



INSTRUMENTS OF ARCHITECT'S INFLUENCE ON STAKEHOLDERS

 **SECR** 2017, Saint-Petersburg

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INTRODUCTION



- ◆ 15+ years of IT Engineering Experience:
 - 3+ Developer
 - 3+ Application architect
 - 3+ Solutions architect
 - 3+ Line-of-business chief architect
 - 3+ Enterprise architect
- ◆ 6+ Trainer at Luxoft Training Centre

STAKEHOLDERS - PART OF SOFTWARE ENGINEERING PROBLEM

◆ Problem space:

- environment (business, technology)
- mission and goals
- stakeholders and their concerns

◆ Stakeholder:

- a person, group, or organization
- with an interest in or concerns about realization of a system

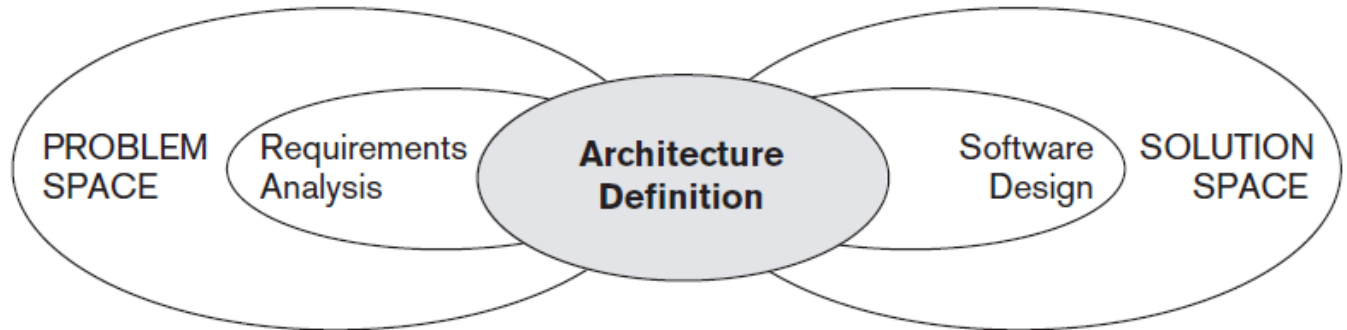


◆ Human features:

- fuzziness
- infeasible demands
- misunderstanding and prejudice

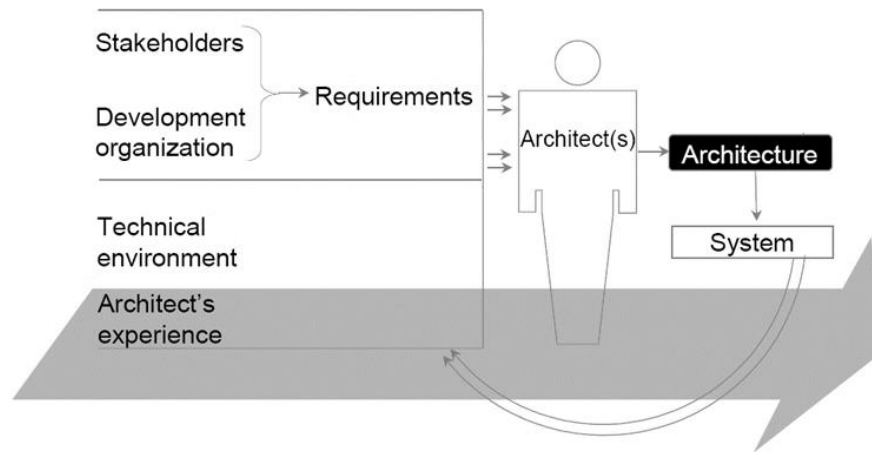
ARCHITECTURE

- ◆ Architecture of information system:
 - Structures, elements, relationships, qualities
 - Manifestation of fundamental design decisions
 - Evolution principles
 -
- ◆ After all, it's a **model bridging**:
 - **problem** space and
 - **solution** space



BASICS OF ARCHITECT ROLE

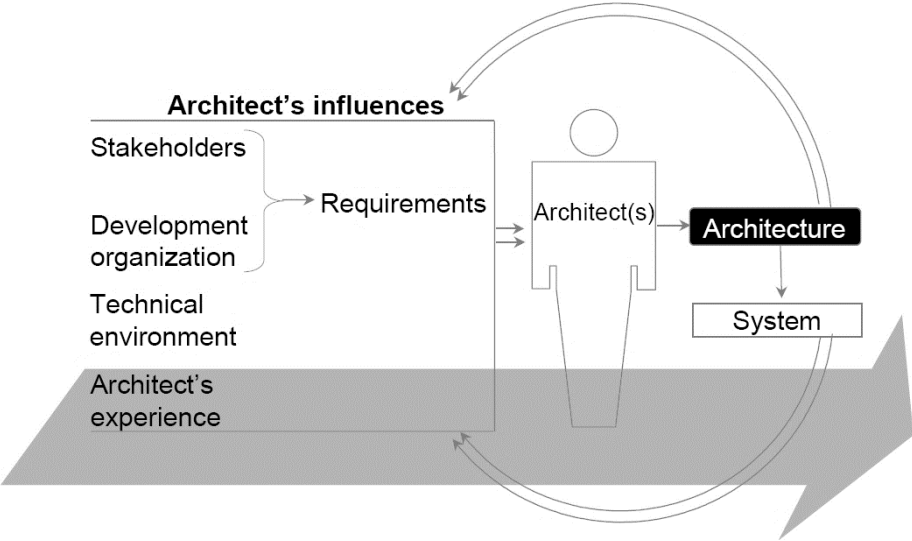
- ◆ design a model of solution to address the problem
- ◆ facilitate transition from model to production throughout SDLC
- ◆ ensure feasibility within constraints:
 - technical
 - economical
 - engineer skills available, ...



- ◆ How likely, how fast an optimal feasible design can be found when considering only technology in solution space?

ARCHITECT ROLE

- ◆ Considering **people as part of solution space** an architect has much more chances for success



Architecture Lifecycle © CMU SEI

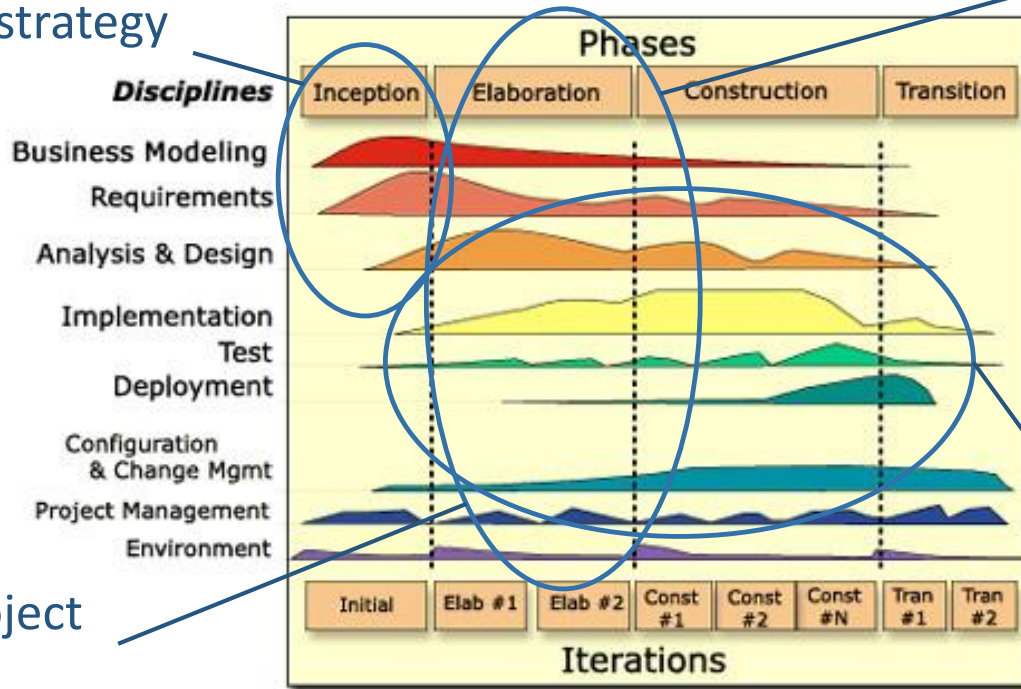
- ◆ So it's about influence on people
- ◆ What kind of influence?
- ◆ Which instruments can help?

AREAS OF ARCHITECT INFLUENCE WITHIN PROJECT LIFECYCLE

Take part at strategy definition

Balance stakeholder requirements with technical reality

Rational Unified Process



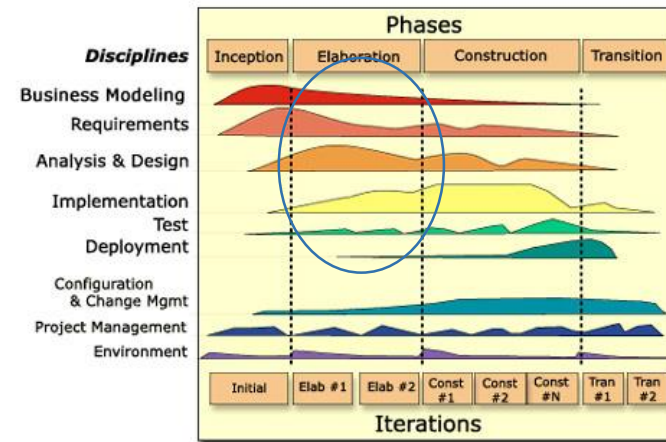
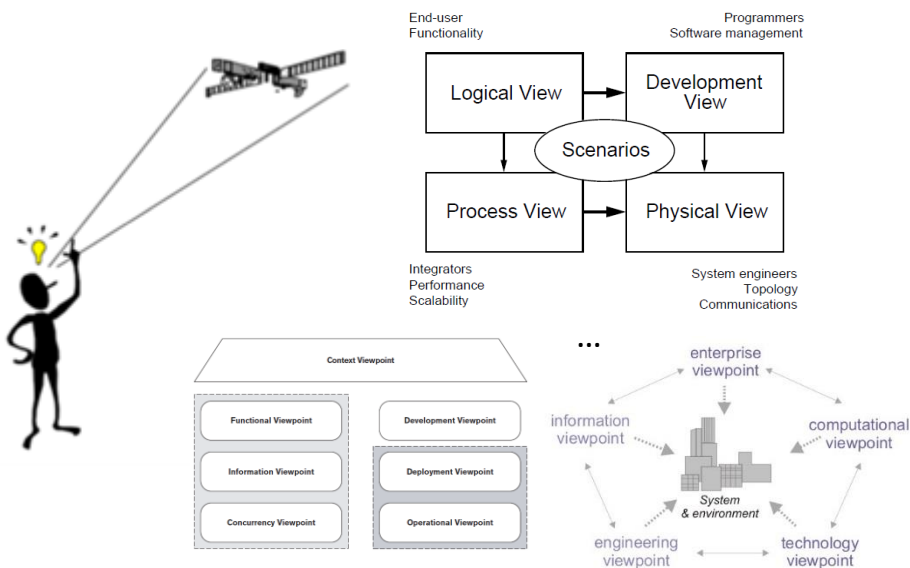
Input to project structure

Technical risks management

ARCHITECT'S INFLUENCE ON REQUIREMENTS

◆ Stakeholders' expectations and requirements

- achieve faster feasible design that satisfies most of stakeholders



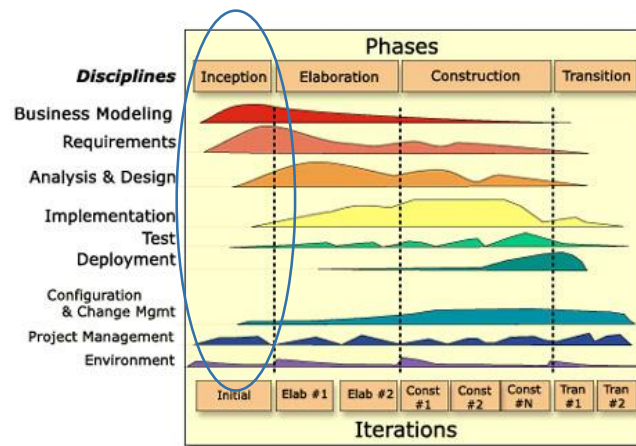
◆ Instruments:

- Architecture description (views)
- Workshops and surveys

ARCHITECT'S INFLUENCE ON STRATEGY

- ◆ Understanding of system's mission and scope
 - make best use of technology
 - shape appropriate requirements early
 - technical needs and dependencies regarded

- ◆ Expectations and preferences about strategy
 - gain support for chosen direction



- ◆ Instruments:
 - Architecture vision
 - Qualitative analysis (e.g. SWOT)
 - Quantitative cost-benefit analysis

VISION

- ◆ 1-3 page document, few views:
 - Problem context
 - Solution principles and overview
 - Solution roadmap
- ◆ Important for good perception:
 - Sense of time
 - Quantified business benefits
 - Compared with at least 1 alternative

Stage	Time Range	Content, deliverables	Business benefits	IT benefits
Pilot	Q1'18	Platform deployment Limited functionality in N branch	Process tested. Training prepared	Platform proofed
Quick wins	Q2'18- Q3'18	Full-scope automation for process A Improvements from pilot Scale to branches O-Q	Retire 25 HC: 3M\$/y savings CSI increased by 5%	# of incidents decreased by 20% (120 mh/m efforts reduction)
Full STP globally	Q4'18- Q3'19	Automated processes B and C Decommission legacy system K	Additional CSI increase by 3% Economy 1 M \$/y in operations	1,5M\$/y savings of system K TCO

STRATEGIC CHOICE ANALYSIS METHODS

Qualitative (e.g. SWOT)

- ◆ Target: project team and executives
- ◆ Easy to understand, big picture
- ◆ Fast to create
- ◆ Caution: “devil in details”

Quantitative (cost-benefit)

- ◆ Target: operation managers, financial control
- ◆ Deep impact on stakeholders perception
- ◆ Laborious
- ◆ Caution: guesswork, “miss forest for trees”

Start with qualitative, add quantitative, and cross-validate

QUANTITATIVE ANALYSIS: COSTS AND BENEFITS THROUGH EFFORTS

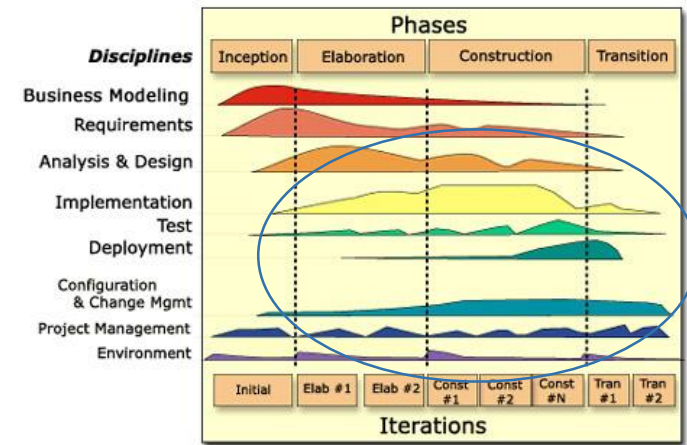
- ◆ Add efforts of involved business or IT units
 - For current scope
 - For changes foreseen in future
- ◆ Turn efforts into costs and compare
- ◆ Validate effort estimation models:
 - with representative stakeholders
 - historical cases

Task	Function	Solution A efforts, mh	Solution B efforts, mh	Economy A vs. B in 2 Y, \$
Platform implementation	Dev team	X my	Y mh	Z
Testing of platform	QA (outstaff)	X my	Y mh	Z
Support transition period	Administrators	X my	Y mh	Z
Annual platform support	Administrators	X mh/year	Y mh/year	Z * 2
Platform Total				K = SUM
Development for CR X	Dev team	X mh	Y mh	Z
Testing for CR X	QA (outstaff)	X mh	Y mh	Z
Support in transition period (3 months)	Administrators	X mh	Y mh	Z
Typical CR X total				L = SUM
Total for CRs like X (N expected in next 2 years)				M = L*N
TOTAL				K+M

ARCHITECT'S INFLUENCE – TECHNICAL RISKS MANAGEMENT

- ◆ Make technical risks visible and manageable
 - Gain resources for technical risks mitigation and technical debt elimination

- ◆ Lead in case of project crisis
 - Let people see real root-causes and focus their efforts on them



- ◆ Instrument:
 - Architecture risks assessment workshops

ARCHITECTURE RISKS ASSESSMENT WORKSHOP

◆ Session(s):

- 1 to 4 hours duration
- Relevant stakeholders
- Preferably face-to-face

◆ Main activities:

- Exploring issues / risks
- Concretizing issues and realizing impact
- Understanding dependencies and root-causes
- Discussing possible solutions

SIMPLEST RISKS ASSESSMENT FORM

#	Sub system	Risk/issue Summary	Attention Indicator	Description (and facts)	Impact (business sensitive)	Resolution options
1	Engine	Inconsistent financial data exposed	Red	... as result inconsistent data in PROD exposed to clients (incidents: #.., #..)	Customer dissatisfaction and legal penalties	a. b.
2	WebApp	Bottlenecks in WebApp	Amber performance test shows ...	Degradation and out of service with next year expected load	TBD
3	Engine	Spaghetti design	Amber	...clued by >50 cyclic dependencies in Sonar	Excessive ~20 mh effort per each CR (~400 mh/y)	1. 2.
4	Green

- ◆ Description with concrete facts
- ◆ Business sensitive impact
- ◆ Indicator of importance derived from:
 - impact severity / systemic effect
 - how probable / soon might fulfill

RECOMMENDATIONS

- ◆ Active facilitation
 - Time-boxing
 - Prepare facts (measurements, questionnaires, own pre-assessment)
 - Visualize conversation
- ◆ Refer to business goals as
 - basis for agreement
 - measure for risk severity
- ◆ Assess processes and communication
- ◆ Only identification of risks/issues, no decisions
- ◆ Follow-up session to plan actions
 - Regular reviews of action progress
- ◆ Repeat assessment (in 3-6 months)

ARCHITECTURE AND PROCESSES ASSESSMENT - CONSIDERATION

◆ What you get:

- Shift from positional war to collaboration
- Deep understanding among stakeholders
- Solid ground and prioritization for corrective actions
- Measure of progress and project quality



◆ When it will not help:

- project is unmanaged
- no business goals / side agenda

CONCLUSION

- ◆ Architect is a technical leader-
- ◆ Stakeholders are part of the solution space
- ◆ Described instruments help to influence them
- ◆ Architect can use those instruments to organize own work:
 - Views of architecture vision and description to guide thinking
 - SWOT and cost benefit analysis help to meet strategic choice with confidence
 - Prioritized risks as focus of effort

A collection of various blue geometric shapes (triangles, squares, circles) and icons (gears, lightbulb, globe) scattered on the left side of the slide.

THANK YOU

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