

Requirements Documentation – Free choice group

HomeDork – Interactive Smart House

Revision History

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Date	Version	Description	Author
10/9/2021	1.0	Initial addition to documents	A, B, C, D
23/9/2021	1.1	Changes to the priority	A, B, C, D
14/10/2021	1.2.0	Additions of R3, R4, R7 and edits in remanding requirements based on input from Furuboda.	A, B, C, D
23/10/2021	1.2.1	Spelling checks and discussions	A, B, C, D, E
27/10/2021	1.3.0	Grammar revised	E
14/11/2021	1.3.1	Changes in document formatting such as versioning, tables, and titles according to group standards.	A
4/12/2021	1.4	Remove feature “R10 - Hand gesture commands” and update the completion bar.	A, B, C, D, E
5/1/2022	1.5	Update of completion bar and final revision	A, B, C, D, E

Requirement Description	Priority	Completion
R1. Haptic vibration	Essential	100%
R2. Voice commands	Essential	100%
R3. High contrast	Essential	100%
R4. Personalized status commands	Essential	100%
R5. Scheduled commands	Essential	100%
R6. Magnifying zoom	Desirable	100%
R7. Bliss expressions	Desirable	100%
R8. Game	Desirable	100%
R9. Disco mode	Optional	100%

Requirements List

Requirements Descriptions

R1 - Haptic vibration

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 gives a spoken voice 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 - Voice commands

Users can enter text into the application instead of using the standard keyboard. Users can also select 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 - High contrast

For users with visual impairments, black text on white background is very difficult to see, therefore an option for high contrast colors will 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 – Personalized status commands

A user can define what should happen in the smart house when he or she presses the adaptive button. If a user sets a button for “stressed” and wishes that when the user is stressed clicking the button will dim the light, close the curtains, and turn on the fan, the system will respond to the adaptation. This feature targets all users, but users who have any type of neurological disability can benefit 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 - Scheduled commands

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

R6 - Magnifying zoom

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

R7 - Bliss expressions

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. A good place to use Bliss is the personalized buttons discussed in [R5].

R8 - Game

This feature is a fun game that does not require fine motor skills or fast reactions, but a fun game for anyone to play. The game is a simple jump game where you can customize your character. The level of difficulty increases as your score increases.

R9 - Disco mode

The system can with a simple click turn the whole house into a party. Currently the system the clients act as a simulator for the colored lights, but can easily be switched if the system develops and includes colored lights.