

# (C4A) Use Cases (Jan 18)

## Areas for further discussion and ways to think about a user's use of UIO

The following seem to be the factors that combined will determine how a user will interact with needs and preferences:

1. **Usability** How easy is it to make the change?

*The assumption here is that users will choose the easiest or most straightforward tool that still fits their needs. It is about usability!*

- a. Device
- b. Floating Panel
- c. Base Preference Set (master?)
- d. Subset preference Theme

2. **relatively ephemeral / persistent** How essential is the adaptation to the individual?

*The question here is what is the logic attached to the above list and how can that be elegantly communicated to the user? E.g. If I choose to make changes via Floating Panel, what happens next? Is it saved, is it propagated to all devices? Am I able to save it as a subset?*

- a. Can I do without it later or on another device and just need it one time now (ephemeral)?
- b. Am I dependent upon it being applied to my devices always and before I use them (persistent)?

3. **simplicity / complexity** Time

*How complex are my needs?*

- a. How do preference themes get "applied" when I encounter another device or another similar device (can c4a classify devices; e.g. mobiles, laptop/desktops, tablets/kiosks)?
- b. What are the implications for a system "learning" about my expressed needs & preferences and how does that affect my experience?

## USER 1: George, 22, Student

(ephemeral and complex preference needs)

George recently created a Cloud for All preference account, curious about the preferences available for him to customize. He does not have any persistent needs. For the most part, his base preference set remains empty. However, when George does have a preference need he makes that customization from the floating panel and saves it to his base preference set. This effects all devices George uses. This process is ideal for George, because his schedule and needs vary from day to day.

### Night

George is staying up late studying for an exam tomorrow. To minimize eye-strain he inverts the contrast to light on dark. He adjusts the contrast on his laptop using the floating panel and saves it. This change is applied to his base preference set. Later he picks up his phone to ask his friend a question. The same contrast change has been applied to his phone because it uses the base preference set as well.

### Morning

In the morning, George checks his exam schedule on his phone. Now the inverted contrast preference is no longer appropriate to his needs. He changes the contrast preference to default using the floating panel and saves the change. This change is applied to all the devices. George is running late, so he rushes out the door. He fails to notice ice on the stairs and falls. He's in a lot of pain in his dominant, right hand. He needs to take the bus to the hospital.

### Bus Station

George arrives at the bus station. In pain and with only his left hand to use, he looks for where to purchase a ticket. There's only a ticket machine in the front. His dexterity with his left hand is limited. George has a difficult time targeting the small buttons on the touch screen. He requires assistance from a bus station employee to navigate through the interface.

### Hospital

George finally makes it to the hospital. A nurse attends to him. She suspects he has broken his wrist and tells him he will probably need a cast for 2-3 months. She gives George some medicine for the pain and tells him the next doctor will see him in 2-4 hours. He decides to explore the preferences from the floating panel on his phone in hopes of finding settings that will help him navigate using his left hand. He discovers that he can increase the size of interactables on screen, so it's easier for him to target buttons and links. Through the floating panel, he also activates voice commands, so he won't have to type when possible. He saves these preferences to the base preference set. Using a voice command, George calls his parents to let them know where he is. The doctor is now available and George gets a cast for his hand.

### Bus Station

The kiosk at the bus station recognizes George and his modified preferences to the base preference set. The kiosk doesn't have voice command capabilities, but it was able to increase the size of interactables. George is able to more comfortably target and select the desired options on the kiosk. George is satisfied with the modified preferences to his base theme and will keep them for the time he has the cast on.

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### Assumptions & Questions

- The base preference set can be modified directly through the floating panel. Unless saved as a new theme, any changes made with the floating panel are saved to the base preference set. As a result, changes to the floating panel on one device effects other devices.
  - Or does modifications to the floating panel save new, device specific, sub-set themes?
- The floating panel gives access to all available preferences.
  - Or does the floating panel give access to only basic preferences?
  - Or does the floating panel give access to only preferences modified in the base preference set?

## USER 2: Ed, 70, Newly-Retired

(persistent and complex preference needs)

Ed has low vision and beginning to experience some hearing loss. Ed is always hesitant to use new technology. For his day to day routines he often carries a magnifying glass if he encounters text that he wants to read. And whenever possible, he turns up the volume very loud - his wife finds this unpleasant. For Ed's retirement, his daughter got him a tablet. She explained to him that together they could customize the device to meet his needs. They changed the contrast settings to black on yellow contrast, increased the text size, and indicated to show video captions in English whenever possible. Ed was thrilled with how comfortable it was for him to read the news and watch videos on the tablet. His daughter also explained to him that he could create a Cloud for All preference account using his tablet preferences, and apply them to all devices he uses. Ed wasn't sure yet what this meant, but agreed because he found the adjustments on his tablet useful. His tablet settings have now become his base preference set.

Ed is taking his tablet on a trip to Belgium with his wife. On his way there, he's introduced to many new devices. His base preference set from his tablet is carried on to the new devices he uses. While using the new devices, Ed makes customizations using the floating panel. He doesn't save these customizations to his base preference set; however, the system learns the context and device of the customizations and remembers it for next time as preference themes. The system generates themes when the user doesn't save modified preferences on the floating panel to their base preference set. The customizations are instead linked to the specific device and context they were made. As a result, when Ed uses a similar device in a similar context, the system applies the same preferences.

### Airport

Ed goes up to a kiosk to check-in to his flight. The kiosk recognizes him and loads the base preference set Ed uses in his tablet. Ed finds the kiosk easy to use since the interface is similar to that of his tablet.

### Airplane

On the airplane, the seat touch-screen display recognizes Ed and uses his base preference set. The plane takes off and will arrive in 8 hours. To spend the time, Ed decides to watch some movies on the seat display. Because his seat is reclined back, the captions are a bit too small to comfortably read. Ed looks through video controls and discovers the floating panel. The preferences on the floating panel are relevant to the content he's viewing. Ed adjusts the captions size. He doesn't save this change to his base preference set. The system recognizes the context and device Ed made the change in and automatically creates a new theme. This theme is specific to a device that's main function is to play videos. This theme would not be applied to his tablet, which can also play videos, because that's not the sole content it delivers to Ed. However, the theme could be modified to include Ed's tablet if he makes that adjustment in context of his tablet or if he saves the floating panel customization to his base preference set.

### Hotel

Ed and his wife arrive to Belgium. In the hotel room, there is a TV with a similar interface as the one on the airplane seat display. The system recognizes the similar context and device. The same preference theme is used from the airplane seat display. Ed watches a Belgium news report with large English captions. If Ed were to change captions size back to default, the system would exempt the TV device from the increased captions size theme.

Meanwhile, he's wife uses the tablet to find local restaurant to eat at. The tablet recognizes his wife and loads her base preference set.

### Travel Back

Ed and his wife had a wonderful trip and return home. The airport kiosk and airplane seat display use the preference themes Ed had earlier customized.

Through the customization Ed made using the floating panel on his initial interaction with the airport kiosk, the system learned about his preferences. The system recognized the context of his customization: Ed was using a device with its main function being a video player. And applied the customization to similar devices: the TV in Ed's hotel room. As a result, Ed's Cloud for All preference account has two themes: the base preference set (gathered from his tablet) and the video device preference set (gathered from his behaviour with devices). Now Ed does not have to re-enter his preferences when using solely video playing devices. As Ed interacts with more devices or the same devices during different contexts, the system will learn how to better suit his preferences. From Ed's perspective, this process is mostly invisible; the system will deliver him the preference sets he expects.

## USER 3: Sarah, 48, Graphic designer and Student

(persistent, complex and simple preference set)

Sarah is a freelance graphic designer. Usually but specially when tired, she notes eye-strain. She uses to move around the city using public transport. In the evening she's taking classes on digital typography for 2 months.

### Office

At the office Sarah uses a computer with a big screen. She feels really comfortable with it, so she has never felt the need to do any customization.

Sarah also uses a smartphone with touch-screen from 2 years ago. When she started using this phone she had some problems to read on screen, so she set a master preference to display larger type and interactables. She saved it as "Reading".

Today Sarah is brainstorming ideas for a new project, so she prefers to be focused on this task and mutes the smartphone using the device's option. Excepting this rare occasion she always prefers to hear the phone, so doesn't feel the need to use the floating panel to save this as a preference.

### At the bus

In the afternoon, Sarah leaves the office and takes the bus to go to the design school. Sarah takes the journey time to read on the smartphone.

Some weeks ago, when she began reading on the bus, she noted that the surrounding light was disturbing. "Reading" setting was fine, but needed to be complemented with more customizations. She used the floating panel to increase the screen brightness and contrast, as saved this new subset as "Bus".

She has bought a tablet a week ago and is planning to use it to read at the bus, so "Bus" can be perfect also for the tablet.

When the bus passes through a tunnel, the smartphone screen brightness adapts automatically (from device's own settings).

### At the design school

Typography classes consist mainly in doing some activities at the computers classroom. Students can not book a computer, so Sarah uses one different each day.

Screens are smaller than office computer, so at first she felt really uncomfortable. She needed to improve reading, so the first day she prepared a master preference set saved as "Classroom" with larger type, higher contrast and lower brightness. Now, when she arrives at the classroom, the computer recognizes her and loads her "Classroom" theme.

She always mutes the smartphone during the class. It's a simple and temporary action; she forgets the floating panel and uses the device's control.

### Home at night

Sarah is usually tired at night, but she likes reading in her tablet before sleeping. The tablet loads automatically "Night reading", a subset of "Reading" where she added high contrast and low brightness.