

Requirements Documentation

Free choice

Revision History

Date	Version	Description	Author
10/9/21	1.0	Initial addition to documents	Fanny Söderlund, Malek Alabed, Nishat Jahan, Suzanne Zomer
22/9/21	1.1	Changes to the priority	Fanny Söderlund, Malek Alabed, Nishat Jahan, Suzanne Zomer
14/10/21	1.2	Additions of R3, R4, R7 and edits in remanding requirements based on input from Furuboda.	Fanny Söderlund, Malek Alabed, Nishat Jahan, Suzanne Zomer
23/10/21	1.3	Spelling checks and discussions	Fanny Söderlund, Malek Alabed, Nishat Jahan, Suzanne Zomer, Ismail Eyamba

Requirements List

Requirement Description	Priority
R1. Haptic vibration	Essential
R2. Voice commands	Essential
R3. High contrast	Essential
R4. Personalized status commands	Essential
R5. Scheduled commands	Essential
R6. Magnifying zoom	Desirable
R7. Bliss expressions	Desirable
R8. Game	Desirable
R9. Disco mode	Optional
R10. Hand gesture commands	Optional
R11. Interchangeable device slots	Optional

Requirements Descriptions

R1

The system should be responsive in the way that it for example vibrates when an option is clicked or reads the chosen command out loud. The system could also be responsive in the way that when the light turns on, the system speaks a confirmation. This is essential for those who are visually impaired or need the feedback for confirmation due to neurological constraints. This requirement is closely connected to [S5 – Interactive feedback]. The users should be able to toggle this feature, to make it adaptable to any users' needs [S2 - Adaptability].

R2

Users can enter text into the application instead of using the standard keyboard. Users can also select a text on the screen and have it spoken to them. From experience with the students at Furuboda, the voice to text is essential to many students with poor vision. The users should be able to toggle this feature, to make it adaptable to any users' needs [S2 - Adaptability].

R3

For users with seeing impairments, black text on white background is very difficult to see, therefore an option with high contrast colors can allow them to read the screen. The users should be able to toggle this feature, to make it adaptable to any users' needs [S2 - Adaptability].

R4

A user can define what should happen in the smart house when he or she presses the adaptive button. Say a user sets a button for “stressed” and wishes that when user is stressed, on button click will dim the light, close the curtains, and turn on the fan. This feature is targeted to anyone, but users who have any type of neurological disability can aid highly from pre-set personalized combined commands. The reason behind this requirement is more deeply discussed in [S1 - Usability, easy to use] and [S2 – Adaptability].

R5

Users should be able to schedule devices or other activities throughout the day. Say the lights are turned on in the morning and off in the evening. Or say your daily meetings are read for you every morning. From the students at Furuboda, we noticed many of them relies heavily on daily routines and using their calendar and reminders. However, often they forget to look at it or set the reminder, so a personalized scheduled command that either pops up on the screen or reads it out loud would benefit them gravely. Many of the students also used timer for their everyday tasks, referencing to “Real life connection in [S5 - Interactive feedback]. The timer could also be implemented into this feature where say one user has 10 minutes to get up in the morning.

R6

Users that have vision impairments can use this feature to independently use the system.

R7

Bliss is a logical symbolic language, used internationally for people with either neurological disorders or speech difficulties. It combines simple symbols to form words and expressions. This feature would translate text in the client apps to Bliss. This feature is like common language settings in any native app or web site. This is a feature located in the settings, to make it adaptable to any users' needs [S2 - Adaptability]. The user can decide to have the texts in the system translate to Bliss or not. A good place to translate text to Bliss is the personalized buttons discussed in [R5].

R8

This feature is a fun game that is not reliable on fine motor skills or fast reactions, but a fun game for anyone to play.

R9

The system can with a simple click turn the whole house into a party.

R10

With the use of a camera, the user can make specific commands using physical movements to steer the system. For example, to dim the light by lowering you palm. For anyone with poor motor skills or visual disability this could be an important feature.

R11

A feature to simply plug out an old device and plug in a new, different type of device into the smart house without large changes. The reason to this requirement is more discussed in [S4 – Compatibility]. This requirement is highly dependent on other subgroups and how they plan to implement the devices. Therefore, it is listed as optional for now.