



Switchit!

A PERSONALIZED HOME-AUTOMATISATION-SYSTEM

CONTROL YOUR DEVICES FROM EVERYWHERE

CREATE CUSTOM PROGRAMS FOR YOUR HOME

GATHER INFORMATION ABOUT YOUR HOME-ENVIRONMENT

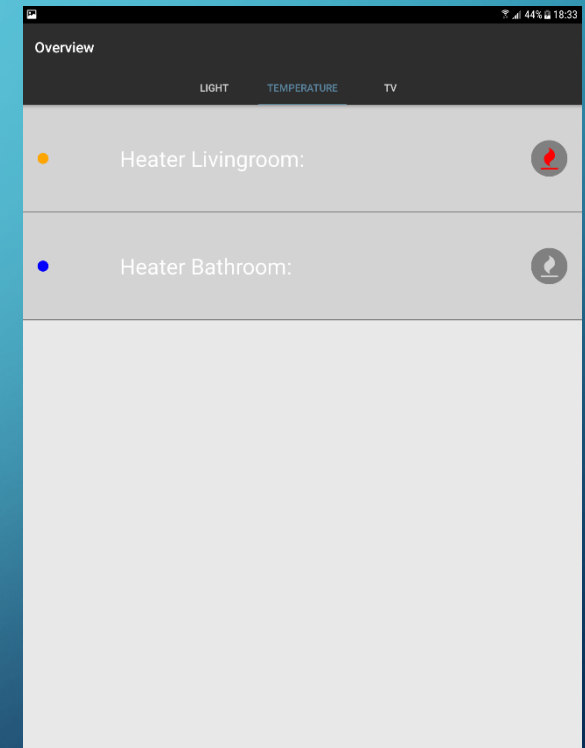
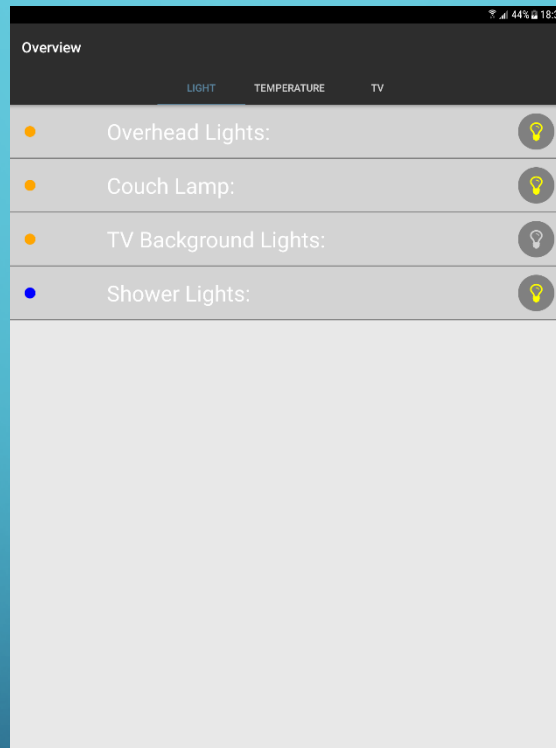
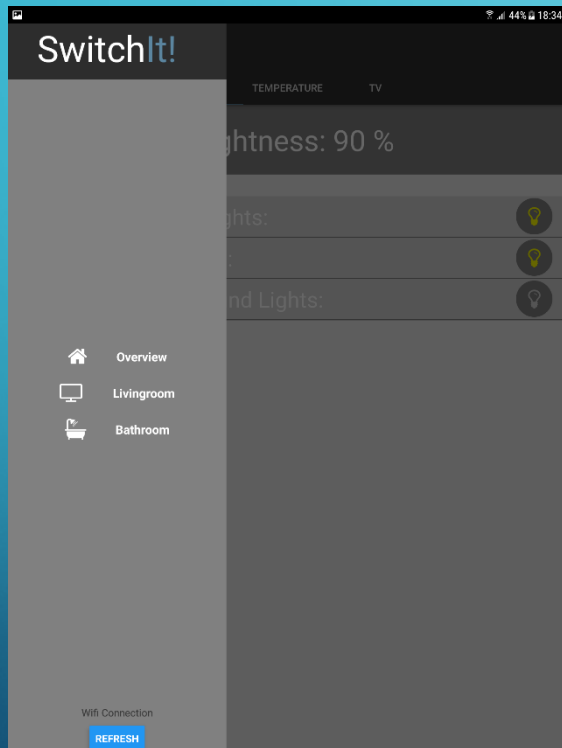
REAL-TIME & ENERGY ADAPTATION

- Challenge
 - Provide the user with real time information about his appliances, by using as less energy as possible
- Context:
 - User wants to save energy all the time
- Adaptation:
 - While opening the SwitchIt-App the Smartphone is loading the latest values from the database
 - Then it subscribes the specific topic from the REST-API
 - Server sends push notifications to the client, when new changes are available

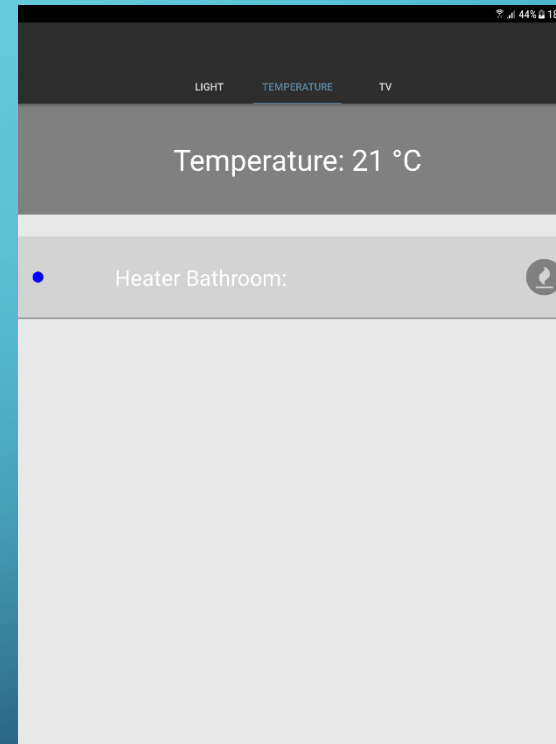
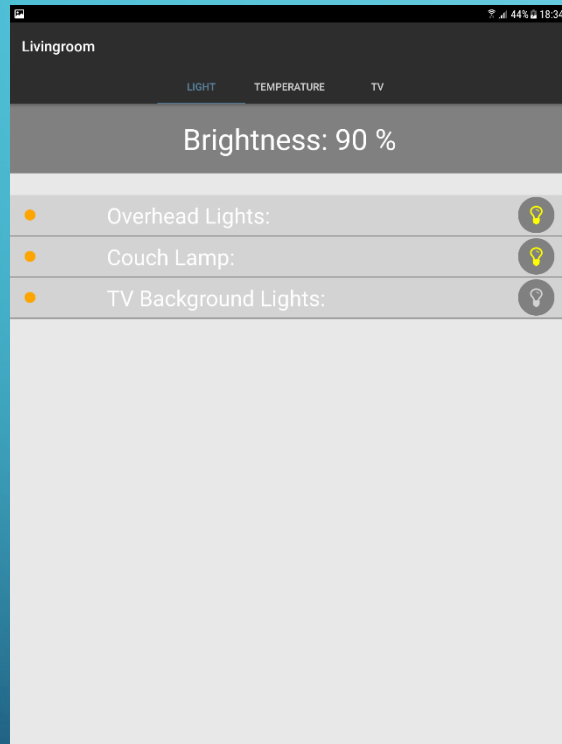
BANDWIDTH & DATAVOLUME ADAPTATION

- Challenge
 - Reduce the amount of data to be transferred to minimize the required datavolume and ensure real time values even with a poor signal
- Context:
 - User is not in a wifi network and has a mobile connection
 - `NetInfo.getConnectionInfo()` → provides the current network type
- Adaptation:
 - Client sends information about network type to server
 - Server reduces the messages to the client by using a filter

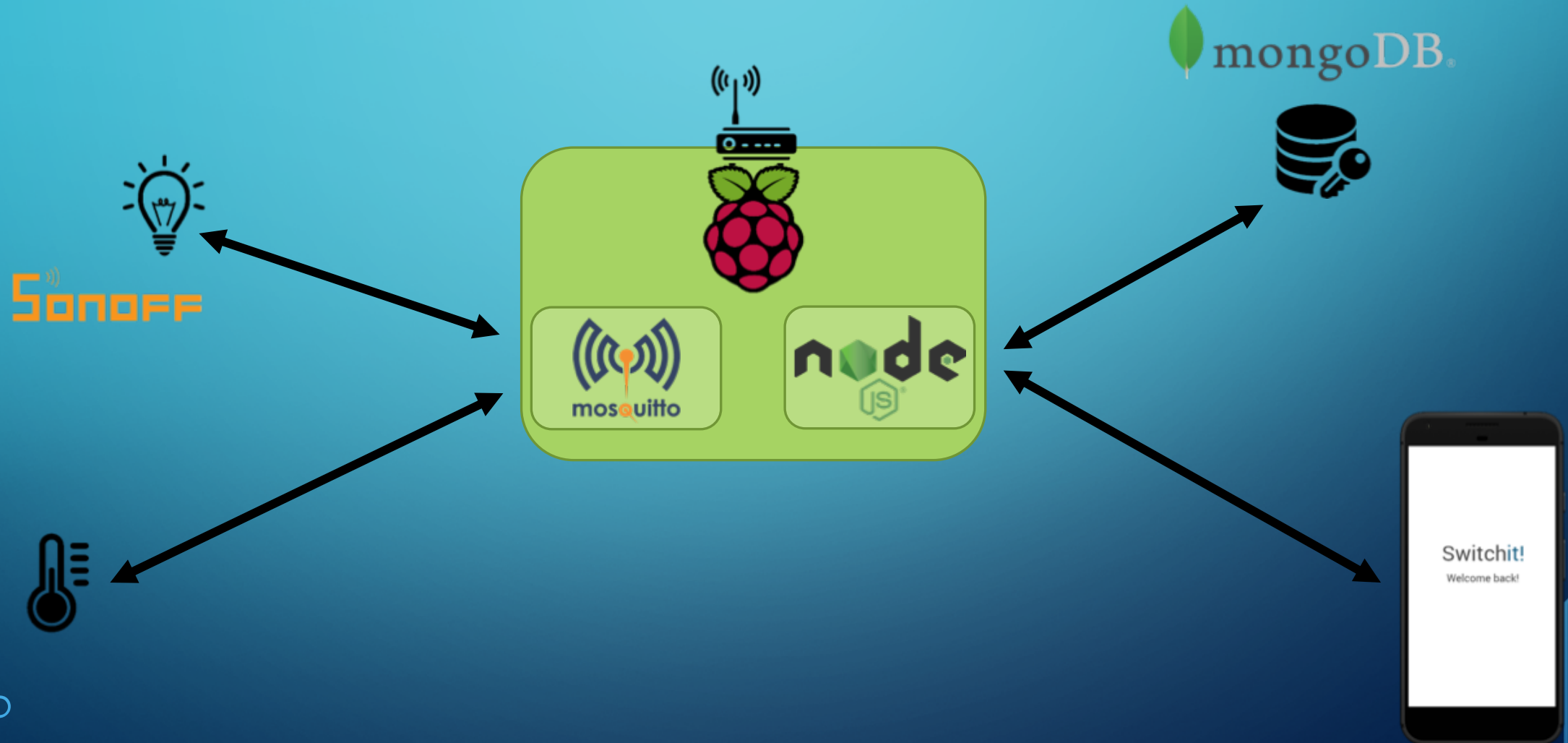
USE-CASE: SWITCH A LIGHT ON



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ARCHITECTURE



ISSUES & LESSONS LEARNED

- Issues:

- Server-Phone-Communication is not fully implemented
 - Works only in emulator yet
- Not tested on IOS
- no Security implemented yet

- Lessons learned:

- Web-socket's subscribe logic is a good choice for this usecase → easy implementation
- ESP-8266 chip is a cheap hardware component for many usages
- after some problems at the beginning, react-native is a great framework to build small networking apps on both operating systems
 - we didn't need any additional package for the app



Thank you for your attention!