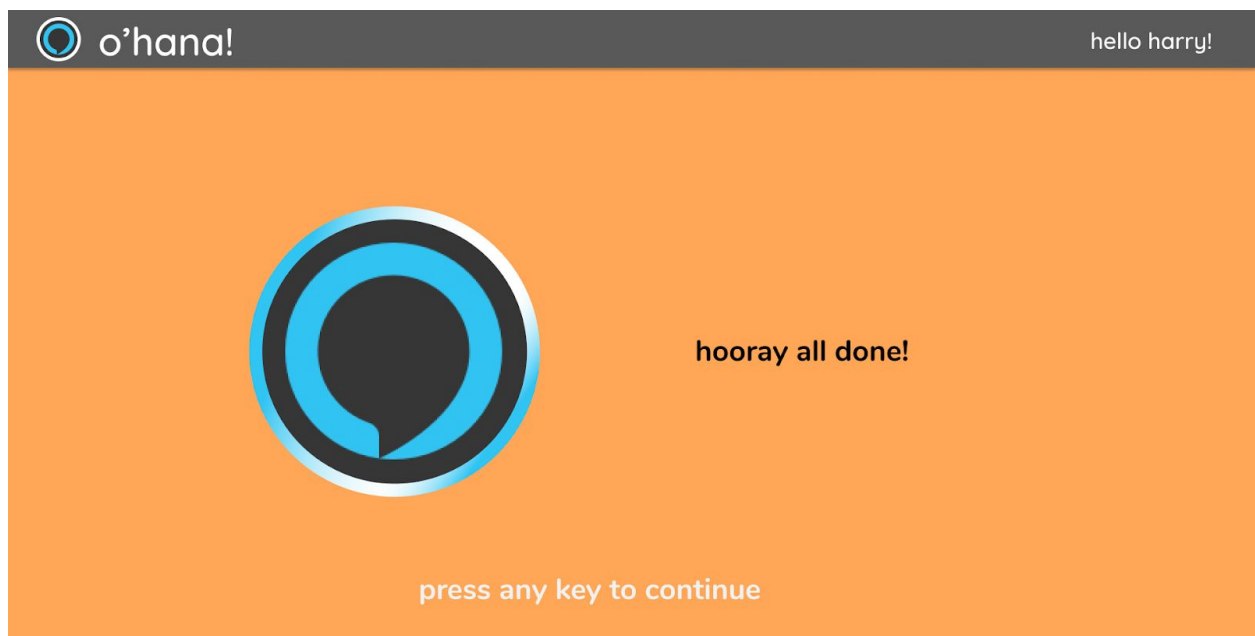
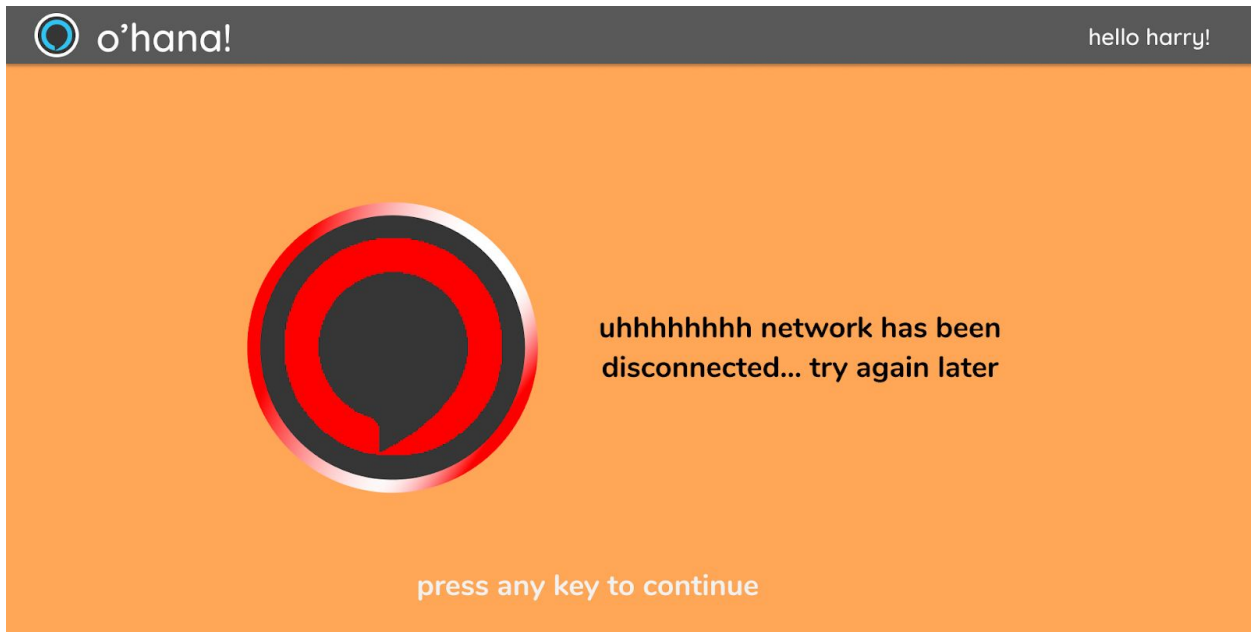


Figure 3.2.2





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#### Alexa Skill:

- Voice command activation (Must-Have)
  - Utterance: "Alexa, open o'hana"
  - Response: "Welcome to o'hana"
- Read off tasks for given user when prompted (Must-Have)
  - Utterance: "Alexa, what is the next task for (USER NAME) ?"
    - **BACK-END:** Recognize name and pull **user** data from Firebase (Refer to database section)
  - Response: "(USER NAME)'s task is to (TASK)"
    - **BACK-END:** Pull tasklist from **user** data and return first task in the list in order received from database (Refer to database section)
- Mark a given task complete when prompted (Must-Have)
  - Utterance: "Alexa, mark (USER NAME)'s task as done"
  - Response: "Ok! I marked (USER NAME)'s task as done"
    - **BACK-END:** Save given user's first task as done in database (Refer to database section)
- Unregistered responses (Must-Have)
  - Response: "I'm sorry, I didn't understand"

- If occurs more than 2 times consecutively,
  - Utterance: “Would you like to know the available commands?”
  - If response is “Yes” / “Sure”
    - Utterance: “You can ask for a users tasks with Alexa, what is the next task for me, or you can mark tasks as done with Alexa, mark my task as done”
- Filter inappropriate words (Nice-to-have)
- Integrate phonetic input on website for difficult to pronounce names (Nice-to-Have)
  - ex.) Name: Amanda Seyfried
  - Phonetic Input (Read by Alexa): Uh-MAN-duh SIGH-fred
- Perform User Research on common methods people ask for tasks and integrate into Voice Commands (Nice-to-have)
- If prompted a second time, (Nice-to-have)
  - Utterance: “What’s next? / What else? / What after?”
  - Response 2: “(USER NAME)’s next task is to (TASK)”
  - **BACK-END:** Pull tasklist from individual data and return second task in order received from database (continue for each task left in list if prompted) (Refer to database section)

Version 2:

- Reordering user order in a group
- Individual user ordering for each task