Smart Device Usage Survey

Please select multiple options if applicable.

Which of the following devices you own:

1. Laptop
2. Smartphone
3. Computer/Desktop
4. Table(with Wifi only)
5. Smart Assistants/ Smart Homes (Smart home/ Alexa)
6. Smart watch (wifi only)

**Scenario:**

empty

Question Part1

1. Which of the following input modes would you like use to perform this task?
   1. Voice-based input
   2. Gesture-based input
   3. Touch-based input using virtual/digital keyboard on a screen
   4. Writing with a digital pen/Stylus
   5. Text-based input using physical keyboard
   6. The mode of command does not matter to me for this task
2. Which of the following things would you like to be able to do in parallel while executing this task?
3. Text-based input (eg: for writing captions, composing emails etc)
4. Voice-based input (e.g: to search for a trivia etc.)
5. Having an option of opening another application (e.g., check social media, read documents, share information with others)
6. If there is any other task that you would like to work in parallel, please specify \_\_\_\_\_\_\_\_
7. Being able to multitask does not matter to me for this task

3. Which aspects of any device would make it easier for you to use them for this purpose?

1. It should be very straightforward to find and understand the relevant features of the device.
2. In addition to ease of finding and understanding relevant features, I would like to have fewer and simpler steps to complete the task on the device
3. The ability to visually see any task related information on a screen.
4. I like spending time to understand device and its features, so it it's ok if I need to spend some time to find and use the features of the device (trialability)
5. If there is any other aspect that would make it easy for you to use any device for this purpose, please specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Ease of use do not hold any relevance for me

4. What aspects of mobility do you expect to have for performing this task?

1. Being able to move around while performing the task
2. Being able to perform the task anywhere (ex. While driving or commuting)
3. Being able to perform the task anytime
4. Mobility of the device does not matter to me

5. What level of accuracy do you expect the device to achieve for executing this task?

1. It should be able to execute the task without any errors
2. I will be ok if the device makes an effort to complete the task with accuracy, but corrects the errors with more interactions with me
3. I expect complete accuracy from the device while executing my commands, but in case of multitasking I will be ok if the device makes some mistakes (e.g., while while listening to music, voice-assistant might not be able to completely understand another command)
4. Level of accuracy does not matter to me while executing this task

6. What level of interventions would you expect to have as you interact with the device to accomplish this task?

1. No intervention while the device is executing the task
2. Only providing one-time initial settings/information while executing command
3. Device should ask/need me to intervene only when I miss out on providing any essential task information or something is unclear.
4. In case a task can be completed in multiple ways device should give me an option of deciding how to execute the task (e.g., placing a call over internet vs. cellular network)
5. Device should give me complete flexibility to intervene anytime during execution of task (e.g., requires you to enter all task related inputs, information, and sequence of steps)
6. I don't care about the level of intervention, but I should be able to predict the consequences/results of executing a task.
7. I don't care about the level of intervention at all

7. Presence of which of the following features would help you in reaching the desired level of trust so to be able to perform this task on any device?

1. To be able to define access control (Security)
2. To be able to control where my personalized information (e.g., learned for the purpose of automation and to provide flexibility) is stored (e.g., solely on the device and not shared with anyone) (Privacy)
3. The learning process of the device is transparent (e.g., it explains how is it learning user preferences)
4. Building trust is not an essential component of my decision to use a device for performing this task

8. What sort of personalization or customizability do you expect from your device while performing this task ?

1. More informal conversational style (such as a customized welcome message and referring to the user by first name) and human-like responses
2. Customization of features based on current context, urgency, and past interactions (e.g., such as volume, tone of voice assistant, reminders and notifications)
3. Recommendation of further actions based on my current activities and surroundings (e.g., based on your location and past choices)
4. Personalization is not essential for me in choosing the device to perform this task.

9. How would you expect your device to help you keep track of your activity or its progress?

1. Voice reminders
2. Text reminders
3. Persistent alarms till you take action
4. Email based reminders
5. Reminders on other devices
6. Device helping me to keep track of my activity or its progress does not matter to me

10**.** How would you expect your device to help you understand the features as you use them to perform this task?

1. Through a tooltip that explains the functionality of a widget on the device
2. Through an interactive help/search menu that can answer my questions about the features of the device as I use them
3. Through an graphic icon that conveys the meaning of a widget on the device
4. Through a voice assistant that can assist me in understanding how to use appropriate features to perform the task
5. The level of assistance provided the device to help me understand its features while I am executing this task does not matter.

11. How you expect the device to provide feedback or respond to your actions as you perform this task?

1. Through lights, vibrations
2. Through voice based notifications/responses
3. Through text notifications/responses on screen of the device
4. By providing me with real time statistics of my actions
5. The mode of feedback does not matter as long as the feedback is unambiguous and easy to follow
6. The way in which device provides feedback or responds to my actions does not matter to me

12. Which of the following design components of a device would help you to develop an intuition about how to best perform this task?

1. Optimized and adaptive screen displays and menus so as to reduce the cognitive burden on me (e.g., by changing the layout of the menu according to how often menu items are used )
2. Easy to follow and well structured information or notification that increases the attention on the primary features and tasks and minimize distraction (such as blocking popups or reminders not related to current task)
3. Icons, buttons and other tools should be designed in such a way that I can easily understand their purpose and how to use them (Familiarity).
4. In case of no screen, the device should guide me through voice commands/instructions
5. Design components in a device help me to develop an intuition how to best perform this task does not matter to me

13. Which of these maintenance features affect your decision to use a device to perform this task?

1. Amount of battery life and impact of performing the task on battery life (for example: using a cell phone with data drains the battery faster
2. The effect that software/hardware updates have on the automation capabilities and overall ease of use of the device.
3. Ease of recovery, access to tasks history and information from cloud or other external storage mechanisms in case of hardware/software malfunction.
4. The maintenance aspects do not matter to me.

14. Which of the additional artifacts would you like to be able to connect/download on your device to execute the task?

1. Physical hardware (e.g., keyboard, screen, headphones, speakers)
2. Software application (e.g, apps on your cellphone to visualize task related information from activity trackers)
3. If anything else, please specify \_\_\_\_\_\_\_\_
4. The ability to connect/download an additional artifact does not matter to me.

Part 2

Which of the devices that you own would you use for this purpose please select (can be multiple options):

1. Laptop
2. Smartphone
3. Computer/Desktop
4. Table(with Wifi only)
5. Smart Assistants/ Smart Homes (Smart home/ Alexa)
6. Smart watch (wifi only)
7. Which of the following input-modes do you use while executing a command on <device>
8. Voice-based input
9. Touch-based input using virtual/digital keyboard on a screen
10. Gesture-based input
11. Writing with a digital pen/Stylus
12. Text-based input using physical keyboard
13. The mode of command does not matter to me for this device’s use

2. Which of the following things do you simultaneously do as you use <the device> for this task?

1. Text-based input (eg: for writing captions, composing emails etc)
2. Voice-based input (e.g: to search for a trivia etc.)
3. Having an option of opening another application (e.g., check social media, read documents)
4. If there is any other task that you do in parallel, please specify \_\_\_\_\_\_\_\_
5. Being able to multitask does not matter to me for this device’ use

3. Which aspects of <the device> makes it easy for you to use it for this task?

1. It is very straightforward to find and understand the relevant features of the device.
2. In addition to ease of finding and understanding relevant features, I can use this device to execute the task in fewer and simpler steps
3. There is an option to visually see any task related information on a screen.
4. I like spending time to understand device and its features, so I do not mind spending some time to find and use the features of the device (trialability)
5. If there is any other aspect of the device that makes it easy to use it for specified purpose, please specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Ease of use do not hold any relevance for me

4. Which aspects of mobility does <your device> provide as you perform this task?

1. I can move around while performing the task
2. I am able to perform the task from anywhere (ex. While driving or commuting)
3. I am able to perform the task anytime
4. Mobility of this device does not matter to me

5. What level of accuracy does your <device> provide when executing the task?

1. It always executes the task without any errors
2. The device makes an effort to complete the task with accuracy, but corrects in case of errors with more interactions with me
3. The device executes my commands with full accuracy, but in case of multitasking the device makes some errors (e.g., while while listening to music voice-assistant might not be able to completely understand another command, lets say on weather report)
4. Level of accuracy does not matter to me while using this device while executing the task

6. What level of interventions and does <the device> allow you when you accomplish this task?

1. No intervention are allowed while the device is executing the task
2. I only need to provide one-time settings/information while executing command
3. Device asks/needs me to intervene only when I miss out on providing any essential task information or something is unclear.
4. In case a task can be completed in multiple ways device gives me a list of options to choose from (e.g., placing a call over internet vs. cellular network)
5. The device gives me complete flexibility to intervene anytime during execution of task (e.g., requires you to enter all task related inputs, information, and sequence of step)
6. I don't care about the level of intervention, as I am able to predict the consequences of executing a task.
7. I don't care about the level of intervention allowed by this device

7. Which of the following features help you in reaching the desired level of trust to perform this task on <the device>?

1. It enables me to define access control
2. It enables me to control where my personalized information (e.g., learned for the purpose of automation and to provide flexibility) is stored (e.g., solely on the device and not shared with anyone)
3. The learning process of the device is transparent (e.g., it explains how is it learning your preferences)
4. Building trust is not an essential component of my decision to use this device for performing this task

8. What level of personalized communication does your <device> provide while performing this task

1. The device has an informal style of conversational (such as a customized welcome message and referring to the user by first name) and provides human-like responses
2. It customizes the features based on my current context, urgency, and past interactions (e.g., such as volume, tone of voice assistant, reminders and notifications)
3. It recommends further actions based on my current activities and surroundings (e.g., based on your location and past choices)
4. Personalization is not essential to me in choosing this device to perform this task.

9 . Which of the following features of < the device> do you use to keep a track of your activity or its progress?

1. Voice reminders
2. Text reminders
3. Persistent alarms till you take action
4. Email based reminders
5. Reminders on other devices
6. Device helping me to keep track of my activity or its progress does not matter to me for using it for this task

10**.** How does your <device> help you understand the features as you use them to perform this task?

1. Through a tooltip that explains the functionality of a widget on the device.
2. Through an interactive help/search menu that answers my questions on the features of the device as I use them
3. Through an graphic icon that conveys the meaning of a widget on the device
4. Through a voice assistant that helps me to understand how to use its features to perform the task
5. The assistance provided by the device understand its features does not matter in my decision to use it for this task

11. How does <your device> provide feedback or respond to your actions as you execute the task?

1. Through lights, vibrations
2. Through voice based notifications/responses
3. Through text notifications/responses on screen of the device
4. By providing me with real time statistics of my actions
5. The mode of feedback does not matter as the feedback is unambiguous and easy to follow
6. The way in which device provides feedback or responds to my actions do not influence my decision to use it for this task

12. What design components does your < device> provide and you use that helps you develop an intuition about how to best perform the task?

1. The screen displays and menus are optimized and it reduces the cognitive burden on me (e.g., by changing the layout of the menu according to how often menu items are used)
2. The information displayed is easy to follow and well structured. It increases the attention on the primary features and tasks and minimize distraction (such as blocking popups or reminders not related to current task are )
3. The design of icons, buttons and other tools is such that I can easily understand their purpose and how to use them (Familiarity).
4. As the device does not have a screen it guides me through voice commands/instructions
5. I do not need the device to help me in deciding the best way to perform a task

13. Which of these maintenance features in <the device> affect you as you perform this task on it?

1. Amount of battery life and impact of performing the task on battery life (for example: using a cell phone with data drains the battery faster
2. The effect that software/hardware updates have on the automation capabilities and overall ease of use of the device.
3. Ease of recovery, access to tasks history and information from cloud or other external storage mechanisms in case of hardware/software malfunction.
4. I do not consider maintenance features when deciding which device to use for this task

14. Which of the additional artifacts do you connect/download on your device to execute the task?

1. Physical hardware (e.g., keyboard, screen, headphones, speakers)
2. Software application (e.g, apps on your cellphone to visualize task related information from activity trackers)
3. If anything else, please specify \_\_\_\_\_\_\_\_
4. The ability to connect/download an additional artifact does not matter to me.