

# PHILIPS

## Facts and fiction in architecting

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- Some general remarks
- Stimulating / Stupid / Strong<sup>1</sup> Statements
- Case study:  
    Misleading tradeoffs in a combi-product  
    (ref: IEEE Computer, May 2005)

<sup>1</sup> Choose your favorite S...

# Architecting is a means to ..

- Realize products
- Short realization time
- Cost Control
  - component cost
  - development cost
  - learning cost
  - support cost
  - marketing cost
  - sale cost
  - ...
- single /diversity / family?
- single / several / roadmap?
- time versus cost?
- cost versus diversity?
- Make or buy component?
- Hardware versus software?
- etc. etc.

# Architecting

Waterfall versus creative / iterative / spiral process

## Statements

Architectural decisions are NOT based on functional requirements, but on non-functional requirements.

Functional SW architecting is more about selecting one from several possibilities, than creating a possibility from a start of none. ⇒ **Economics.**

Composition phase is at least as important as decomposition phase.

Most so-called development projects are actually integration projects. This trend is growing.

# Integration / composition iso decomp / build: Why?

- Combination of primary functions
  - A/V recorder + TV + photo + internet + calendar + phone + alarm + wireless + ...
- Patent or legal (DRM/decryption) arguments
- Buy existing parts, discuss / deal with providers of subcomponents to reduce cost
- This is hardly learned in SW education (but standard for electronic and mechanic design).

# Facts and Fiction

How to use creativity / imagination (= fiction), without falling in

- overgeneralisation
- oversimplification
- overspending effort?

General rules don't apply in many situations.  
E.g.: Codesize versus execution speed trade-off.

Reasoning must be checked with care. Scrutinized.  
Qualitative reasoning must be backed up by  
quantitative evidence.

