

# From the soft and fuzzy context to SMART engineering

by *Gerrit Muller* Buskerud University College

e-mail: `gaudisite@gmail.com`

`www.gaudisite.nl`

## Abstract

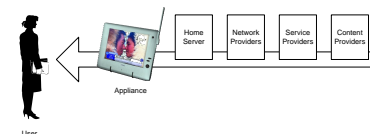
The customer needs are often ill-defined or fuzzy. The need for specific and verifiable requirements is described, but it also shown that less SMART descriptions have complementary value.

*A Mobile Display Appliance and Mediascreen* are used to illustrate the translation of user experience (fuzzy) into (SMART) device requirements.

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# The meaning of SMART

• Specific quantified

• Measurable verifiable

*acronym consensus*

• Assignable (Achievable, Attainable,  
Action oriented, Acceptable, Agreed-upon, Accountable)

• Realistic (Relevant, Result-Oriented)

• Time-related (Timely, Time-bound, Tangible, Traceable)

*variation of meaning*

# What are the requirements for these products?

## Mobile Display Appliance

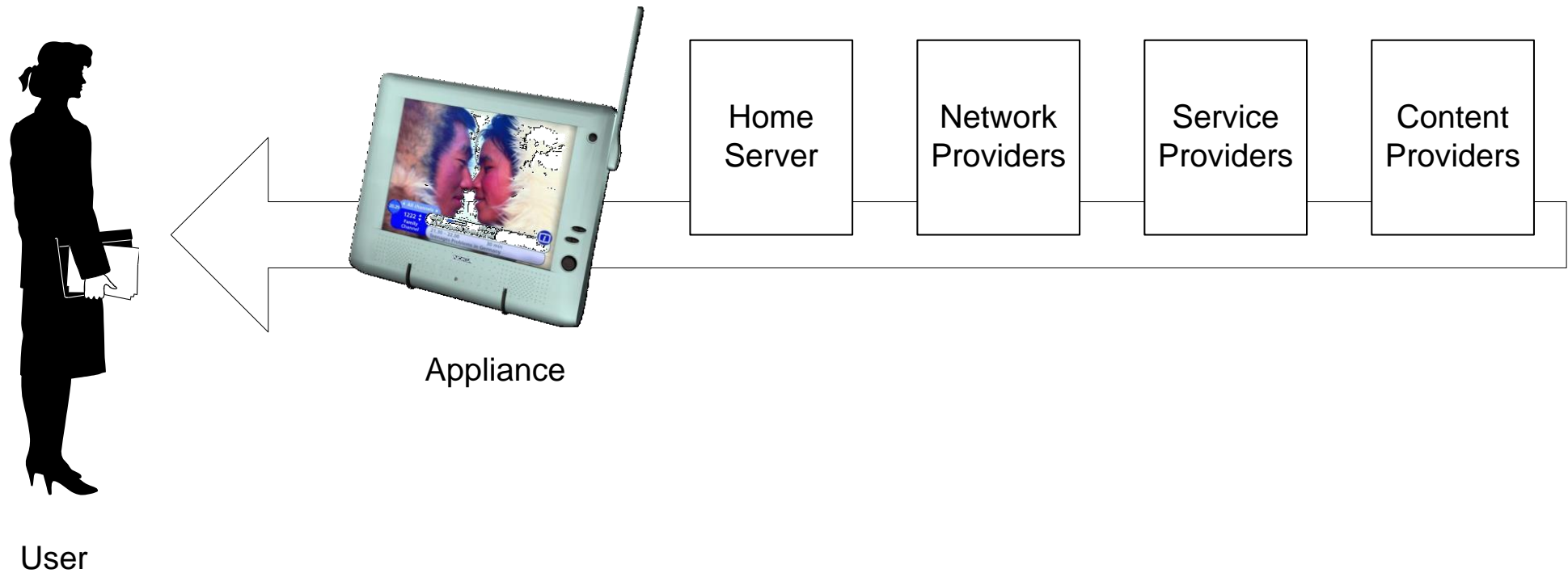


## Mediascreen

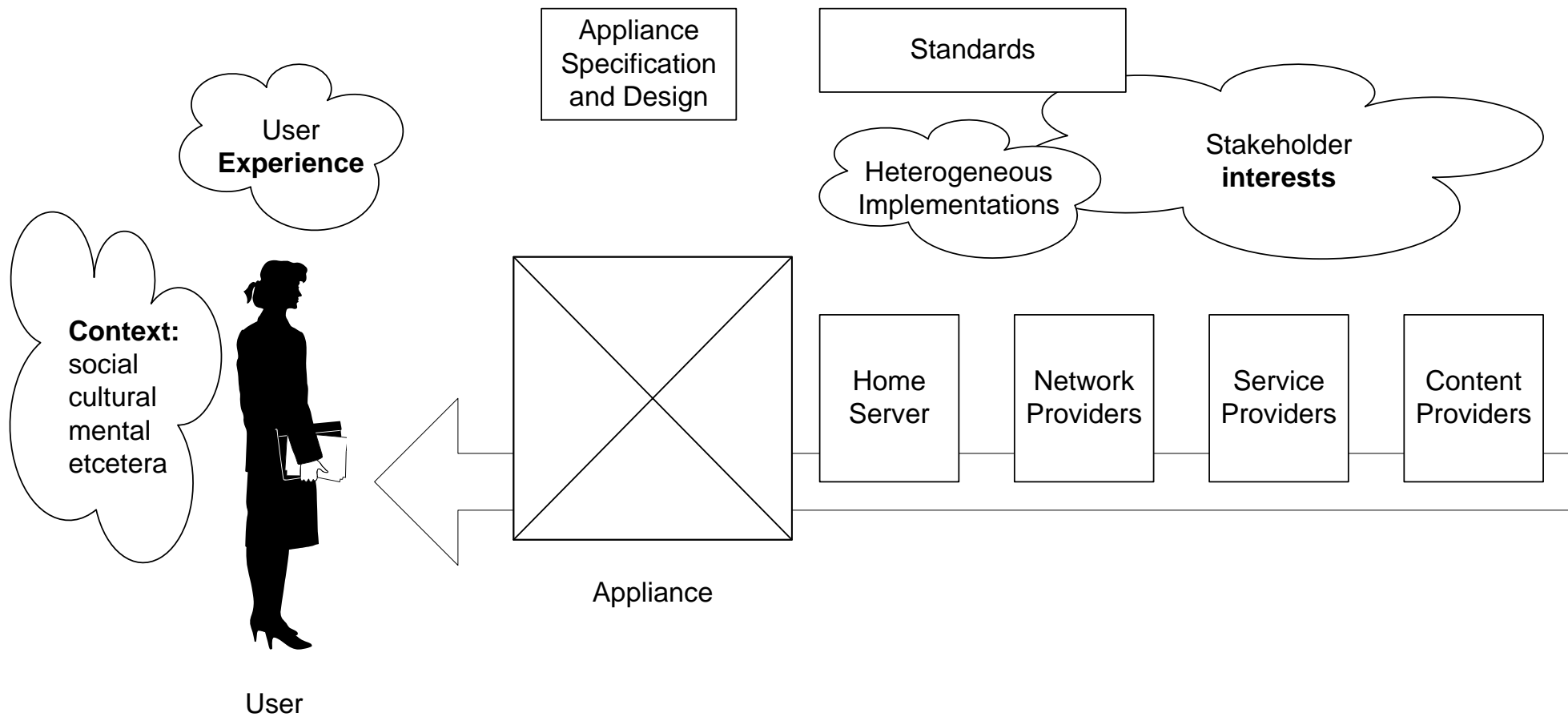


Original pictures from Nokia

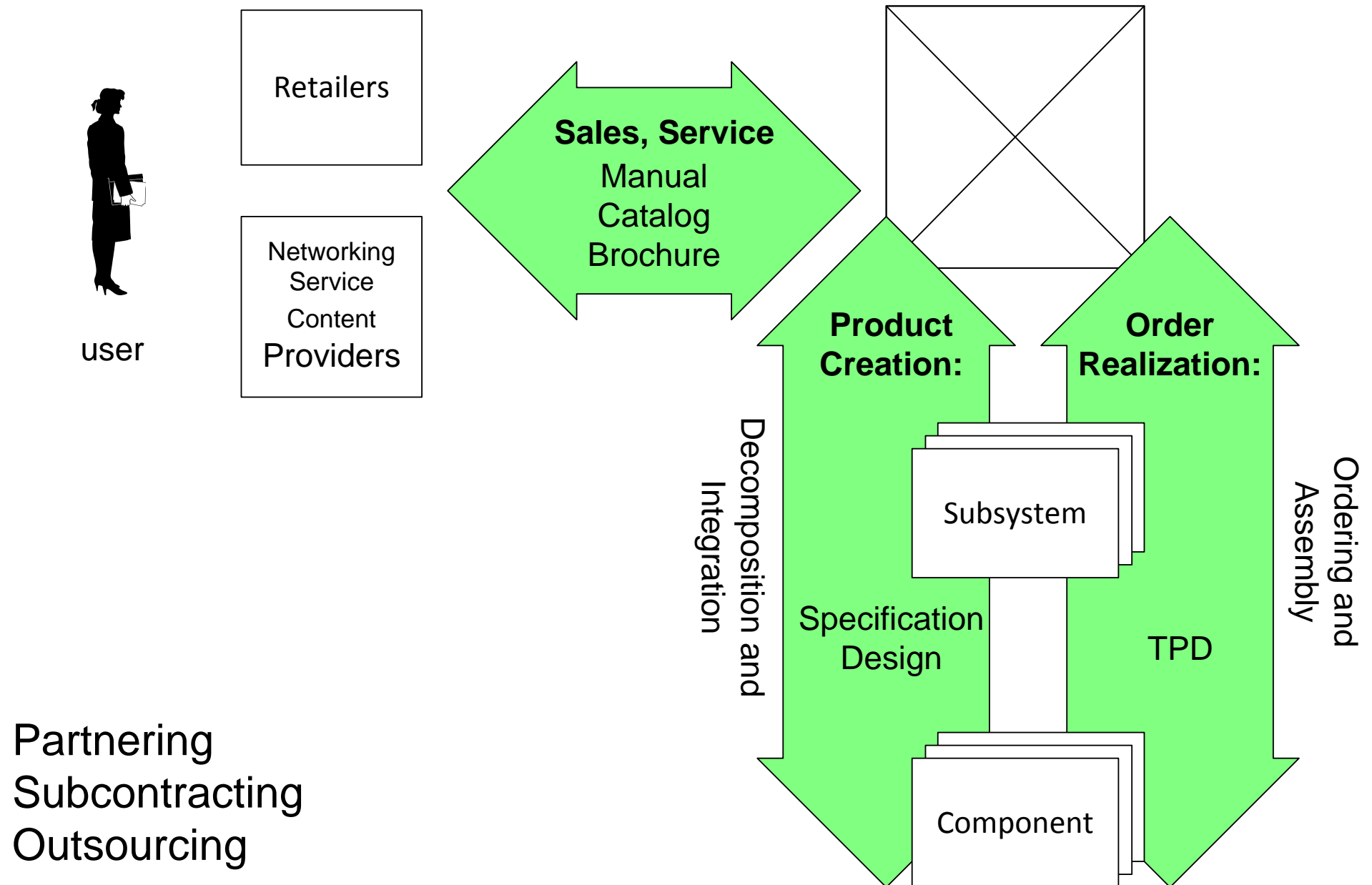
# User access point to long foodchain



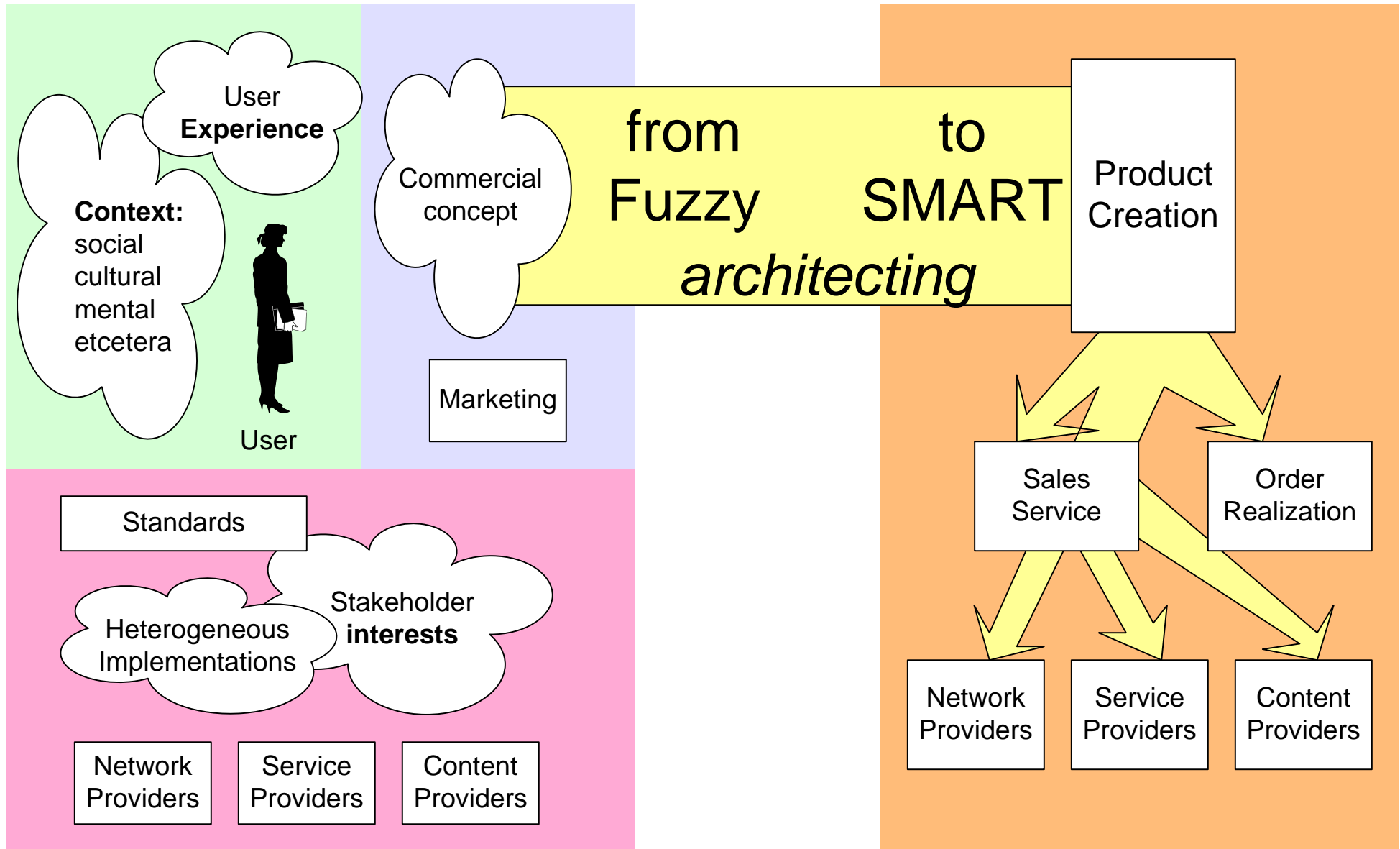
# "Fuzzy expectations" and "SMART descriptions"



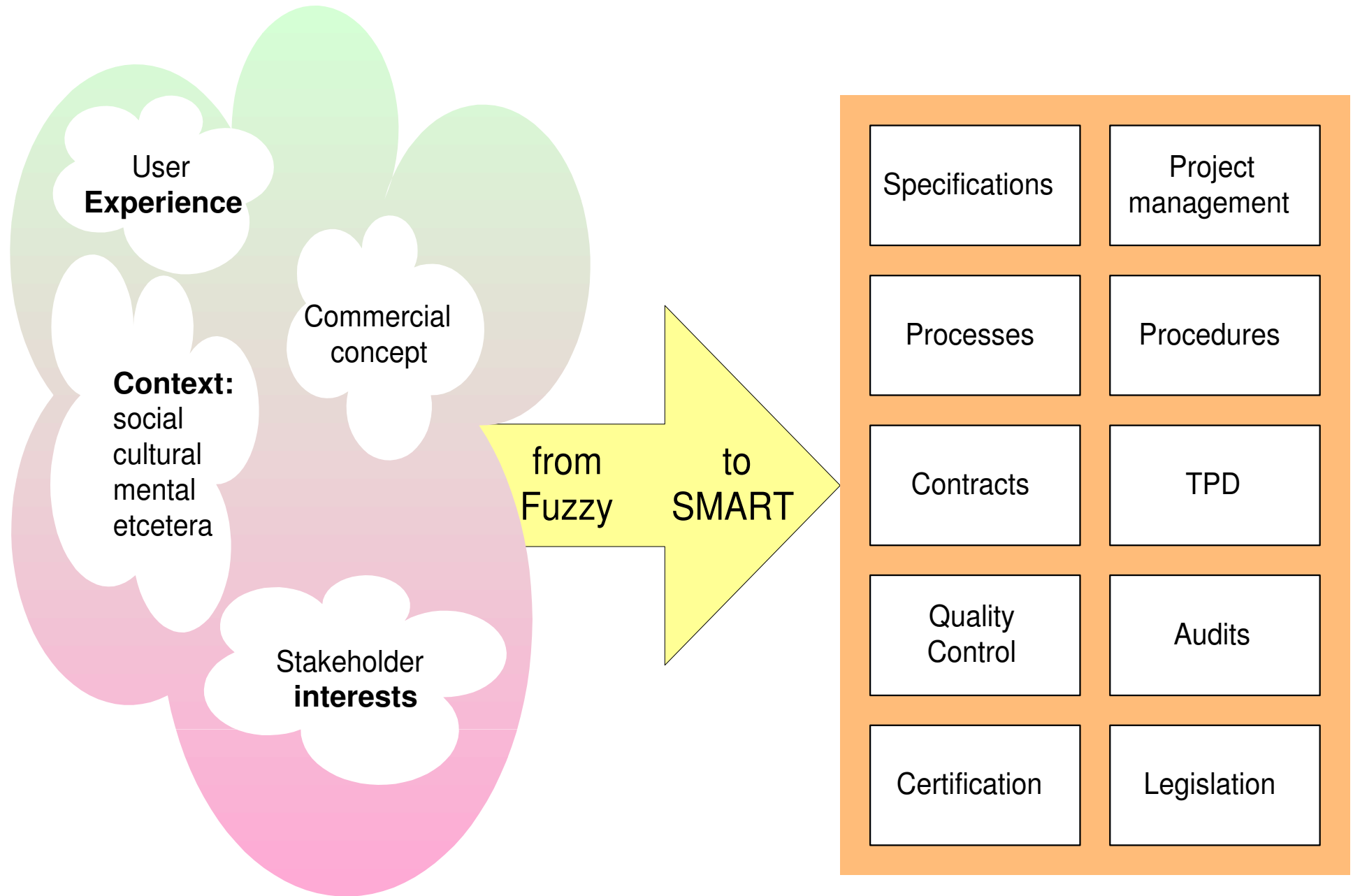
# Supply Chain Stakeholders



# Problem Statement

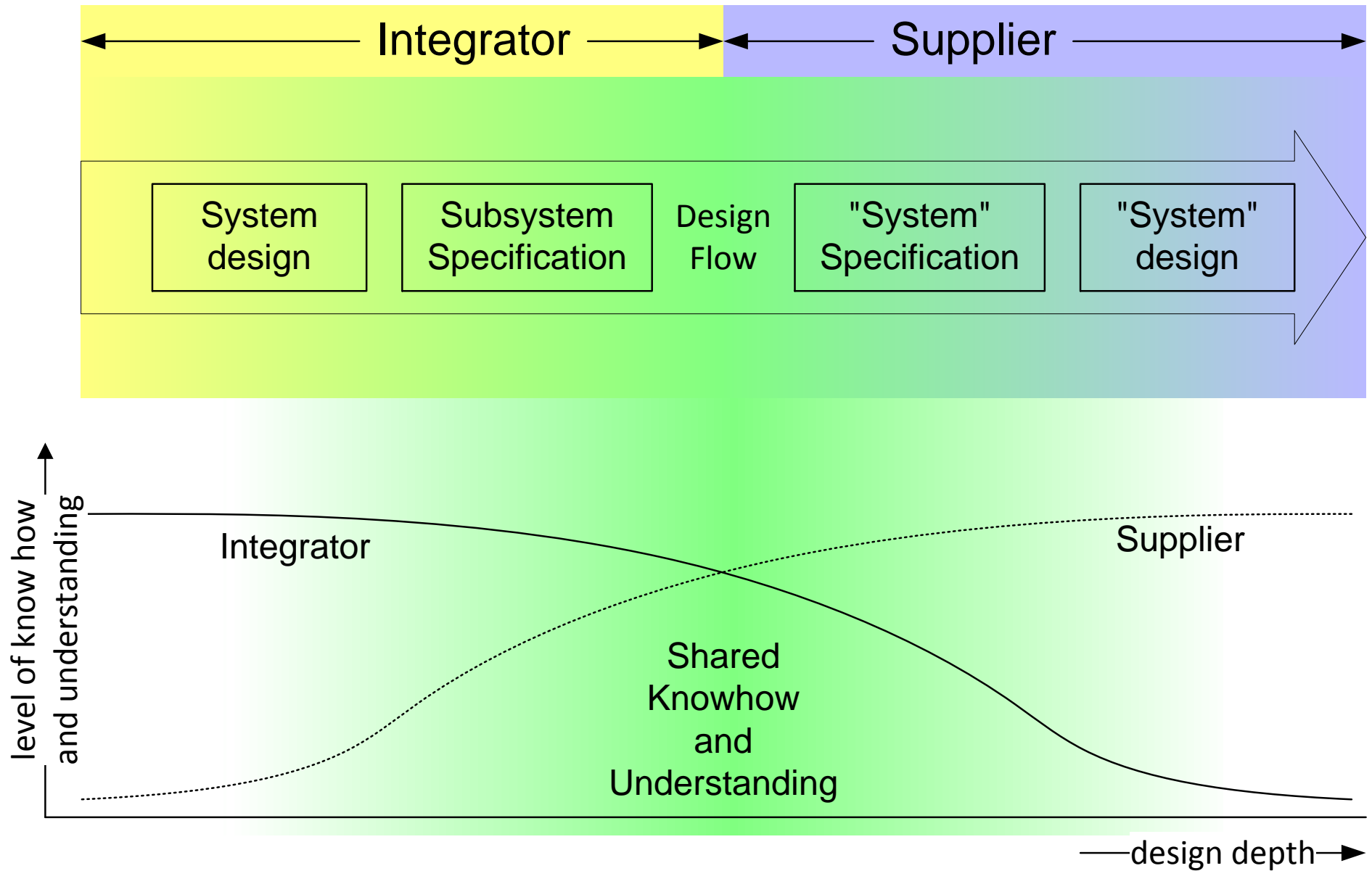


# Problem (2): From Imagination to Formalization

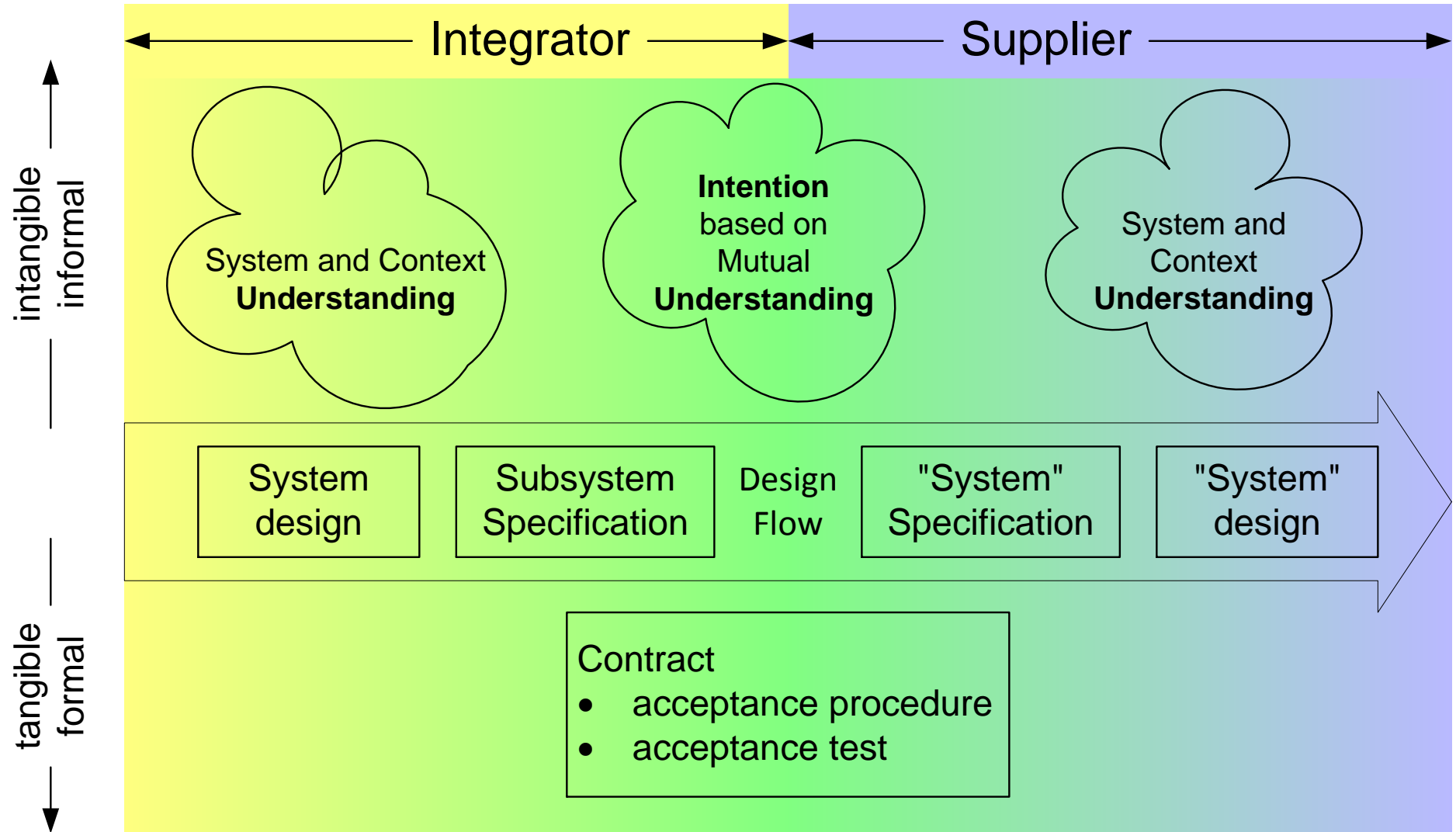




# Theory: Subcontractors require SMART relation

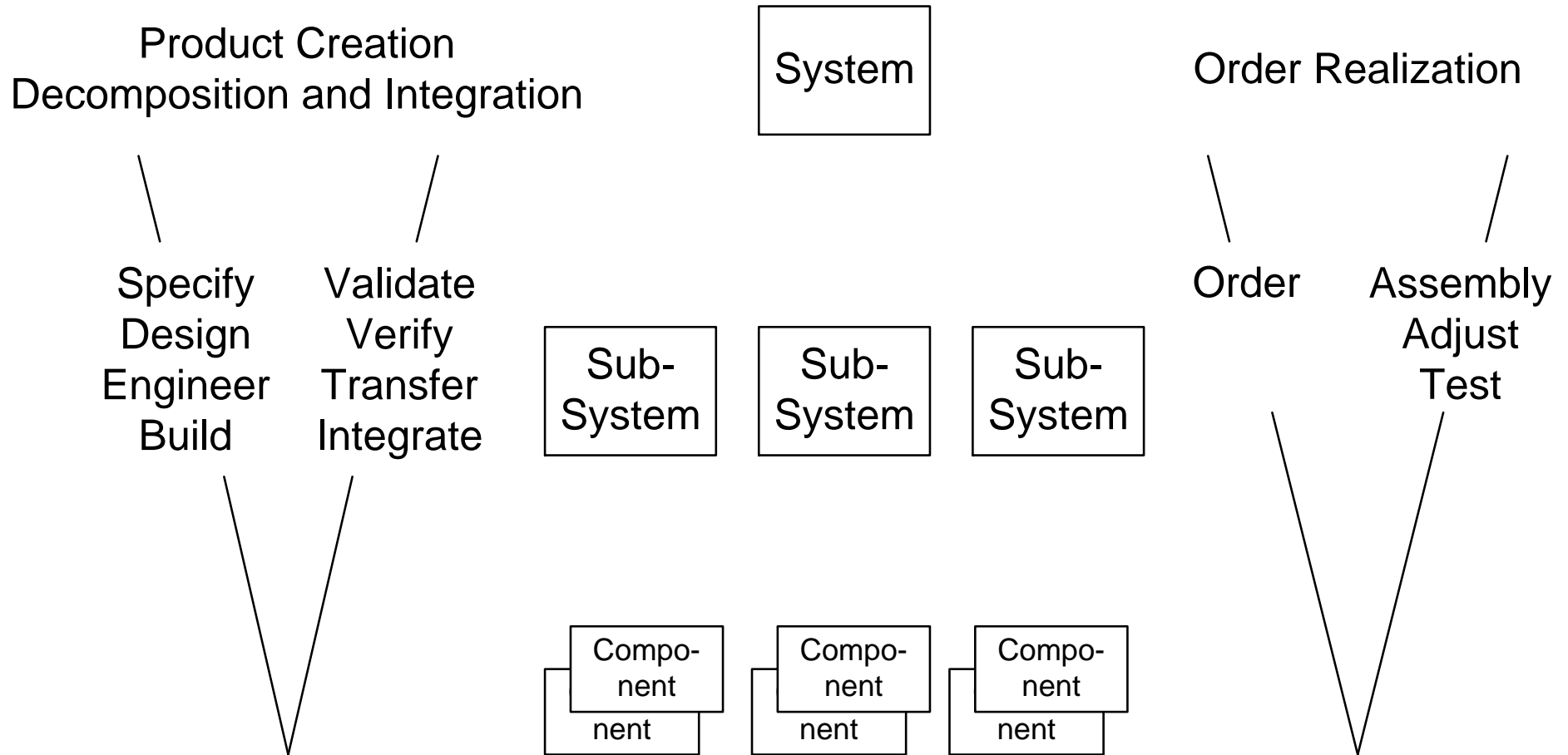


# Critical Success Factor: Mutual understanding



Subsystem in Integrator perspective = "System" in Supplier perspective

# Views on Aggregation; Why SMART is needed



# The "Fuzzy" needs of the User

**Fashionable**

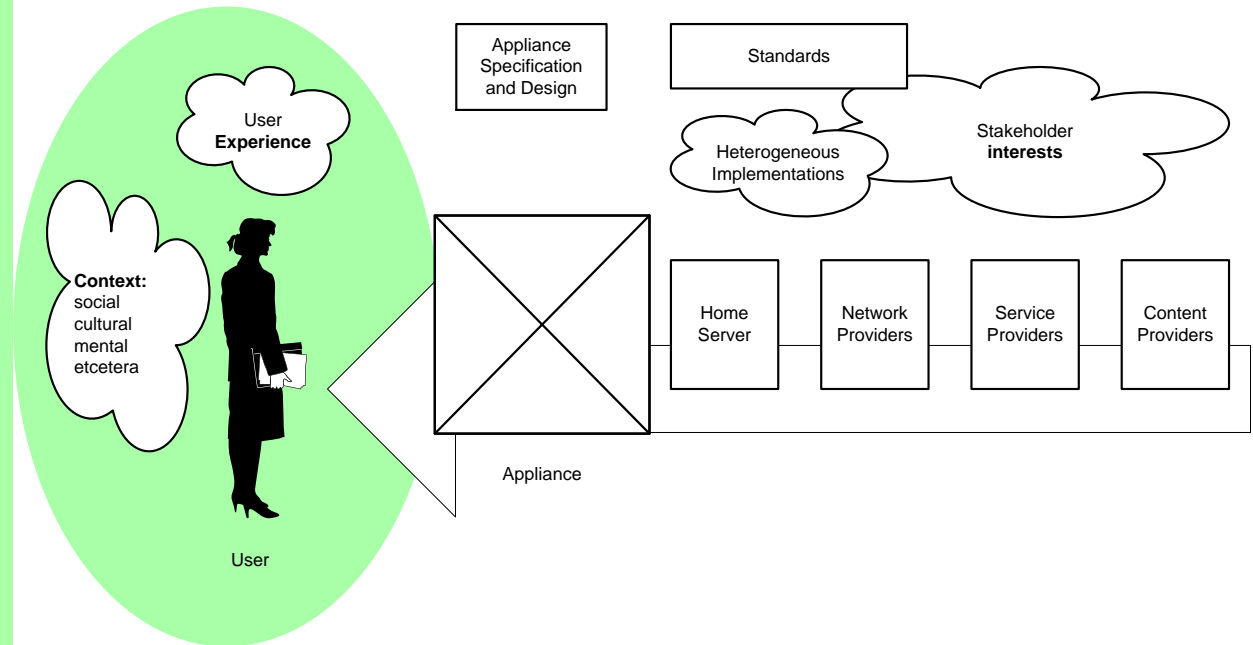
**Usable:**

- Easy to use
- Portable (small, light)
- Non Obstrusive
- Robust
- Attractive content

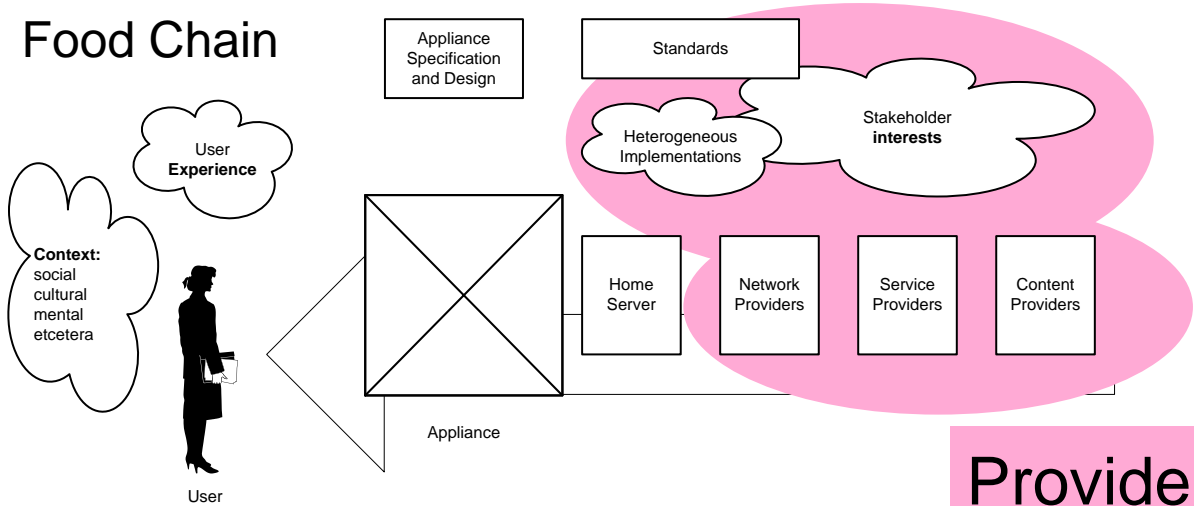
**Good Performing:**

- Responsive
- Crisp images
- Fluent dynamic images
- Realistic sound

**Affordable (integral!)**

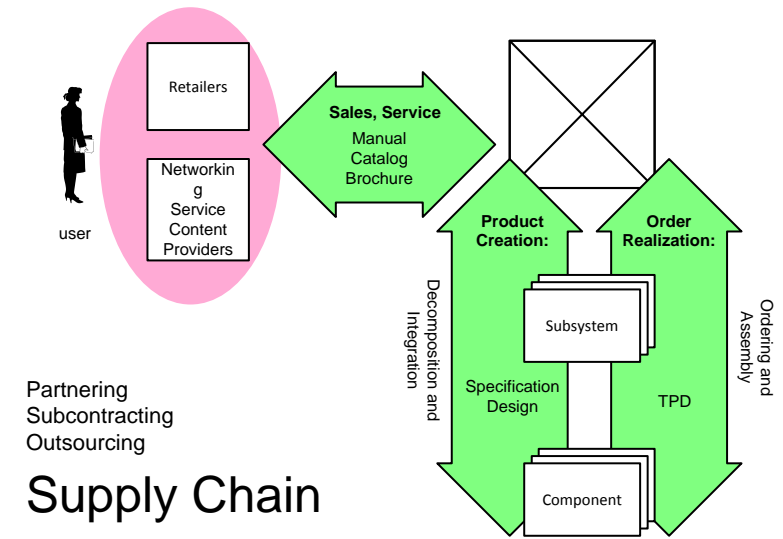


# The "Fuzzy" needs of the Provider



## Providers:

- Ensure payment
- Freedom of commercial packaging
- Accessibility of wide range of customers

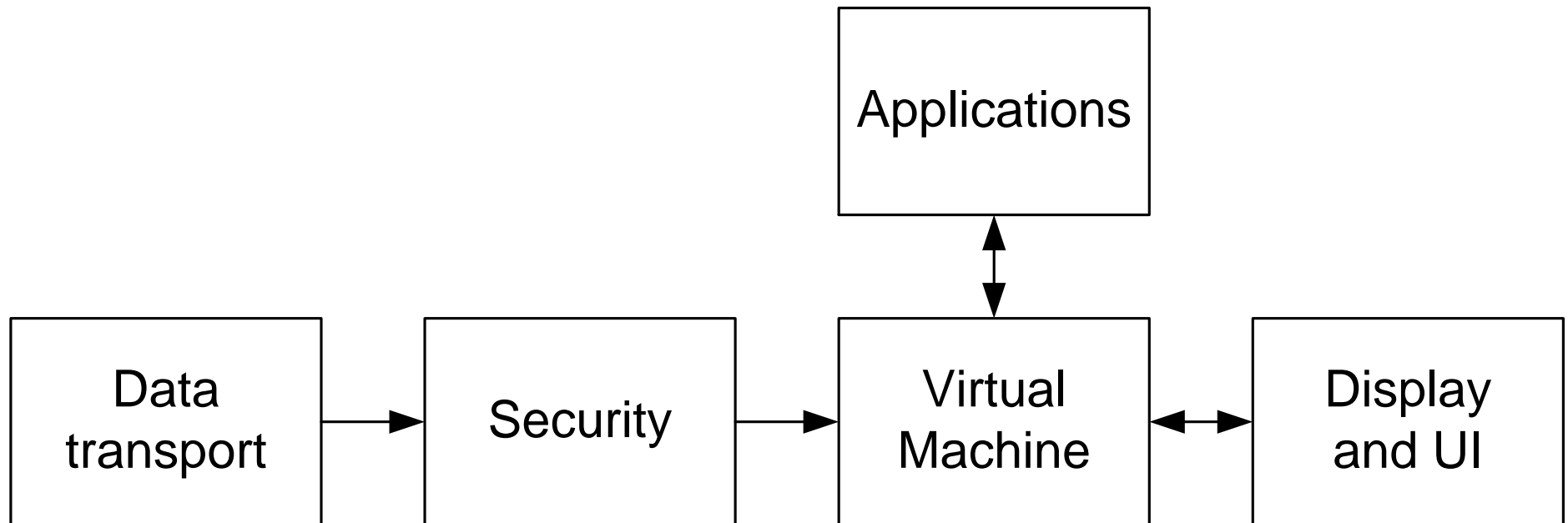


## Retailers:

- Clear product category (on which shelf does this product belong, is it a TV or a PC?)
- Appealing product

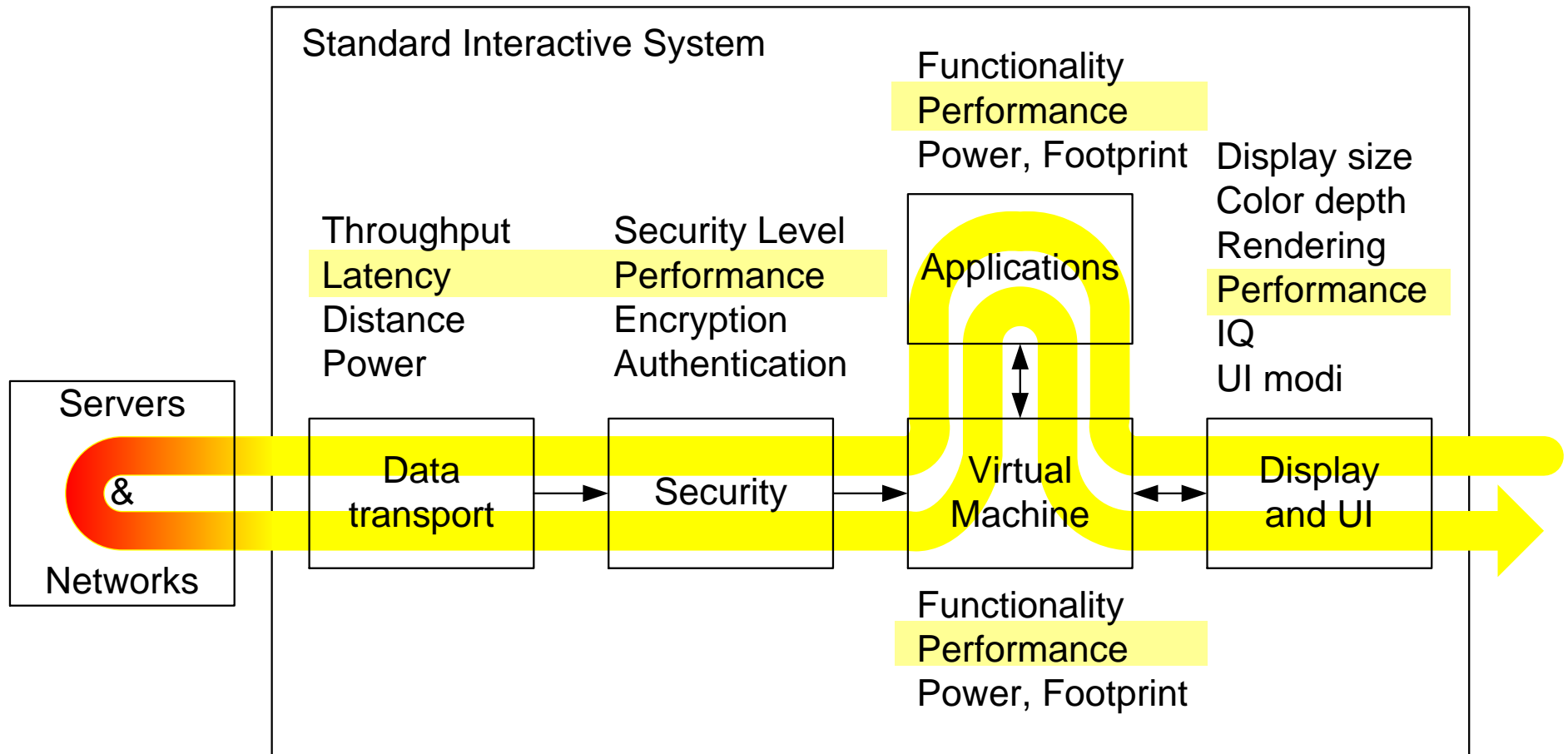
# The "SMART" world of the Design

## Standard Interactive System



free after Nick Thorne, Philips Semiconductors,  
Systems Laboratory Southampton UK,  
as presented at PSAVAT April 2001

# Specifiable characteristics



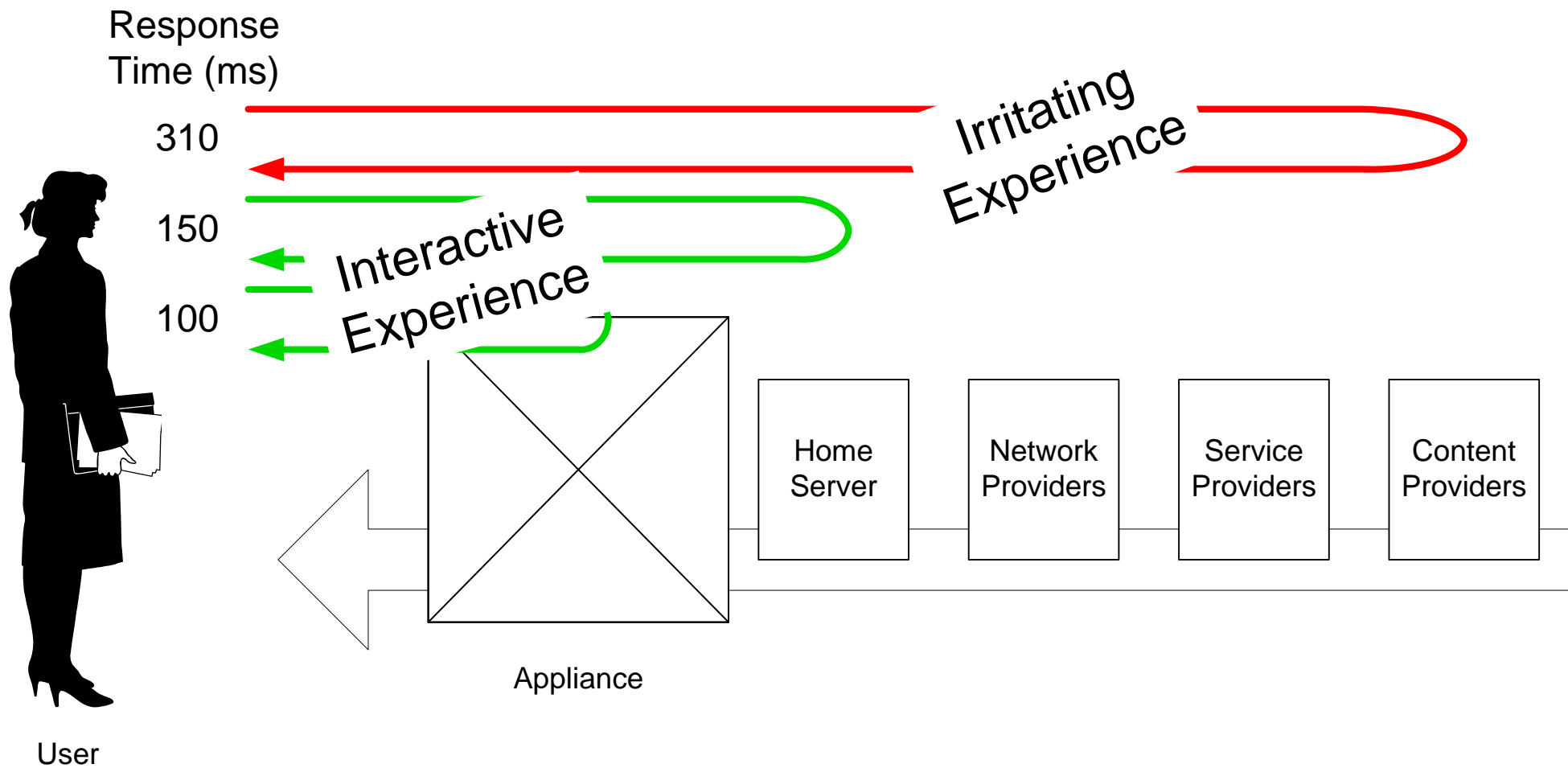
# Response Time: Latency Budget

times in milliseconds	Message Latency	Response Time
<b>Appliance</b>	<b>40</b>	<b>100</b>
Data transport	10	20
Security	10	20
Virtual Machine	10	20
Application	10	30
Graphics and UI	0	10
<b>Home Network</b>	<b>20</b>	<b>50</b>
Home Server	10	30
Network contention	10	20
<b>Provider Infrastructure</b>	<b>50</b>	<b>160</b>
Last-Mile network	10	20
Backbone network	20	40
Service server	10	50
Content server	10	50
<b>Total</b>	<b>110</b>	<b>310</b>
<b>User need</b>		<b>200</b>

All numbers are imaginary and for illustration purposes only



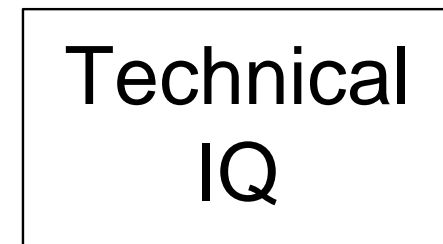
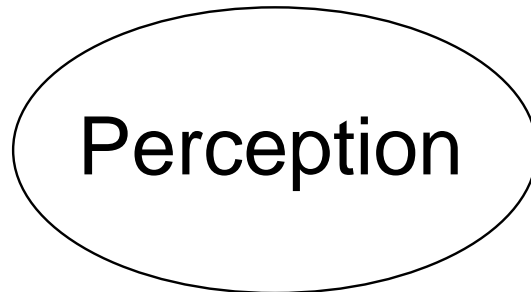
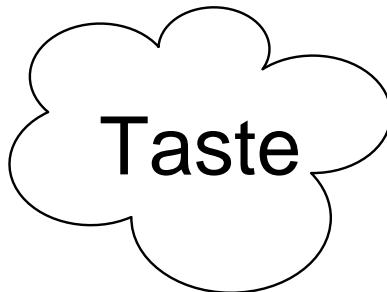
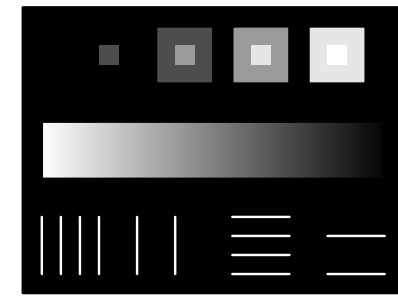
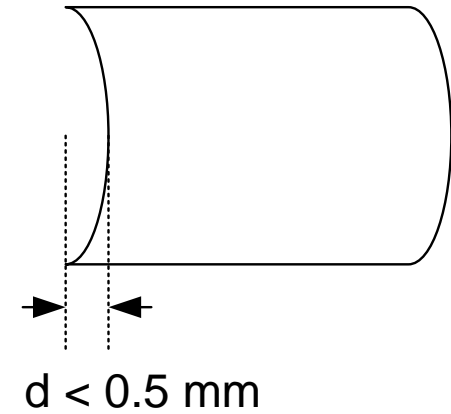
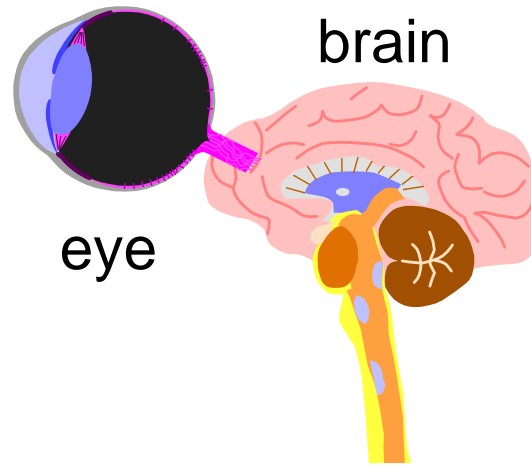
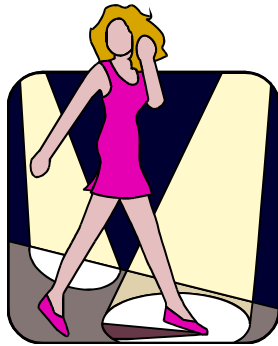
# Interaction or Irritation?



# Image Quality



or



# Fashionable

Fashionable



Personalization



Themes

Specific  
Functionality

Format

Download

Import

Scale

•  
•



Inspired by William van der Sterren

Confrontation with market and consumers:

**Good**

**Bad**

Enthusiasm

Critical

Instant playing

Stumbling

Relaxed usage

Tension

Buying

Wait and see

# Complementing views

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