



THE STORY OF A SMARTHOME APP

CASAREMOTE

THE IDEA

- ▶ 2008: Just after the introduction of the iPhone, the idea of controlling the house using a touch-screen device raised
- ▶ CasaLive GbR
Andreas Binner, Christian Faust
- ▶ Original idea was
 - ▶ Own HW devices
 - ▶ App



MUNICH BUSINESS PLAN COMPETITION

- ▶ 2009: Participation in the MBPW
- ▶ Support from Uwe Hering in creating Business Plan
- ▶ Several pitches with VCs, e.g.
 - ▶ T-Venture
 - ▶ EarlyBird
- ▶ But, no seed funding - also due to bad global economical situation (start of Lehman crisis)

CasaLive

Business Plan

Interactive Home Automation



Ihre Ansprechpartner:

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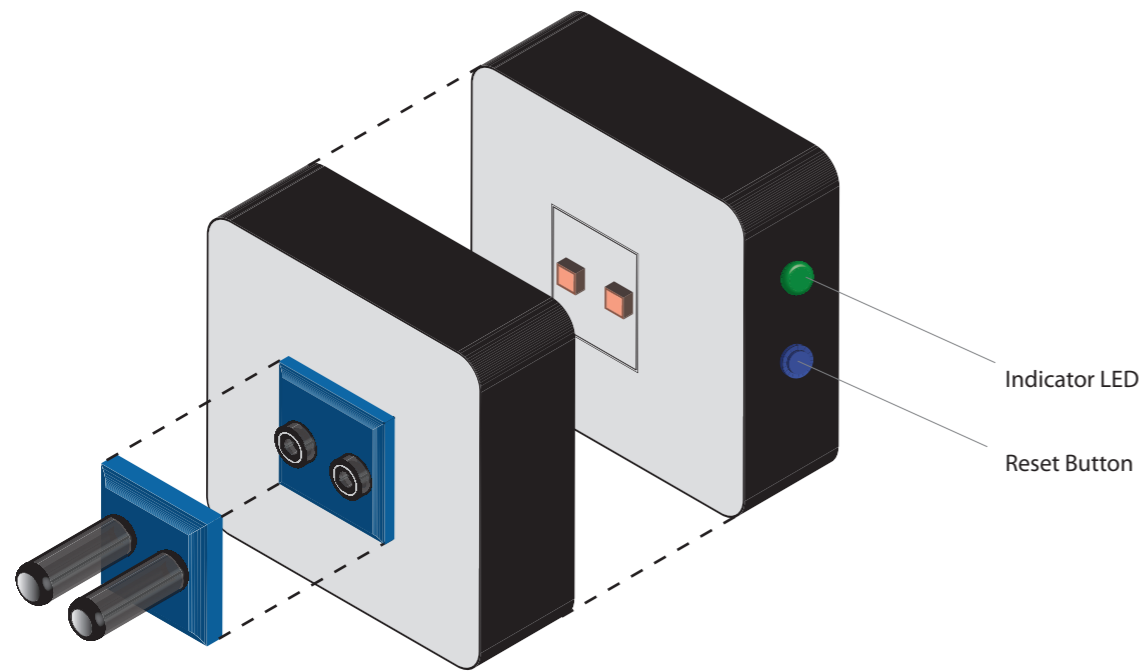
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www.casalive.de

Autoren: Andreas Binner, Christian Faust, Uwe Hering
17.06.2009

THE TIME WAS NOT RIGHT...

- ▶ Planned Product Design and Line-Up 2009



International Power Plug Adapter

AC/DC Power Converter

Casa Device

Indicator LED

Reset Button



CasaCam



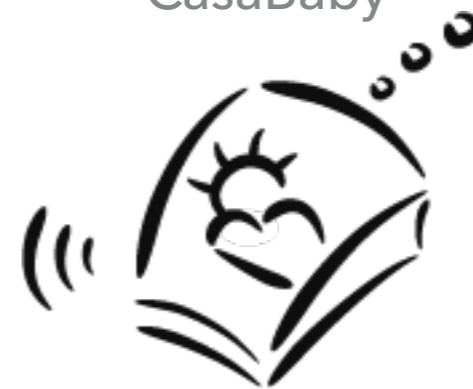
CasaTemp



CasaBaby



CasaDim



CasaWeather



CasaSwitch



CasaInfra



CasaPlug

...COMPARED TO NOW!

► Elgato EVE 2017



eve degree 
Temperatur- und
Luftfeuchtigkeits Monitor >



eve room 
Kabelloser Raumklimasensor >



eve weather 
Kabelloser Außensensor >



eve energy 
Kabelloser Stromsensor & Schalter >



eve thermo 
Heizkörperthermostat >



eve door & window 
Kabelloser Kontaktsensor >



eve motion 
Kabelloser Bewegungssensor >

CASALIVE LIVES ON

- ▶ CasaLive GbR and the CasaRemote App continues to exist as hobby project
- ▶ New focus
 - ▶ No own hardware
 - ▶ Instead: Support existing SmartHome systems

THE SMARTHOME ZOO

- ▶ Very fragmented regional market
- ▶ A lot of small players and very specialized offerings



Philips Hue

IRTrans IR Transceiver



Allnet ALL4000



FS20



Homematic CCU1



W&T



Intertechno



EZControl XS1

HOW TO DEAL WITH ALL THE PROTOCOLS?

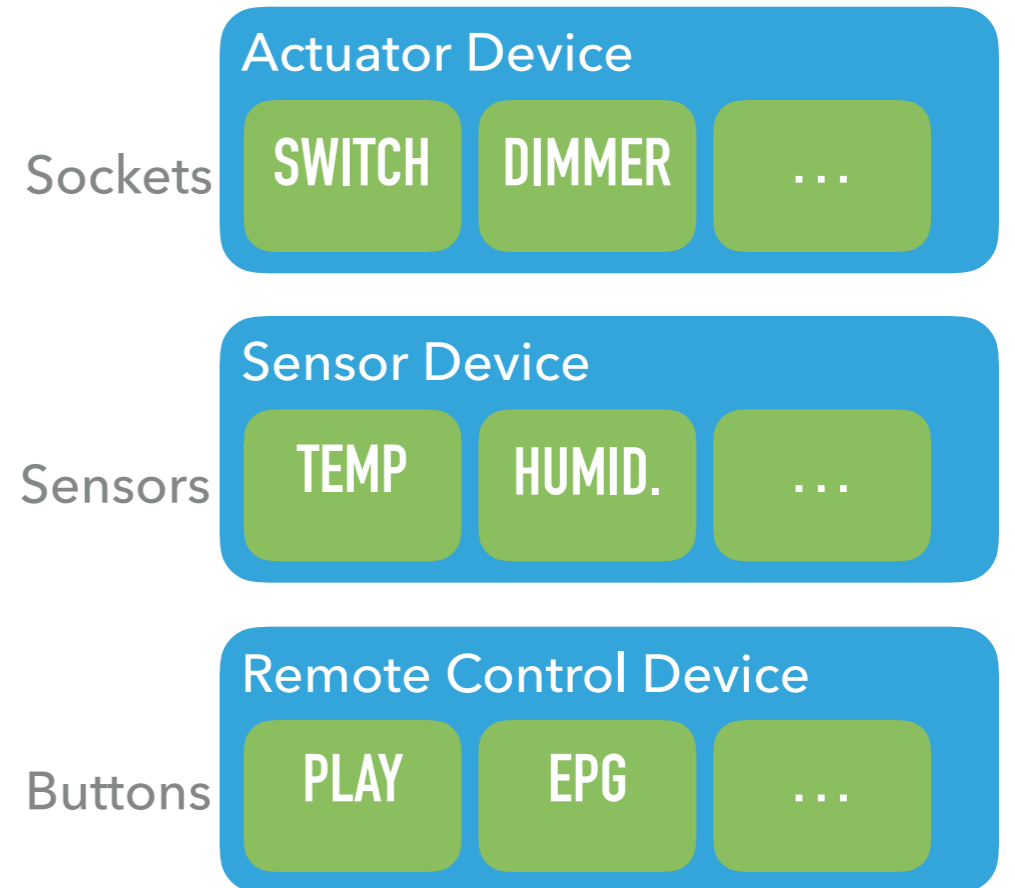
Main USP of CasaRemote

- ▶ Integrated **scripting language** is used to translate between user interface and actual device protocol*
- ▶ The scripting language allowed to **separate** the actual App-Code from **device dependent parts**
- ▶ Device dependent script can be **updated independent from App** (which has to go through Apple's App Review Process)

* although Apple forbid embedded scripting in Apps at that time!

BRINGING ORDER INTO THE ZOO

- ▶ Abstracting GUI from physical systems and devices
- ▶ Four categories
 - ▶ **Actuators:** *Init, Config, Get, Set*
Sub-Device: Sockets
 - ▶ **Sensors:** *Init, Config, Request, Get*
Sub-Device: Sensor
 - ▶ **Remote Controls:** *Init, Learn, Send*
Sub-Device: Button
 - ▶ **Cameras:** *Get JPEG, Get MJPEG, Set PTZ*



DEVICE DESCRIPTION FILE

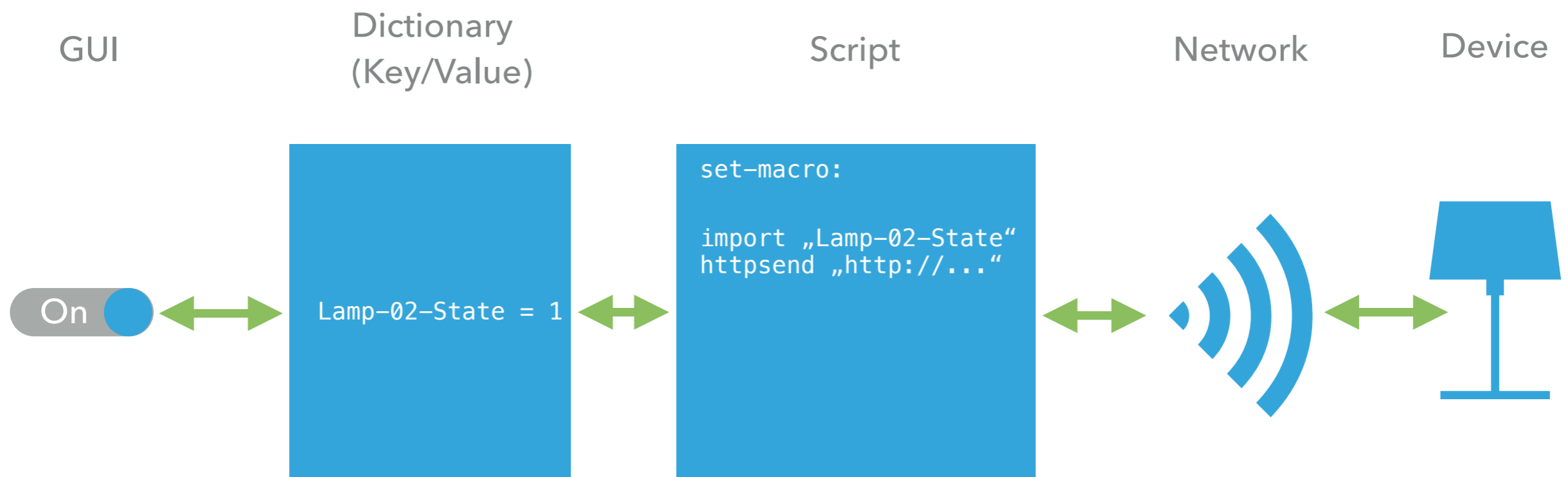
- ▶ XML formatted file
 - ▶ Library of device descriptions is stored on CasaLive server
- ▶ Main sections
 - ▶ Device infos
 - ▶ Network parameters
 - ▶ Generic device specific parameters
 - ▶ Sub-Device infos
 - ▶ Embedded scripts
 - ▶ Description of UI elements (type, size, position)
- ▶ Format and scripting language is documented. So in principle everyone can add support for a new commercial or home-brew device!

EXAMPLE

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE casalive>
<casalive>
  <info>
    <version>1.0</version>
    <crml>2.1</crml>
    <support status="+" firmware="2.00.00">Switching of the ALLNET ALL4075 network power plugs</support>
  </info>
  <plug>
    <name>ALL4075</name>
    <template rev="2">Allnet ALL4075 Actuator</template>
    <access-type useping="0" alt-check="1">http</access-type>
    <access zone="Local" type="always" uid="" >
      <login></login>
      <password></password>
      <service port="80">#192.168.1.100:80</service>
    </access>
    <config-macro>
      VAR int hash
      hash:=sendhttpasync "xml?q=0"
      export "[hash]-type" "config"
    </config-macro>
    <set-macro>
      VAR int state
      VAR int hash
      VAR string id
      id:=import "ident"
      state:=import "state"
      hash:=sendhttpasync "xml?q=1&actor=[id]&switch=[state]"
      export "[hash]-type" "set"
    </set-macro>
    [...]
  </plug>
</casalive>
```

UI - DEVICE ABSTRACTION

- ▶ GUI and script communicate via key/value store („Blackboard pattern“)
- ▶ Script language has commands to deal with:
 - ▶ Network: Raw TCP/UDP sockets, HTTP/HTTPS requests
 - ▶ Payload: XML, XMLRPC, JSON, Simple Text, Binary (limited)



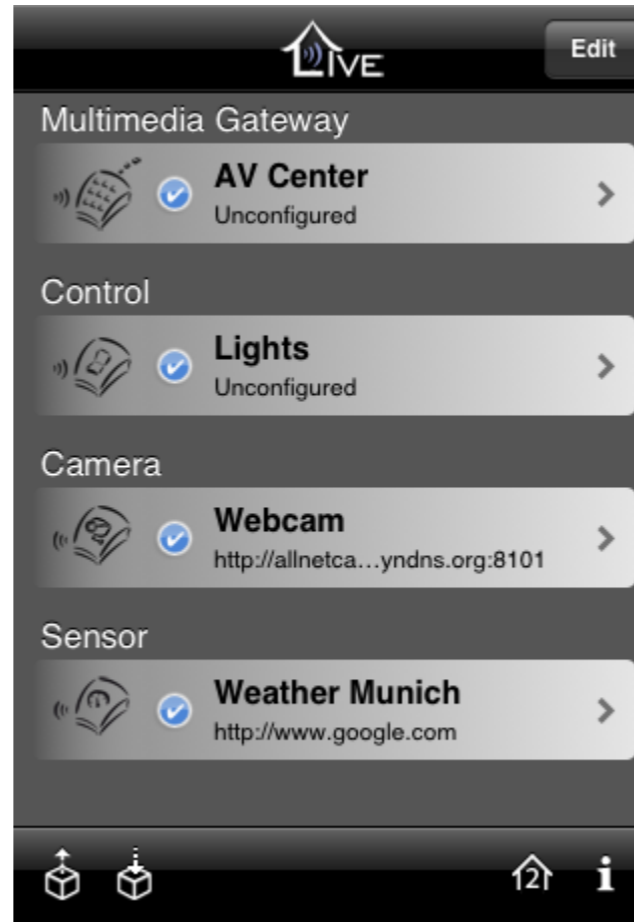
THE APP EVOLUTION

- ▶ Initially only for iPhone and iPod touch (**CasaRemote**)
 - ▶ List based user interface
- ▶ Later separate iPad App (**CasaRemote HD 1.x**)
 - ▶ Free placement of UI elements (panel style)
- ▶ Then universal App iPhone & iPad (**CasaRemote HD 2.0**)
 - ▶ Panel style UI now for iPhone & iPad
- ▶ Version with In-App Purchases (**CasaRemote XT**)
 - ▶ Unlock features

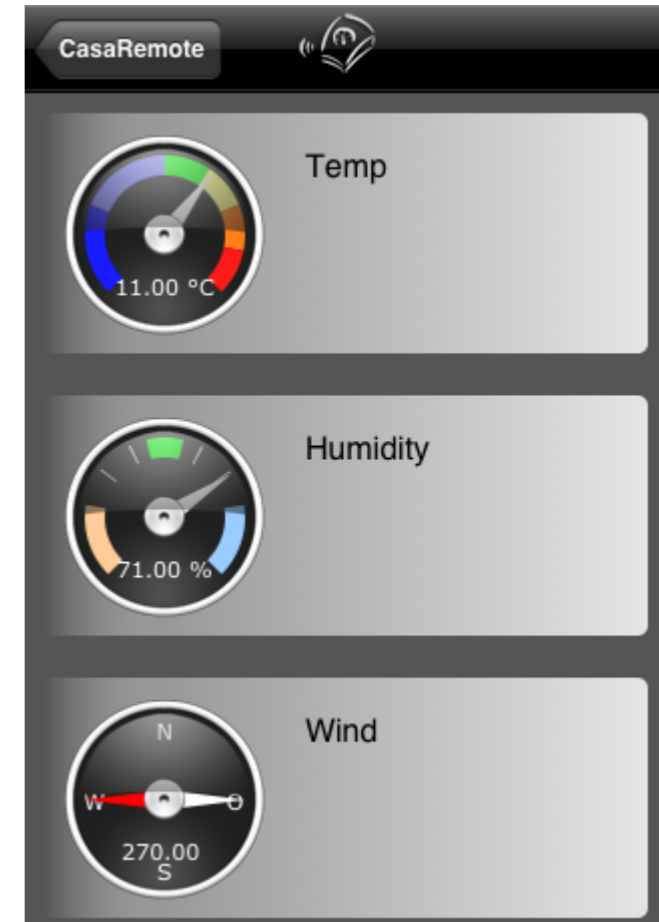
TIMELINE



2008



2009



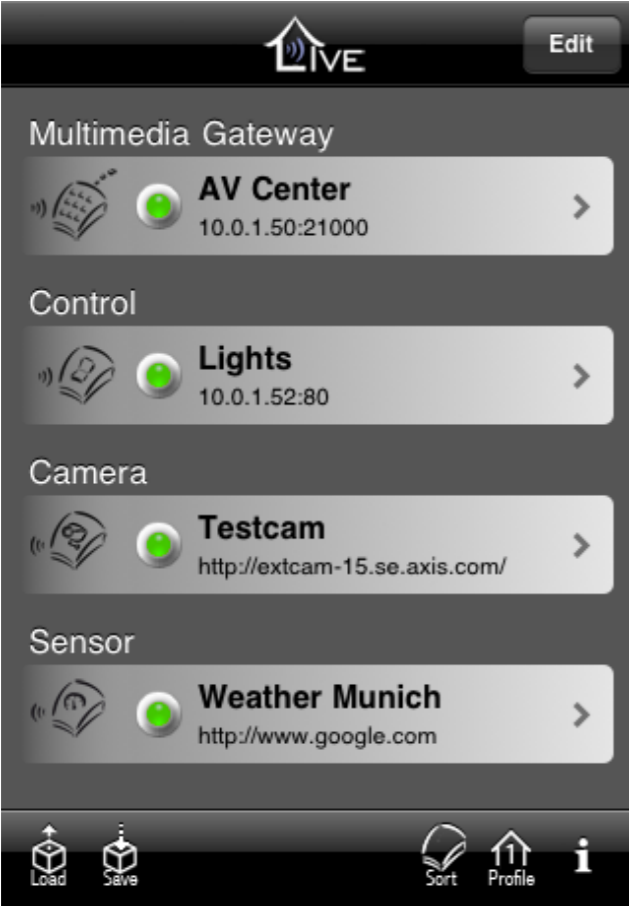
TIMELINE



2010

CasaRemote HD (iPad only)

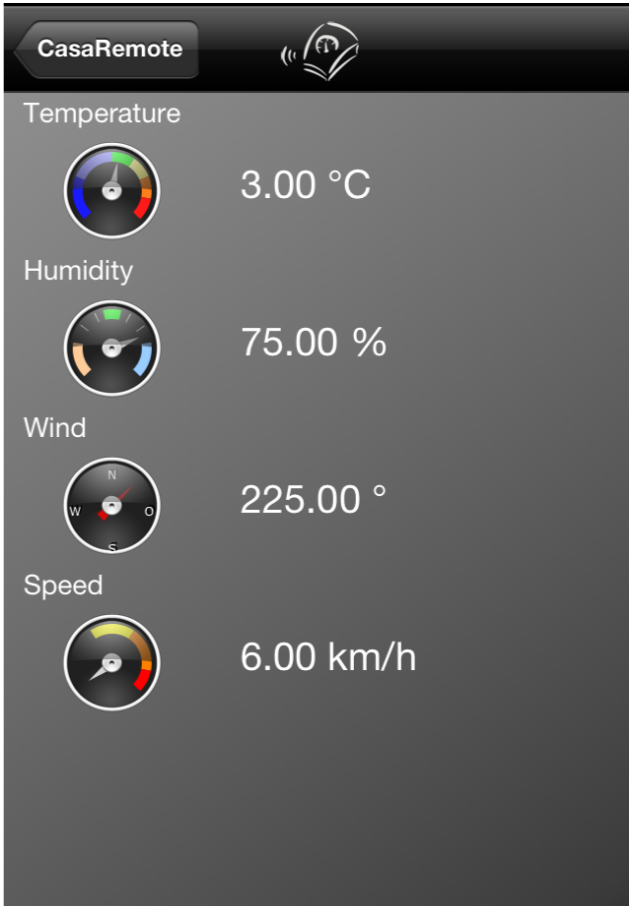
TIMELINE



2011



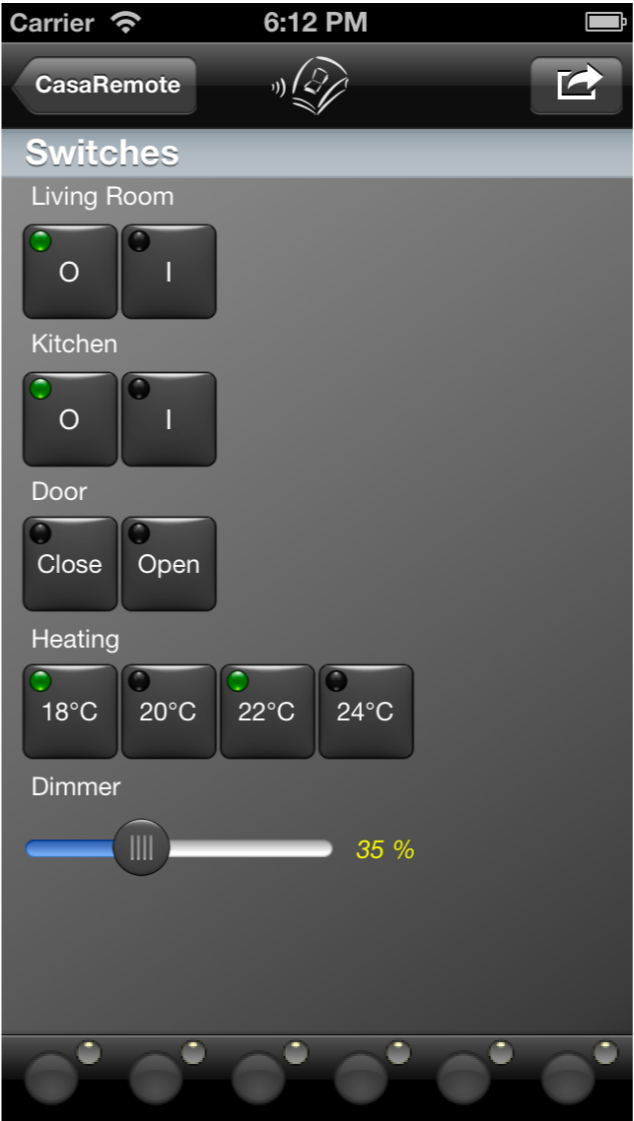
2012



TIMELINE

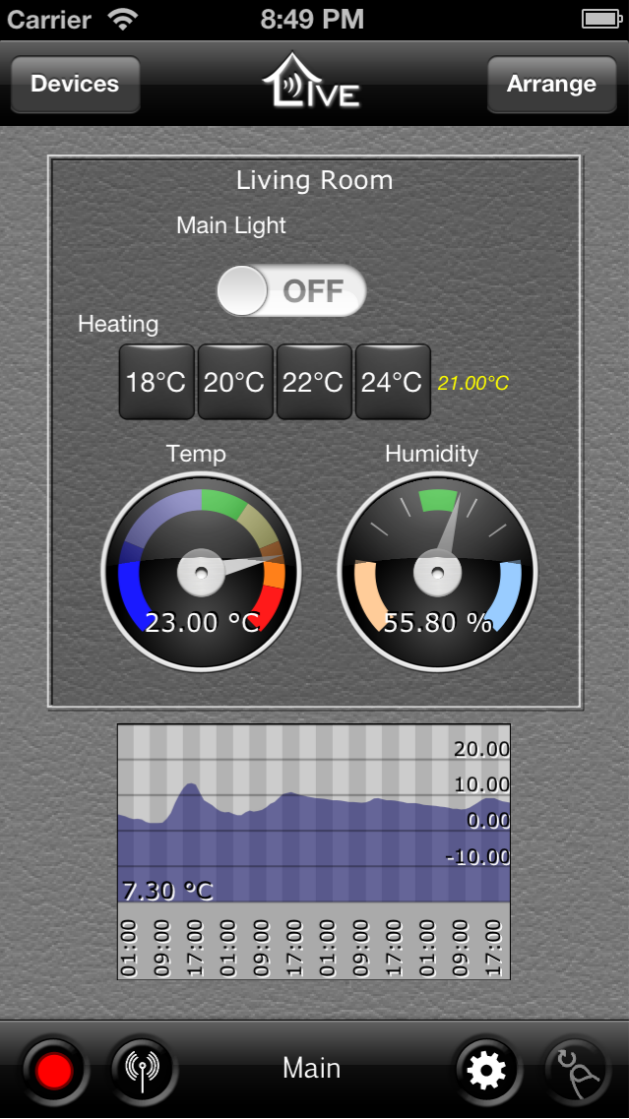


TIMELINE



2012
Last iPhone Only Version

TIMELINE



2012

CasaRemote HD V2.0 iPad & iPhone

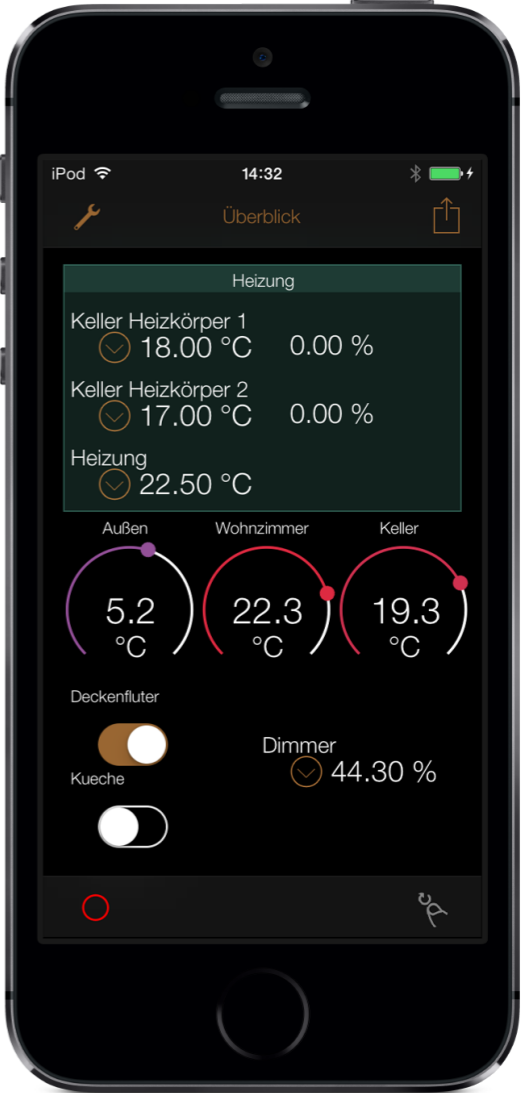
TIMELINE



2013

CasaRemote HD V2.2 (Last version)

TIMELINE



2014
CasaRemote XT (3.x)
(iOS 7 style, dark & light theme)

TIMELINE



2015

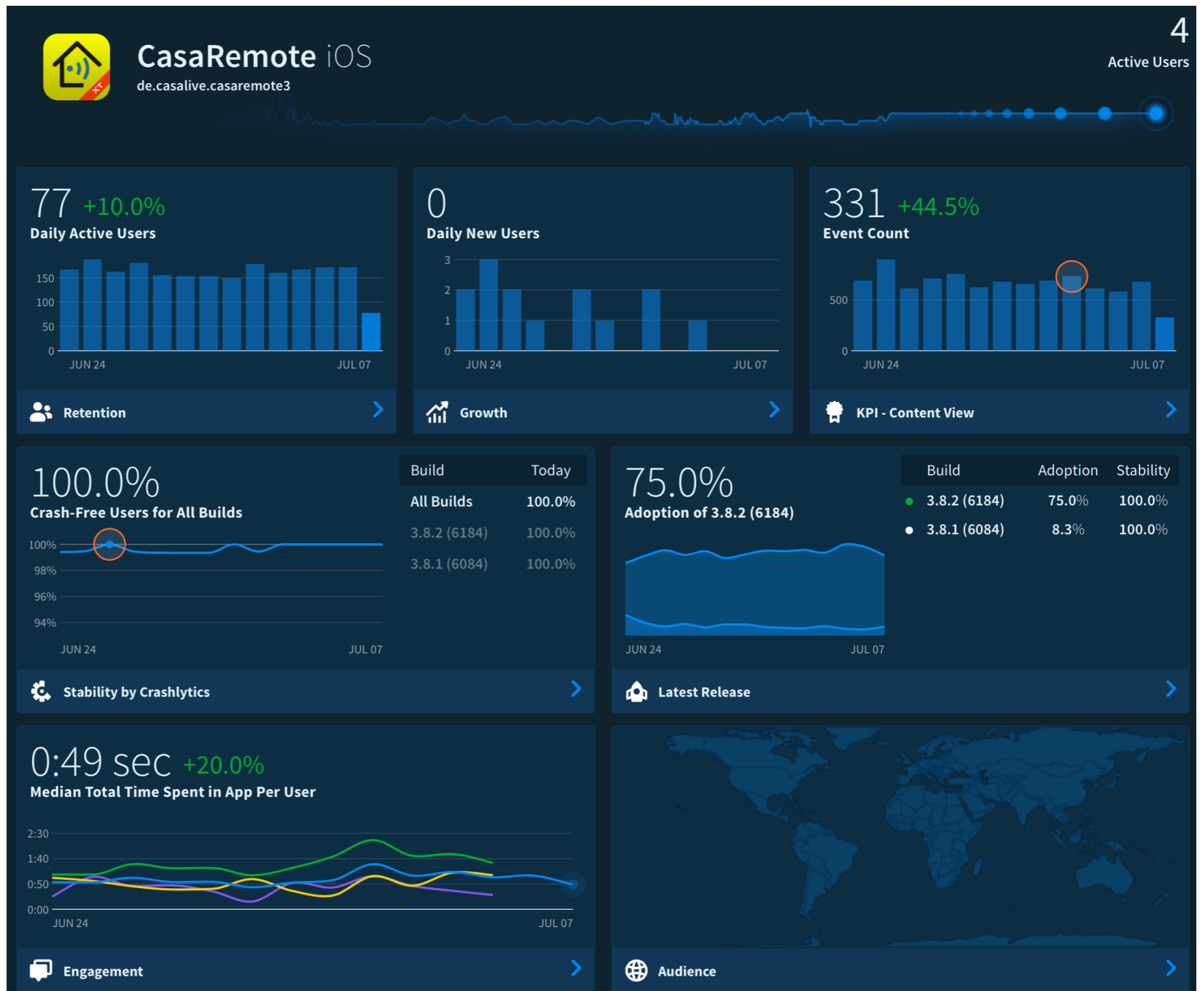
CasaRemote XT V3.3
(Apple Watch App)

TIMELINE

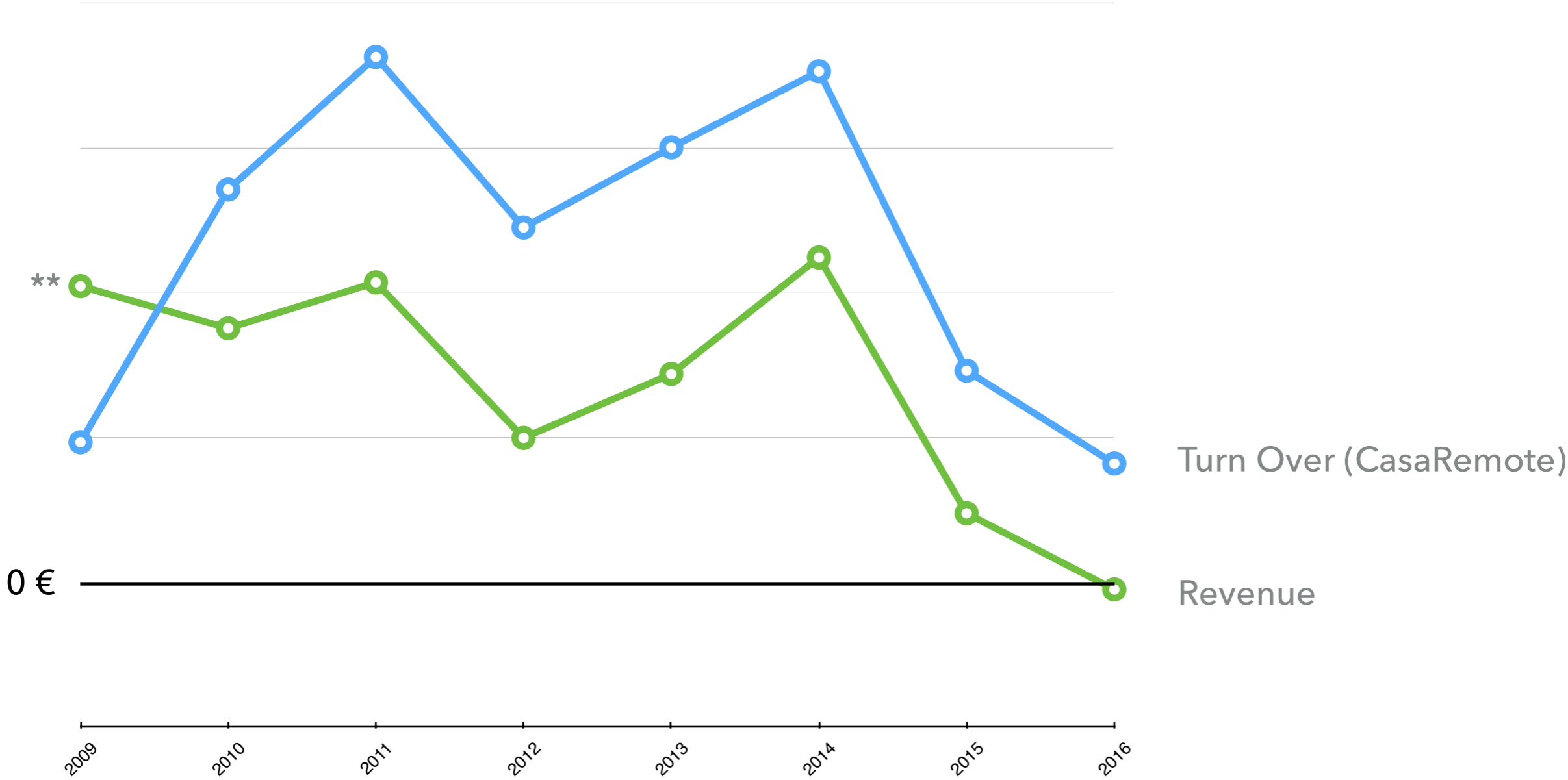


Today
CasaRemote XT V3.8

SOME NUMBERS ...



SOME NUMBERS ...



** incl. revenues from other business

SOME NUMBERS ...

Price Models

		CasaRemote	CasaRemote HD	CasaRemote XT	InApps (complete)	Patronage
2009		19,99 €				
2010		19,99 €	19,99 €			
2011		19,99 €	19,99 €			
2012			24,99 €			
2013			24,99 €	10,99 €	17,99 €	
2014				9,99 €	17,99 €	
2015				14,99 €	13,99 €	
2016				14,99 €		1,50€ per month
2017				9,99 €		

THOUGHTS - 2017

- ▶ CasaRemote revenue is collapsing
- ▶ iOS 11 and new „iDevice“ form factors are coming
- ▶ CasaRemote needs internal code refactoring badly
For nerds: Still all Objective-C, manual reference counting, no storyboards...
- ▶ The SmartHome market seems to slowly consolidate
Systems in general get more open (e.g. Philips Hue) and initiatives like HomeKit from Apple start kicking in. Therefore one of the major USPs of CasaRemote is vanishing

LESSON LEARNED

- ▶ **New is not always better!**

Turning on the light using a smartphone was cool in 2008, but it is „nerdy“ at best today. And: Nothing beats the good old light switch next to the door!

- ▶ **SW is never finished!**

App development (as any SW development) requires constant maintenance and refactoring to keep up with technology (e.g. new OS version, new devices ...)

- ▶ **SW has no value to end customers!**

Smartphones App markets have propelled the downwards spiral of SW prices. Apple and Google give away their SW by cross financing through other business models (HW device sales, advertising). Microsoft and Adobe try to conquer using subscription models (Office365, Creative Cloud)

LESSON LEARNED

- ▶ Sustained business model in the AppStore is tough!
Since no upgrade pricing is possible, the only way for sustained income is a subscription model (which customers don't like). One time payment App require a huge and ever growing portfolio. Only the large players (especially in the games area) can deliver that.
- ▶ Supporting an infinite „zoo“ of external HW kills you eventually!

THE FUTURE

- ▶ CasaLive GbR will be shut down bei end of 2017
- ▶ CasaRemote XT App will be removed from AppStore