



#### makes your home smart

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### **Smart home**



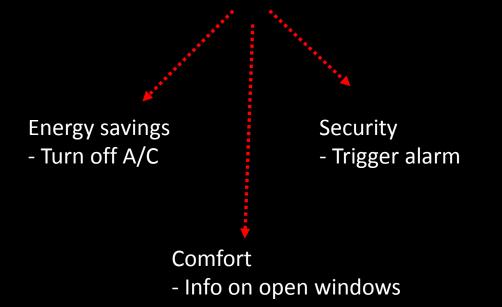
It's more than just an outlet controlled by an App...













# The 3 secret keys to a successful Smarthome project

- Easy to use
  Simple to use
  Ease of use
- 3. Ease of use



Example – Bedside control on iPod



# A current Project...

- House
  - 1.200 sqm living space
  - 300 sqm guest house
  - 8 bedroom / 10 baths
  - Wellness, bowling, cinema
- 900m RGB LED stripes
  - 180 groups
- 43 Audiozones
- 600 lights in 156 groups
- 2 swimming pools (total 160sqm)



# >50 Projects

#### SOFTWARE SERVICES SL







Einfamilienhaus in Zürich



Gallery Beleuchtung GB. in Palma



Dental Clinic in Palma



Büro NS in Sa Cabaneta



Einfamilienhaus in Cabaneta



Wohnung in Llucmajor



Einfamilienhaus in Sa Rapita

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Einfamilienhaus in Manacor



VBus		Sonos	Dreambox	
KNX/EIB	/I-Bus	Squeezecer	nter uPnp	Revox
DMX			irTrans	Denon
Digitalstrom	>30 Pro	otocc	ls	WebSocket Ajax
Miele@Home	Wake-On-	Jen	al Syslog	Text-to-speech
serve@home	HTTP Cap	oi SMTP SNMP	GPIO	Servlets
Stiebel-Eltron	Growl iBeacon	SIP		Weather Underground



### Visualization



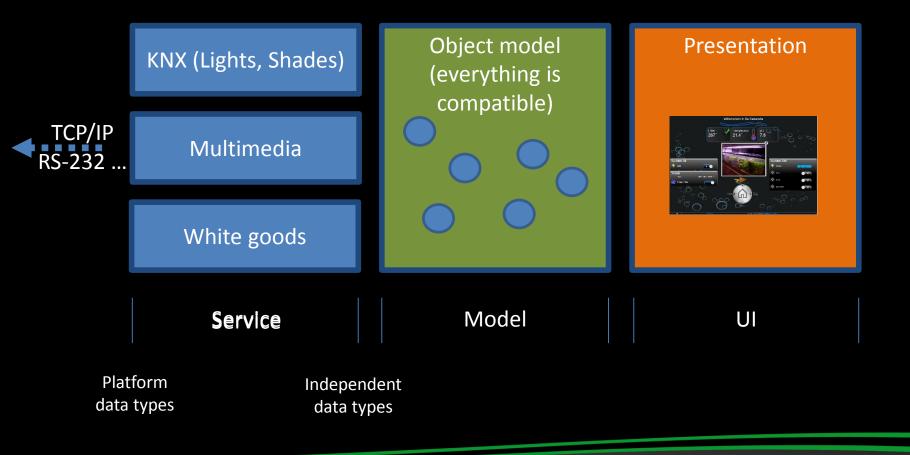
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#### Why Smalltalk?

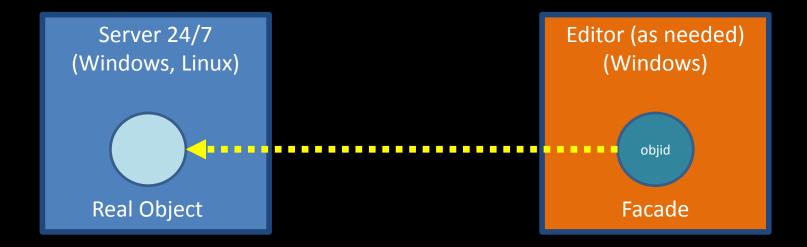


#### Advantage 1: 3-tier architecture



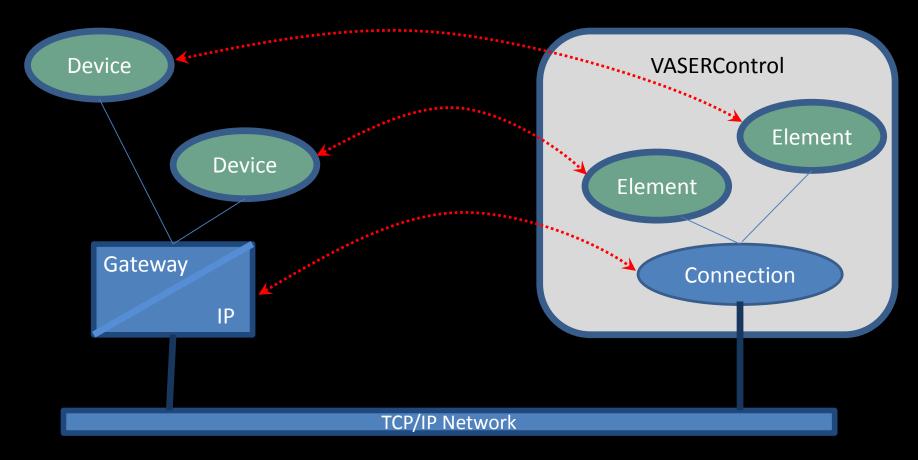


#### Advantage 2: Facade concept



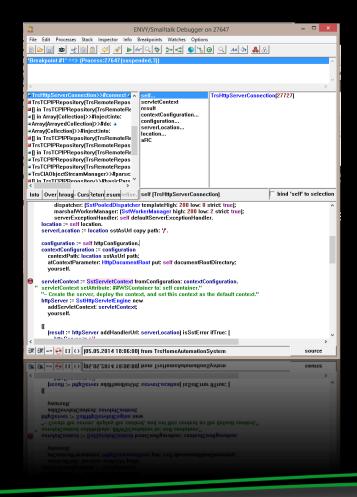


#### Advantage 3: Modeling the real world



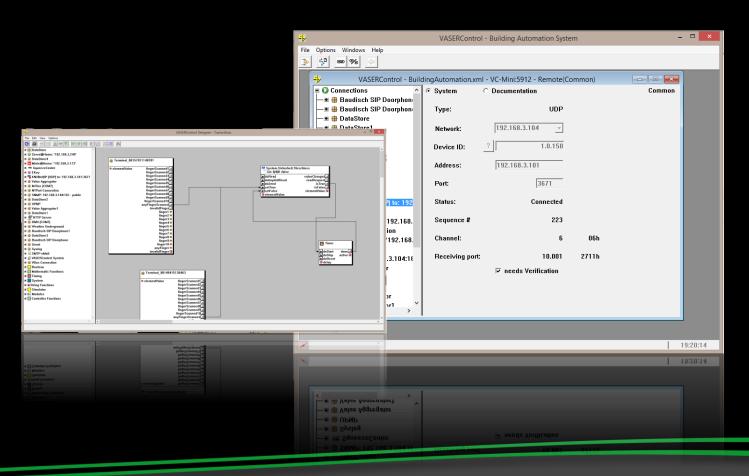


#### Advantage 4: Working in the debugger





#### Advantage 5: Remote editing





#### Advantage 6: Remote debugging

13	VVY/Smalltalk Debugger on 27647	- 🗆 🗙			
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[] in Array(Collection)>>#inject:into: Array(ArrayedCollection)>>#do: A	configuration				
Array(Collection)>>#inject:into:	serverLocation location				
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建建 4 🙆 [1] () [05.05.2014 18:06:00]	from TrsHomeAutomationSystem	SOUICE			
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addServletContext: servletContext; yourself.					
httpServer := SstHttpServletEngine new					
- Oreate the server, deploy the context, and set this container."					
ervietContext := SstServietContext fromConfiguration: contextConfiguration.					

itextParameter: HttpDocumentRoot put: self documentRootDirectory: self.



# Other key facts

#### Technology

- frameworks, patterns, know-how
- "Open-heart" coding
- **Stability**

#### Performance

- VM, development time **Distribution** 



### The most important fact

# lt's fun



# Summer project 1

# Natural Aquarium Lighting

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# "Normal" fish tank lights

- Manual switch
- Timer
  - Every day at exact the same time
- 0% to 100% in fractions of a seconds



# Problems

- Pupils are fix
- Stress for the fish
- No seasons
- No twilight
- Constant colour scheme
- No moon cycle



# Goals

- Natural environment for fish
- Better breeding results
- Longer lifespan
- "Make fish happy"



# Aqua lighting

- RGB(W) Lights
  - Simulate different colours during day/night time
- Linked with Weather Webservice
  - Simulate seasons
  - Simulate light levels due to clouds



### Some impressions



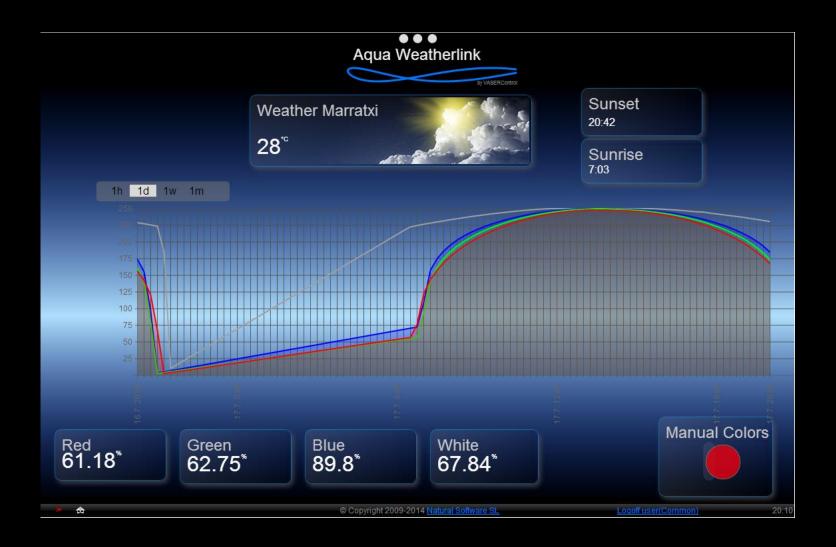


Midday

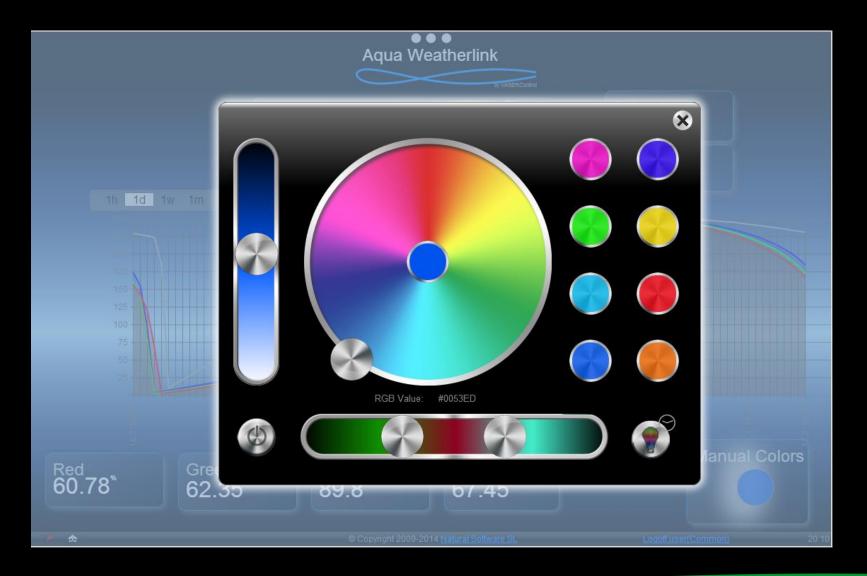
Twilight

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#### Summer project 2

# Zen Garden Robot

**VASERControl/Lego EV3** 

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# It all started with Moonbots...



#### Unfortunately we didn't make it into phase 2

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# Interfacing EV3 with Smalltalk

- Ported Jannik Lavals code to VA/Smalltalk
- Created Parts for VASERControl

• Now Lego EV3 functionality can be linked to home automation events



# New challenge

#### Instead of a moon robot...

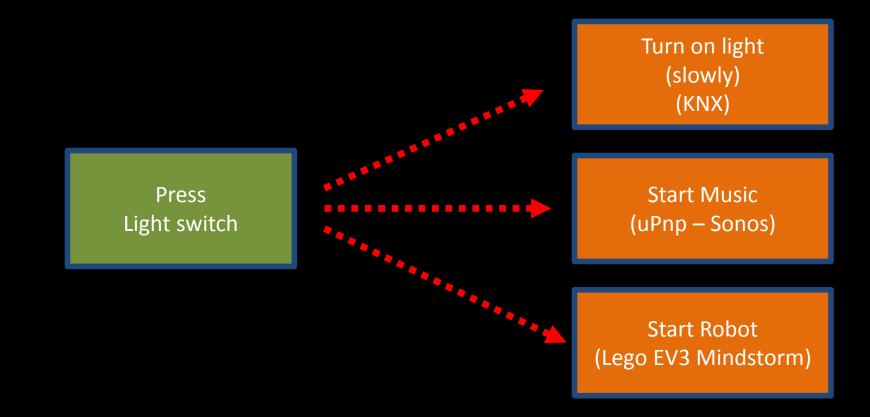
#### Implement a ZEN Robot

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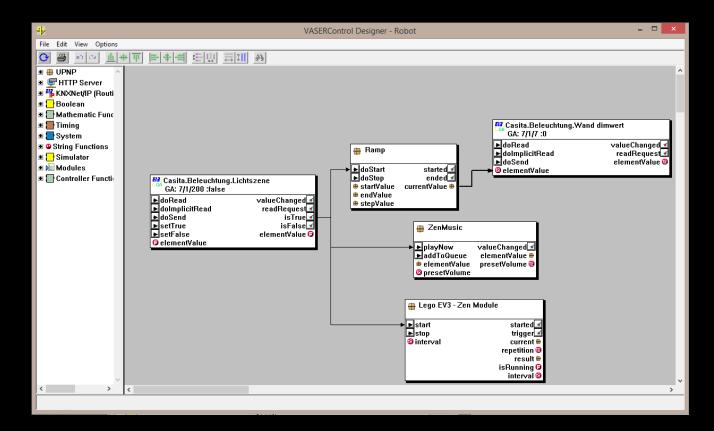
### What we want to do



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# Implementation









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