Zurich University
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School of
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InES Institute of
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Smart Wireless Control

The future oriented ALBEDO-ONE LED floor lamp designed by ALBEDO-LIGHT needs an up to date control. In addition to the existing manual control a comfortable Smartphone remote control is required. A WiFi module enables the realisation of the wireless interface. The mounting and extension print for the WiFi module was designed and manufactured during this project. It adds WiFi functionality to the lamp so that the lamp can be controlled through a smartphone. Besides the WiFi module it consists of a microcontroller and the needed power supply. The microcontroller is responsible for the configuration of the WiFi module. Without it and its firmware the WiFi could not provide the needed functions. The microcontroller processes the received and transmitted data. The path of the data flow is decided by the microcontrollers firmware. A communication protocol was defined to access the different functions of the lamp. The developed application for Android allows an intuitive and user friendly control. Compared to the existing manual control it adds some interesting features. The application can manage several lamps. Therefore the user is able to control all lamps of this kind within his own WiFi. Other co-users of the same WiFi can directly access and easily control already installed lamps through their smartphone using the installed app. Finally a verification concept has been developed and implemented. The tests ensure reliable and stable operation of the system and its connections.

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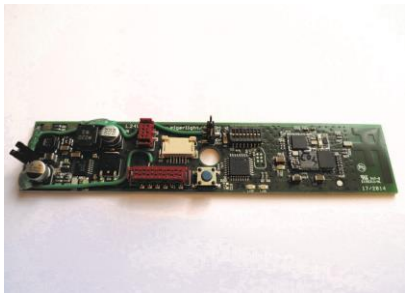
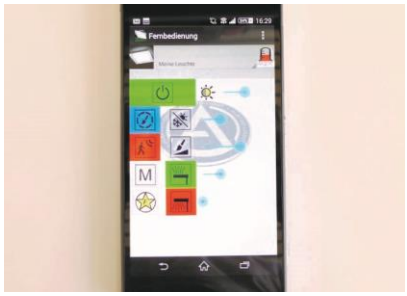


Mounting and extension print for the WiFi module. It is created to connect the LED lamp with the WiFi module.



The developed application for Android. The application allows configuration and remote control of the LED lamp.