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Geschichte

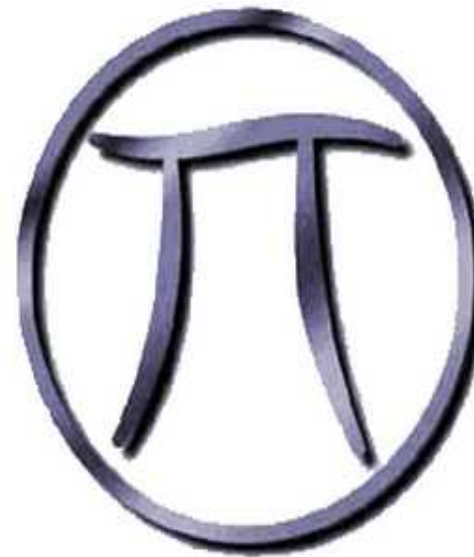
Profil

Freeware

Produkte

Shrinkware

Pi-Systemprogrammierungs-GmbH



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*Usually when I use these foils,  
I am next to them and do the speaking  
I=Martin Trübner*



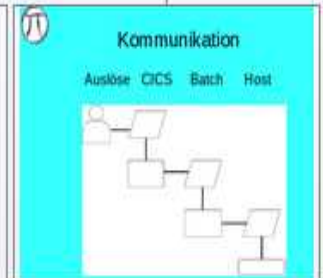
*This presentation has three parts*

Hardware



OV

Software



Live

*Here I will ~~not~~ present the live part in z114.mp4*



# The new zEC12

*I do like the stealth  
look (or is it batman)*

*anyway- I figured  
I can upgrade the  
look of my z10*





„my“ old z10



*a cardboard-  
model*



# Upgrade of the front panel

*I did multiple  
folding  
experiments*

*in white  
- the black  
paint is the  
very last step.*



*A good soul  
on FB saw*

*my attempts  
and  
did send me  
(see next)  
Thank you  
again.*



# z114 in Lego



*This pic was part of the documentation  
that came with the lego pieces*



# my Lego z114



*The final model  
standing on  
a wooden container  
for a bottle of  
red wine*





# Real vs Model



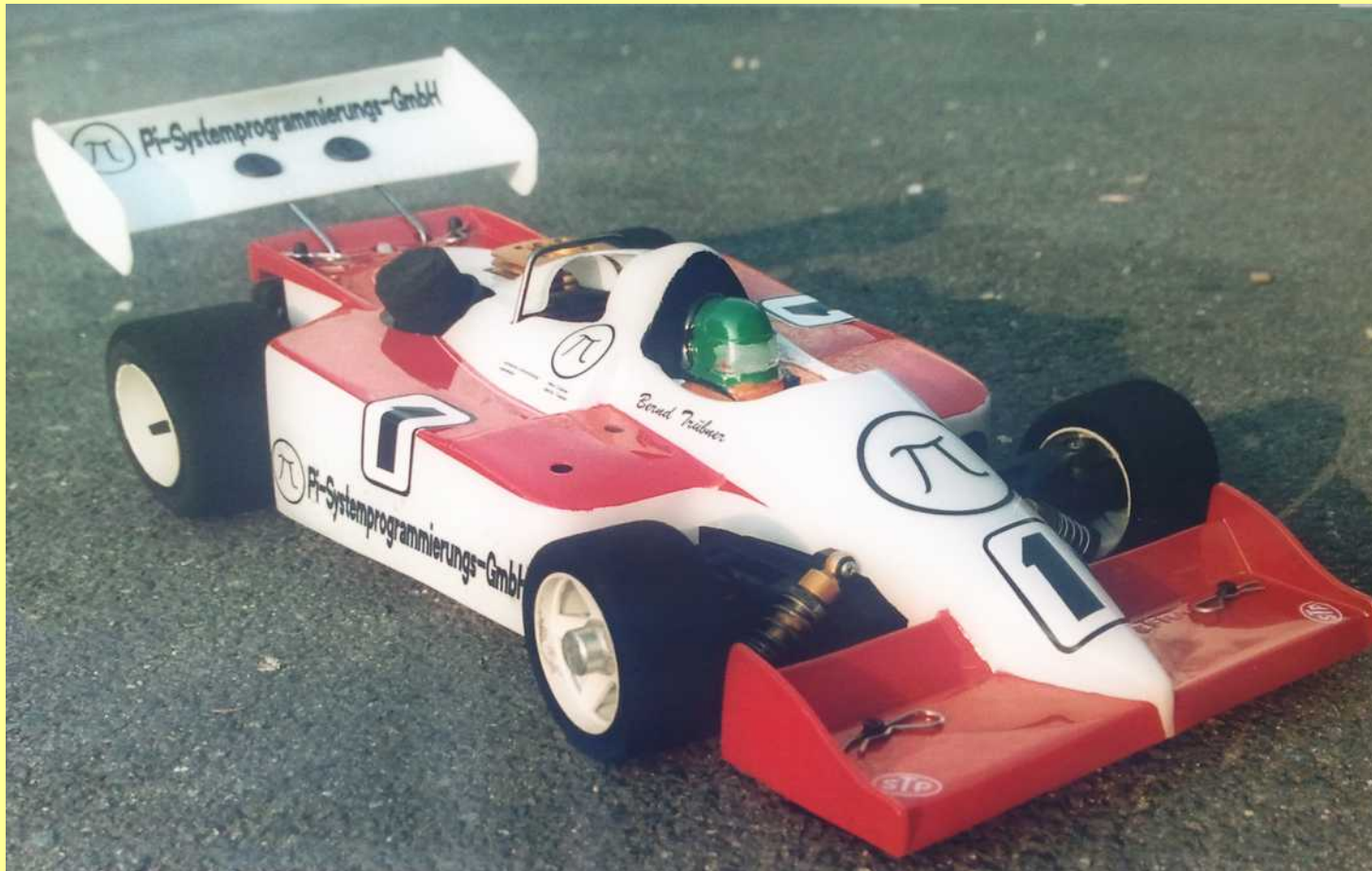
*In the background  
a real z114*

*you can see the  
scale*





# An idea is born



*This pic is a combustive engine powered RC car.*

*Pi was sponsor in 1995 (or so) . Can it be done to the z114 too?*



# light and cable from top

*First iteration  
with just lights on  
the front panel*





# A „real“ engine

*But wait- there is a "real" engine that fits in the lego body*



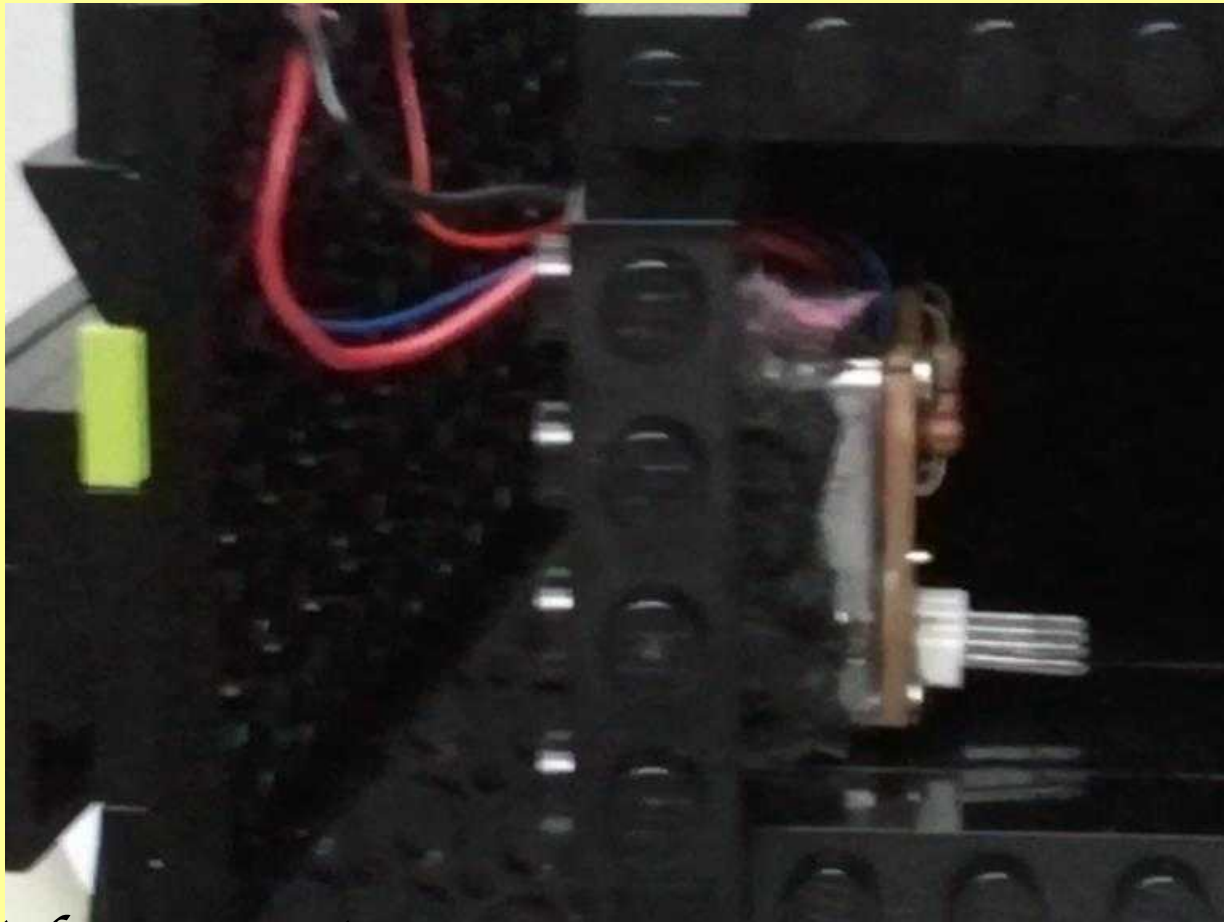


# The light controller

*Aside of the Raspberry-Pi as the heart, there was enough*

*space for  
a light  
"controller".*

*Reminder:  
LEDs can  
not be  
connected  
to power without a resistor*



*Here is the light controller glued to the  
back of the lego brick with the lights in front*





# Very first version

*Here the LAN  
cable is coming  
out of the top*

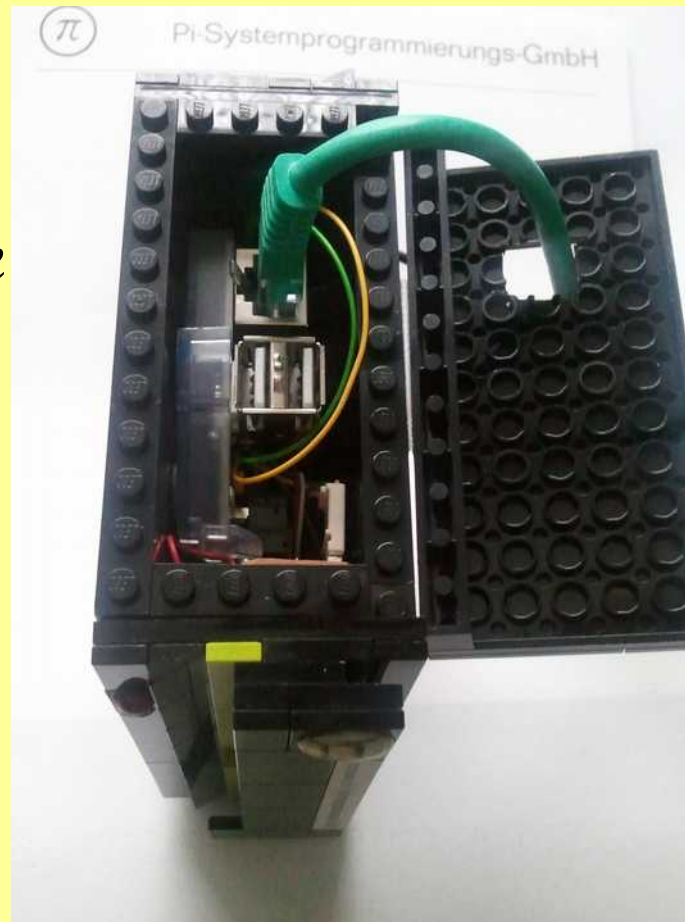




first version; cover open

*But the box  
has enough space  
(0.8 mm =  
1/4 inch)*

*for a  
WLAN-USB*





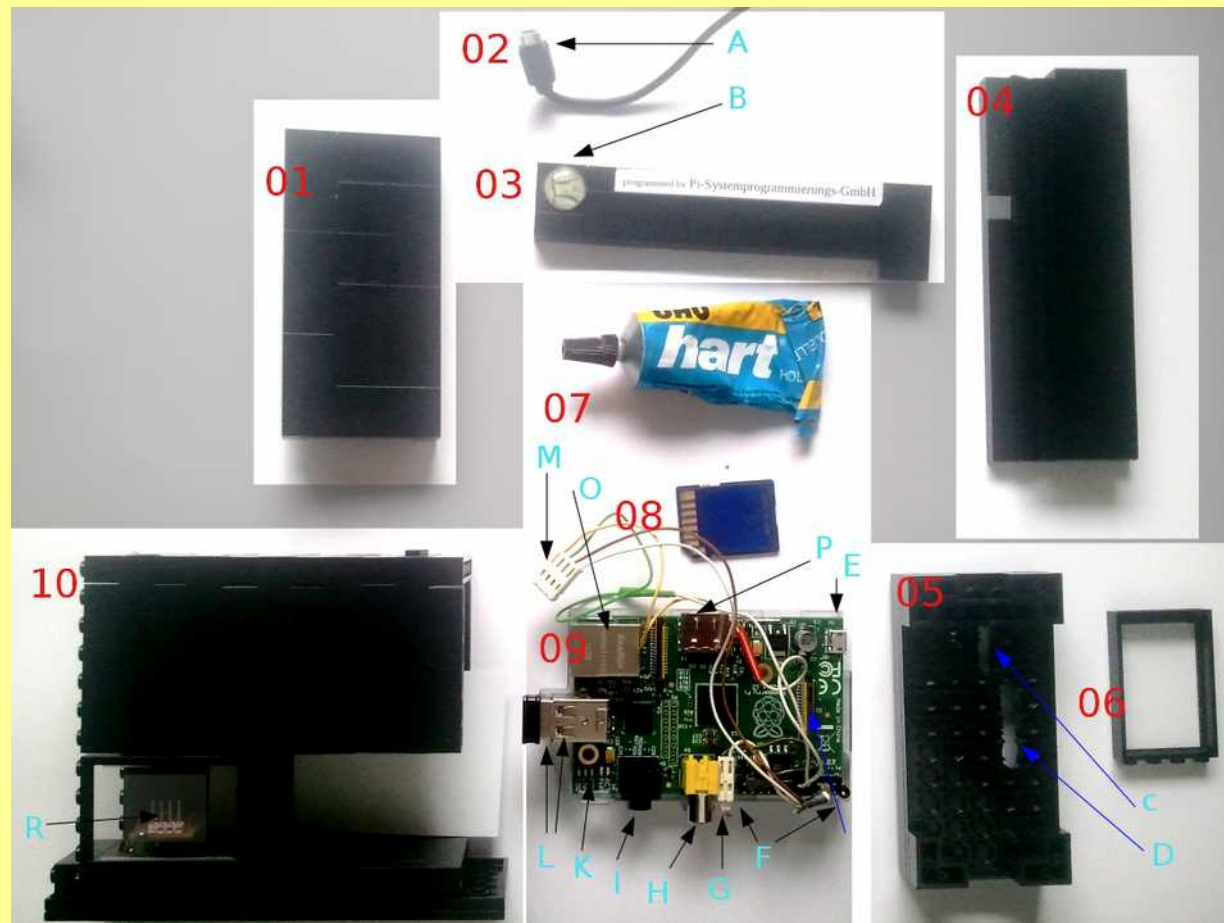
Final version (+WLAN USB)







# Details (+questions re: HW)



*You can ask questions here- and please name the piece you would like to get an explanation for.*



## 3 Layers

- z-OP-sys (i.E. Linux on Z)
- Simulation layer
- Debian wheezy



*The software running on the model has three layers.*

*Is it obvious that I am a Z-person?*



# Benchmark

AMD Athlon(tm) 7550 Dual-Core Processor

Raspberry Pi

DOS/VS R34 / under HERC 4.0 on Mageia

= / HERC 3.07 on Debian

BG 0000 Branches:

BG 0000 BCT R0,\* 55.2 MIPS

4.4 MIPS

BG 0000 BCTR R0,R15 80.4 MIPS

5.7 MIPS

BG 0000 NOP R0 143.0 MIPS

8.0 MIPS

BG 0000 Fetches:

BG 0000 LR R1,R0 109.8 MIPS

8.7 MIPS

BG 0000 LTR R1,R0 118.0 MIPS

8.3 MIPS

BG 0000 L R1,0 13.9 MIPS

0.7 MIPS

BG 0000 L R1,1 13.8 MIPS

0.6 MIPS

BG 0000 ICM R1,15,0 13.6 MIPS

0.6 MIPS

BG 0000 LD F0,0 12.2 MIPS

0.6 MIPS

MIPS at 95% (COBOL-Compile) for > 5 Min

> 60 Min

28.0

0.8



# Where is the HMC?

*There is no indication  
of what goes on  
in the box*

*(except the lights  
for the Raspberry Pi  
itself)*





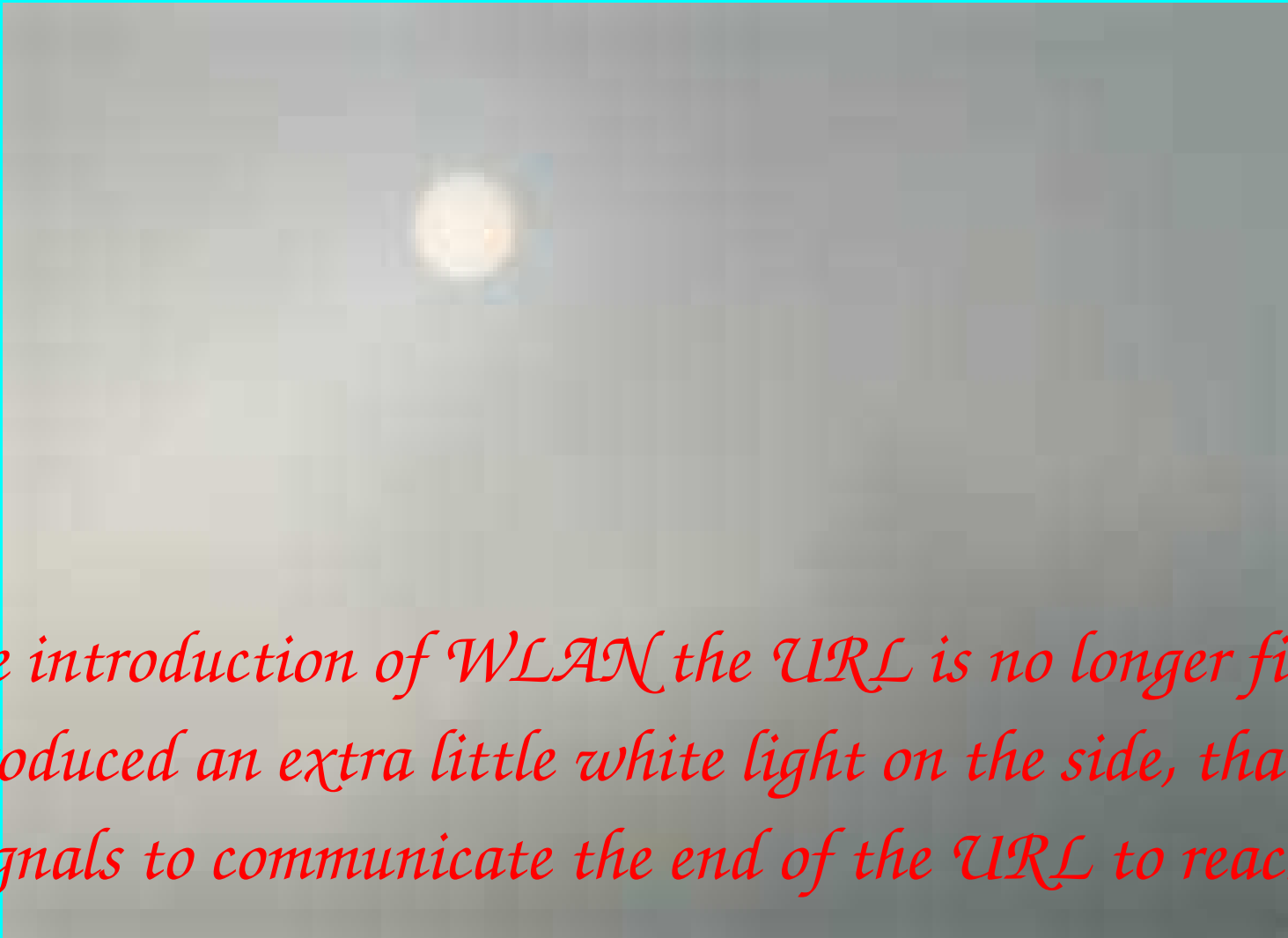
# The lights

*Here is  
flow chart  
that shows  
what combination  
of lights comes  
on at what point*





# and now with WLAN



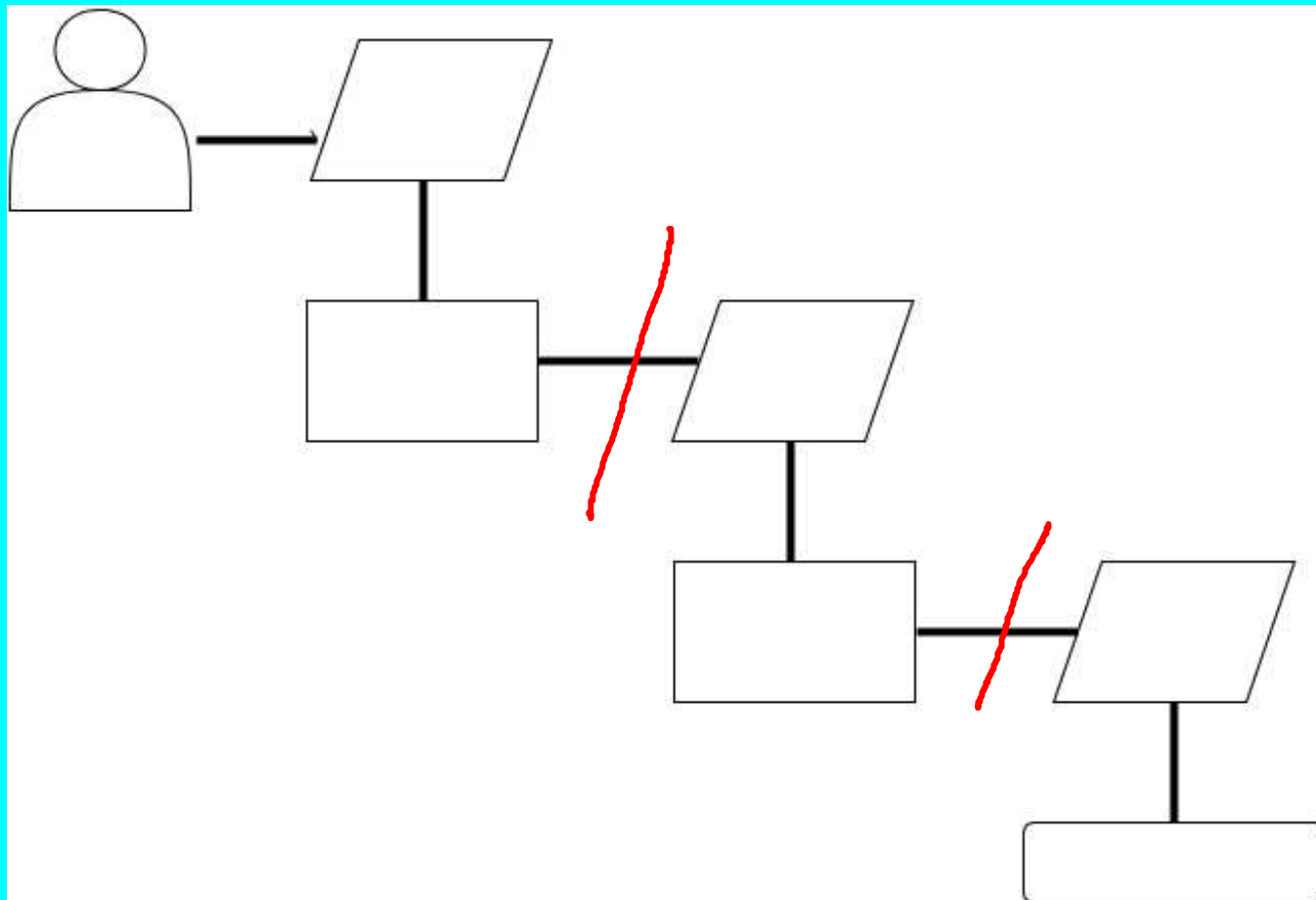
*With the introduction of WLAN the URL is no longer fixed.  
So I introduced an extra little white light on the side, that uses  
8 lightsignals to communicate the end of the URL to reach it*



# Communication

*Flowchart that shows the flow of control for the front lights*

Trigger    CICS    Batch    Host



*It is important to mention that the process(es) are not synced (much like MQ)*





- Next

the CEC should be up  
by now .....

*This is the point for questions when I do it live. My email: [martin@pi-sysprog.de](mailto:martin@pi-sysprog.de)*

*The live demo is at [pi-sysprog.de/z114.mp4](http://pi-sysprog.de/z114.mp4)*

*Thank you*