

Vision Documentation

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Homedork – Interactive House

Revision History

Date	Version	Description	Author
29/09/2021	1.0	Initial Vision	A, B, C

Product Overview

1. Smart House concept

1.1 Stakeholders

Stakeholders are members of the HKR Staff they are interested in creating a system that can be used to improve the lives of persons with disabilities using communication between devices and a friendly user interface.

1.2 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. The devices that will be apart of the system are lights, fans, curtains, temperature control, and alarms.

2. Basic Technical Features of Devices

The device system will be implemented using the Arduino as the hub or control center connected to a server system that will send instructions or commands for the Arduino to execute. If the command was received it should execute the operation and send a response back to the server notifying of success or failure of the executed command. This is to ensure that the database can be updated to the state if a response is a failure the database need not update but the server should handle the error.

2.1 Lights

The lights will have a couple main features one being the turning of the specified light on or off. If the light is dimmable then it will also include a feature to dim the light to a specified level.

2.2 Fans

The fans will also have multiple features, but it will be based on the capabilities of the fan. All the fans will have the capability to turn on/off, if the fan has multiple modes the device controller will be able to set the mode based on the command received for the desired speed of the fan. The other feature would be for oscillation if the fan has oscillation built in the command will execute the use of oscillation.

2.3 Temperature Control

The temperature controller will have the capability to get the temperature in the house for the end-user and relay that information. The device controller will also be able to adjust the desired temperature based off the command for the house.

2.4 Curtains Control

The curtains control can raise and lower the curtains based off the commands received from the server.

2.5 Alarm System

The alarm system will allow the end-user to arm and disarm their home alarm system through the use of the system.

3. Other Requirements

The other requirements are for the devices is for the system should start and run without errors crashing it. There should be some inherent security features to ensure to the user that the system will not be accessed by unauthorized users. The system should be well optimized to handle the operations so that the performance ensures a smooth and seamless response.