1 Definition phase

1.1 Program of requirements

In this section the system's requirements will be discussed. All requirements are catogorized using the MoSCoW method (Table 1).

Abbreviation	Meaning	
MH	Must Have	This requirement needs to be developed to ensure proper functioning of the product.
SH	Should Have	Not necessary, but meeting this requirement is desirable.
CH	Could Have	Not necessary, only when there is time.
WH	Won't Have	Not needed.

Table 1: MoSCoW abbreviations

1.1.1 Power supply

REQ1.1[**MH**] The system shall operate on a voltage between $207V$ and $253V$ RMS.
REQ1.2[**MH**] The system shall be able to operate without the need of a neutral wire (2-wire).
REQ1.3[**SH**] The system shall be able to operate with the use of a neutral wire (3-wire).
REQ1.4[**MH**] Zero crossings of the AC line shall be detected.

1.1.2 Dimmer and switch

REQ2.1[**MH**] The system shall have a leading edge dimming mode.
REQ2.2[**MH**] The system shall have a trailing edge dimming mode.
REQ2.3[**MH**] The system shall dim loads up to $TODO$ Watt.
REQ2.4[**MH**] The system shall be able to dim all types of dimmable bulbs.
REQ2.5[**MH**] The system will be controlled via Bluetooth.
REQ2.6[**SH**] The system will be controlled via buttons.

1.1.3 Switch

REQ3.1[**CH**] The product will have a relay to switch high power loads.
REQ3.2[**CH**] The relay shall be switched on a zero crossing of the AC power.

1.1.4 Microcontroller

REQ4.1[**MH**] The system shall use a certified nRF52832 module.
REQ4.2[**MH**] The SoC module shall have an integrated antenna.
REQ4.3[**MH**] The SoC shall run Crownstone's Bluenet firmware.

1.1.5 Safety requirements

REQ5.1[**MH**] The product will shut down when the temperature gets too high.
REQ5.2[**SH**] The product shall have overcurrent protection.

1.1.6 Non-Functional requirements

REQNF1[**MH**] The connectors shall be suitable for solid core $2.5mm^2$ cables.
REQNF2[**MH**] The connectors shall be suitable for solid core $1.5mm^2$ cables.
REQNF3[**MH**] The PCB shall fit within the 3D model of the housing.