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| System Design Document  **Indoor Climate Control System** |
| |  |  |  | | --- | --- | --- | | Group #3 | 14-April-2022 | T2-CB01 Project | |

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# Document history

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| --- | --- | --- | --- | --- | --- |
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* ­­ Highlighted in green is the current version on which the document is on.

# Terms, Abbreviations

|  |  |
| --- | --- |
| Term | Enlarged Version of said Term |
| SDD | System Design Document |
|  |  |

# Introduction

In this document of our team, the system in described from different point of view shown in various diagrams and written in text. The general view from which the system is presented is a technical one broken down in multiple section which together create an image of the product’s inner workings.

## Project description

As Group number 3 of semester two, for our project of the semester we are building an Indoor Climate Control System which shall regulate the interior environment of a home according to the outside conditions, inside measurements and online information.

# System description

The system is comprised of multiple parts which work in tandem to generate and analyse data in order to regulate the ventilation throughout the entire house in which it is placed. By doing so it controls the condition of the home’s environment, which further on pleases the inhabitants of the house in accordance to their liking or the default settings of the system.

* **Primary Functionality**
  + Regulate indoor climate to the default settings
  + Regulate indoor climate to the custom settings
  + Variable speed fan
  + Variable temperature changeable settings
  + Variable humidity changeable settings
  + Weather display
  + Collection of statistics in cloud
* **Secondary Functionality**
  + Easy navigation throughout the rooms
  + Show energy usage of every room
  + Show small indicator on room when a hardware error occurs
  + Constant display of a shortcut to the support and troubleshooting page

# System Design

# Main features

In this section the system main features/functionalities are described.

# System Context

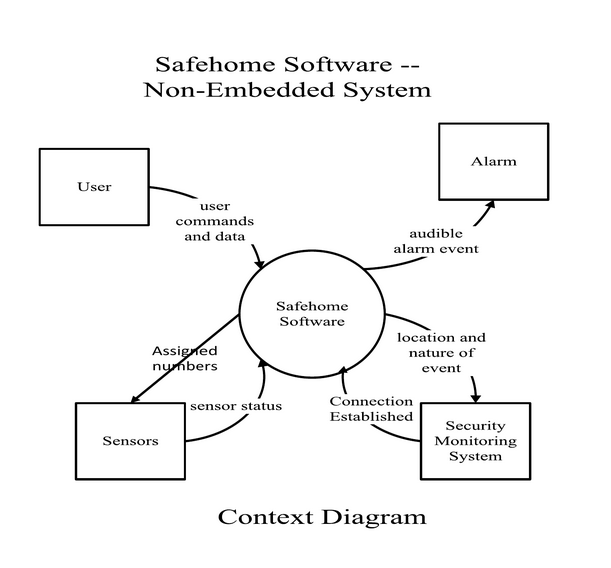


Figure 1: an example of a “system context” diagram, replace your diagram here

# System Hardware Modules

This section will describe all hardware blocks, important pin connection in the system.

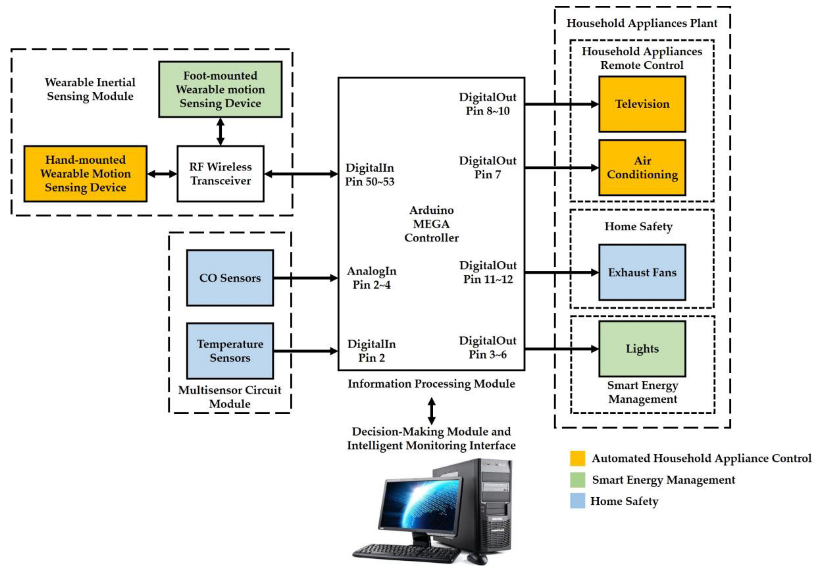


Figure 2: an example of a “system hardware modules” diagram, replace your diagram here

# Subsystems

Main blocks (software) of the system. The subsystems exchange information with each other, which is indicated as a received message or sent message. Messages can contain parameters that carry the data that are exchanged between different subsystems.

# Controller

In this section, the algorithms will be described.

# Communication Protocol

# more …

# Ventilation

Simulation, how the ventilation box will be simulated?

# State Machine

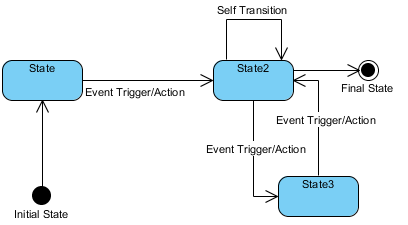


Figure 3: an example of a “state machine” diagram, replace your own diagram here

# References

# Appendix