

Vision Documentation

Free choice

Revision History

Date	Version	Description	Author
2021-09-21	1.0	Initial vision layout	Wills Ekanem, Fanny Söderlund
2021-10-01	1.1	Branching out to our sub-group visions	Fanny Söderlund, Malek Alabed, Nishat Jahan, Suzanne Zomer
2021-10-06	1.2	Defining specific visions for our group	Fanny Söderlund, Malek Alabed, Nishat Jahan, Suzanne Zomer

Product Overview

1. Smart house concept

1.1 Introduction

The smart house concept is a technical system for everyone, including people who might struggle using normal technical features. The system is, in that sense, accessible for many types of disabilities and will in all stages of production keep in mind the accessibility and ease of use for its users.

1.2 Main vision and goals

This group will strive for the accessibility for everyone, independent of your circumstances and environment. The system will be inclusive in its every feature. This group will also focus on the connection to the real world and its people and aim to test the prototypes on people who will be the users of the system.

2. Basic technical features

The smart house project will be filled with numerous features such as:

- Turn on and off your lamp. U [R4]
- Set room temperature U [R5]
- Extended alarm clock F [R5]
- Voice commands, speech-to-text, and text-to-speech U, F [R8], [R2]

2.1 Features for the free choice group

Additional to the basic technical features, this group will strive for more specific and exhaustive features with the domain of disabled users. Requirements such as “Haptic vibration R1” are specifically designed for people who need the physical feedback when performing the tasks. The supplementary requirements in this group is particularly essential since they take in consideration the user’s needs and constrains.

3. Smart house technicalities

The system consists of a server connected to its units which in their turn control the devices. The server will handle all communication to and from the devices/units. The units will consist of a native app and a web interface. The server is Java based and connected to a SQL database which contains all unit, device, and user information. The devices will be controlled using an Arduino Hub which gets commands from all units via the server.

4. Additional features of the smart house

In addition to the basic features of the smart house, it will also have functionalities that are not required for it to function, but for the useability and appeal to its user. Some of those features are:

- Game, a fun game for the user to play, in complete contrast to the “boring” accessibility features F [R7]
- Future compatibility F [S3]

4.1 Additional features for the free choice group

The free choice group will work extra much on the nonfunctional features relating to the system. I.e., the features that are not simply technical but related more to the users. An example of this is Interactive feedback[S2]. Some users need feedback of the command they just sent to the system to better understand what they want the system to do. A technical solution to this feature is the haptic vibration but could also be the text to voice feature mentioned earlier. We want the users to experience simplicity when using the system and that they can rely on it working for them, easing their tasks.