IoT:

remote and automatic control of household electrical actuators

Purpose of the system: remote control in real time and automatic control of electrical actuators in everyday life

The system includes:

1. Controller
2. Android client
3. MQTT broker
4. REST service

Features of the controller:

1. Connection of 4 actuators
2. TLS/SSL remote control in Ethernet networks or WiFi networks or GSM networks
3. Automatic / manual control of actuators
4. Plug and play configuration mode

Note: the controller with the WiFi interface requires once setting the SSID and password to the connected WiFi network

Appearance of the controller with a wired (Ethernet) interface:

Appearance of the controller with a wireless WiFi interface:

Appearance of the controller with a wireless GSM interface:

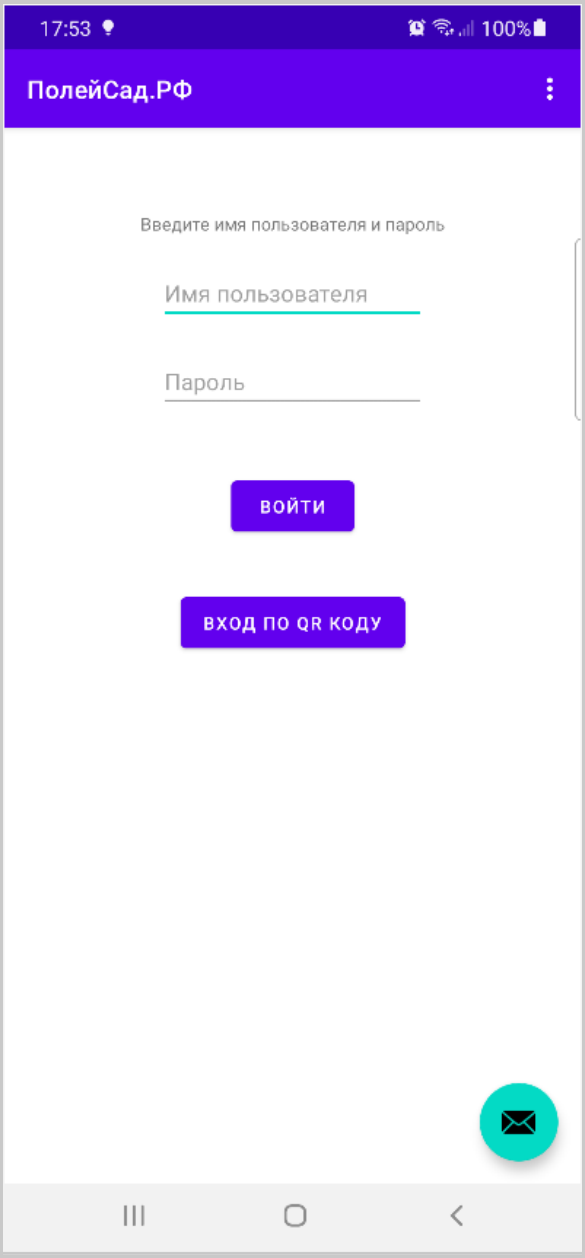
When developing the controllers, the following tasks were solved:

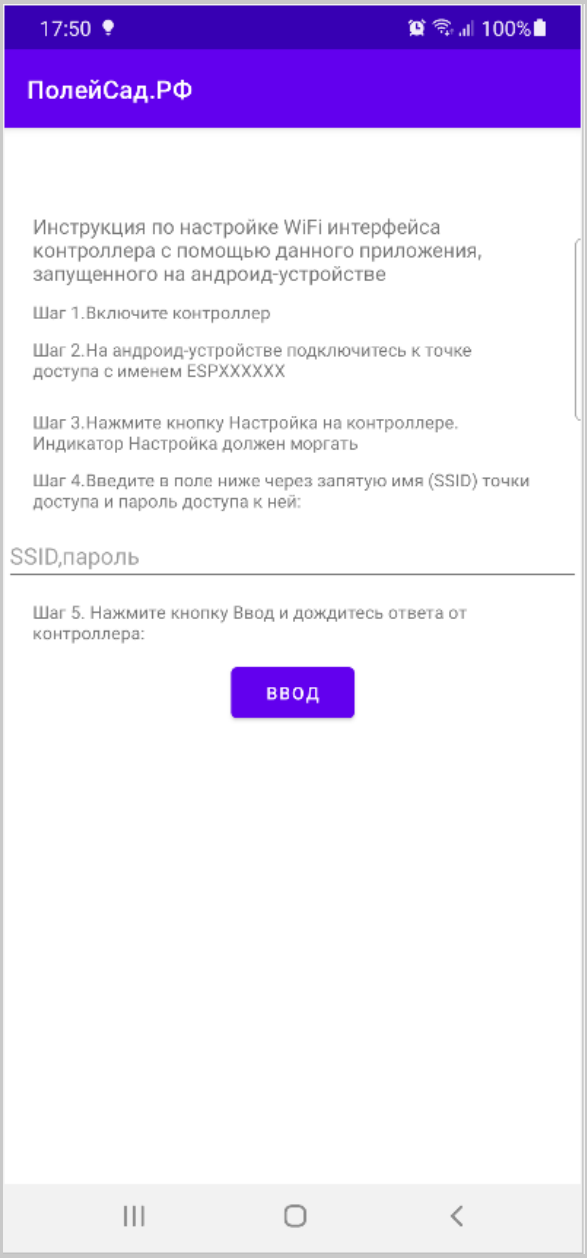
1. Electrical and hardware-software integration of nodes and blocks
2. Software development in accordance with business requirements

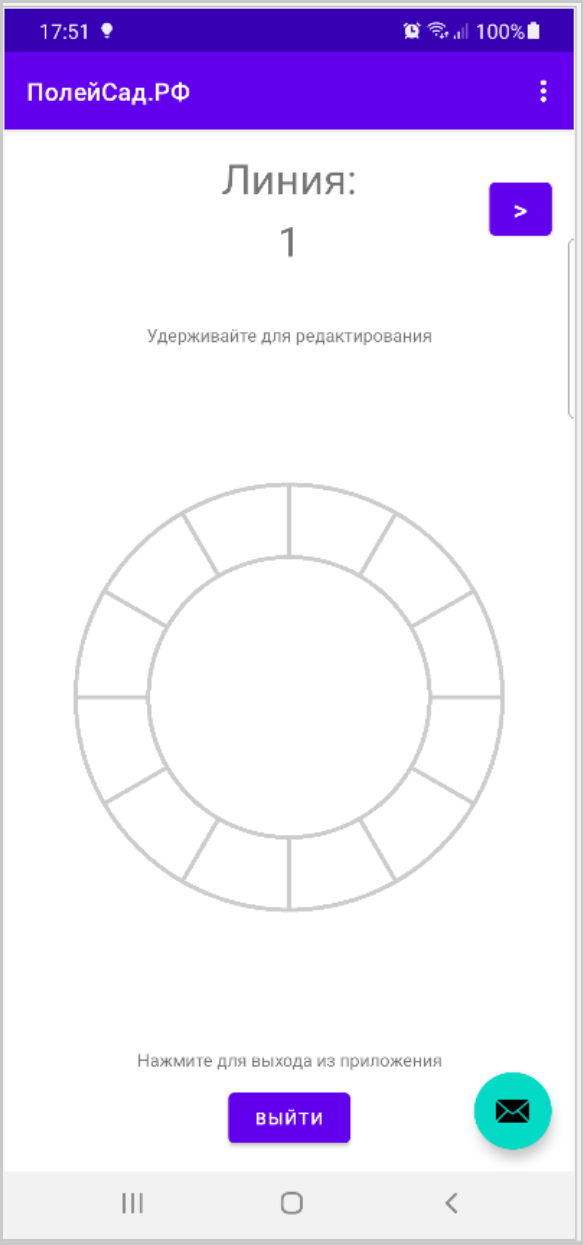
The Android client allows users to:

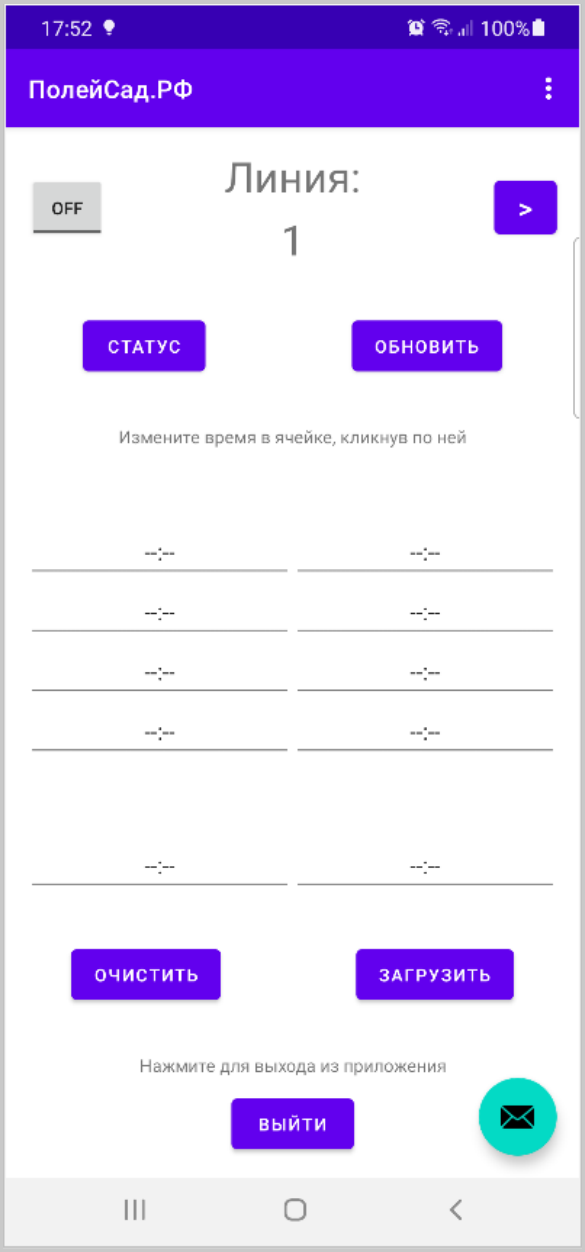
1. Login using the user account
2. Login using the QR code
3. Manage each of the 4 channels in real time
4. Configure each of the 4 channels for automatic operation
5. Configure the connection to the WiFi network
6. Send a message to the support service

Android client screens:






17:51
100%
ПолейСад.РФ
Линия:
1
>
Удерживайте для редактирования
Нажмите для выхода из приложения
ВЫЙТИ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СТАТУС
ОБНОВИТЬ
Измените время в ячейке, кликнув по ней
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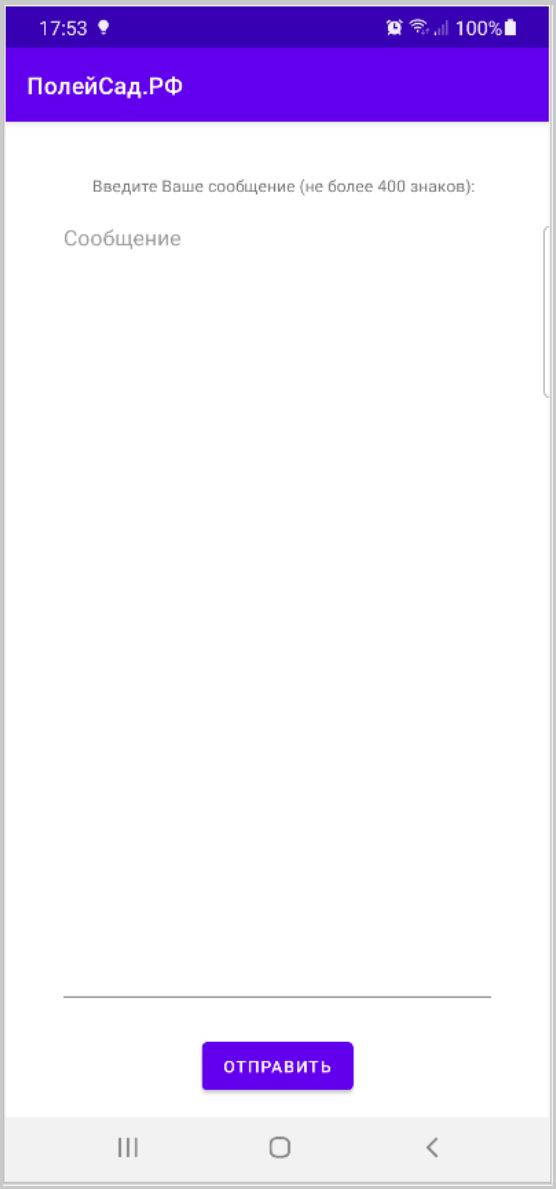
ОЧИСТИТЬ
ЗАГРУЗИТЬ
Нажмите для выхода из приложения
ВЫЙТИ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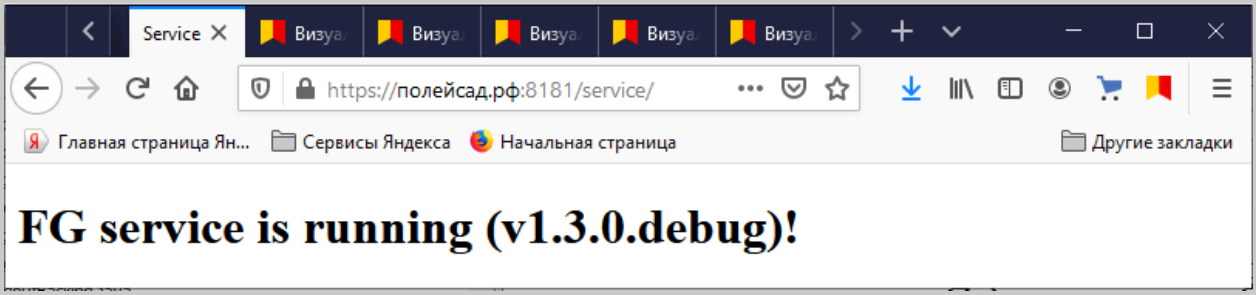
ПолейСад.РФ
Введите Ваше сообщение (не более 400 знаков):
Сообщение
ОТПРАВИТЬ

MQTT broker. For integration in the system of the controller and the client the MQTT broker is used. The MQTT broker uses secure communication channels. Installed on own Linux family server.

REST service. REST service is installed on own JavaEE server and uses secure connections. Interacts with the client by solving the required business tasks.

REST service screen:



Project developers. All the work on the project was done by me without the involvement of third-party specialists.

Thanks for attention!