Abstract

Architecture is a term that is used with various meanings. This presentation shows the broader view on architecture as used at Gaudisite.nl. This vision includes customer value proposition and business proposition as part of the architecture.
Architecting Playing Field

organizational context
- customer organization
- business organization
- developing organization
- supplying organizations

operational and lifecycle context
- customer value proposition
- business proposition

technology

system requirements

system design

drives
enables
Market and Business Context

- continuously changing competitive landscape
- fast changing needs
- variation in needs

Consequence: uncertainties and unknowns

Objective of Architecture is to achieve Technical Leadership (e.g., a winning competitive position)

A good architecture facilitates fast creation of solutions, fitting the needs, and coping with uncertainties and unknowns
Our Primary Interest

- developing organization
- architect

- system of interest

Vision on Architecture
Gerrit Muller

version: 0.3
June 21, 2020
SEMA:coreEntities
Context, Zoom-out and Zoom-in

customer organization

developing organization

architect

supplier organization

super system

system of interest

subsystems
Adding the Time Dimension

past  current  future

customer organization

past super system  super system  future super system

devolving organization

past system of interest  system of interest  future system of interest

architect

knowledge  innovation

supplier organization

past subsystems  subsystems  future subsystems

based on TRIZ
Vision on Architecture

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version: 0.3
June 21, 2020
SEMABarchnitecting

Architect, Architecture, Architecting

customer organization

past

past super system

past systems

past subsystems

past of interest

future

future super system

future systems

future system of interest

architecture

based on TRIZ

architect

dev organization

architecture

architecting

supplier organization
Example Aspects in Office Lighting

energy star compliance
proper lighting
information for facility management
customer value proposition
drives
enables
standard solution
ease of installation and commissioning
broad application
business proposition
drives
compliance with network standards
compliance with green star
integrated in IT and facility management
secure against intruders
respecting privacy
form compatible fixtures
light quality and stability
presence sensing
system requirements
drives
enables
system design
authenticaton
encryption
location information
persistency
synchronization
lighting performance
network topology
function allocation
network protocol
power supply
electronics integration
presence sensors
light sensors
intelligent control
LED lighting
Design = Structure + Dynamics + Quantification

characteristics

prime interest of customer

results in

dynamics

functionality

interact

parts

prime interest of organization

prime system responsibility
Structure = Parts + Interfaces + Configuration

**ultimate goal:**
- modular component catalogue
- well-defined interfaces
- independent testable

**to facilitate:**
- fast creation of solutions
- concurrent engineering
- logistics and production
- variations and changes
Designing Desired Qualities and Behavior

- How do parts interact to create desired dynamic behavior?
  - allocate functions

- How do desired qualities and performance emerge from the interaction?
  - dimension and configure parts and functions