A MEETING OF ZOMBIES

EINAR W. HØST

ME

AGILE **VS** ARCHITECTURE

STRIKING A BALANCE

HOW MUCH ARCHITECTURE?

HOW MUCH AGILITY?

HOW MUCH AUTONOMY?

" JUST ENOUGH "

THE GOLDILOCKS PRINCIPLE

WHY?

WHY ARCHITECTURE?

WHY AGILE?

WHY DO ANYTHING?

WE SHOULD NEVER DO ANYTHING
JUST BECAUSE WE ARE DOING IT

IF ARCHITECTURE IS THE ANSWER

WHAT IS THE PROBLEM?

IF **AGILE** IS THE ANSWER

WHAT IS THE PROBLEM?

IS IT THE SAME PROBLEM?

THE SOFTWARE CRISIS

THE MAJOR CAUSE OF THE SOFTWARE CRISIS IS THAT THE MACHINES HAVE BECOME SEVERAL ORDERS OF MAGNITUDE MORE POWERFUL! TO PUT IT QUITE BLUNTLY: AS LONG AS THERE WERE NO MACHINES, PROGRAMMING WAS NO PROBLEM AT ALL; WHEN WE HAD A FEW WEAK COMPUTERS, PROGRAMMING BECAME A MILD PROBLEM, AND NOW WE HAVE GIGANTIC COMPUTERS, PROGRAMMING HAS BECOME AN EQUALLY GIGANTIC PROBLEM.

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1972

WE CAN TRUST THE CRISIS
TO REMAIN WITH US

AMBITIONS WILL CONTINUE TO RISE

EVER MORE UBIQUITOUS

EVER MORE SOPHISTICATED

MORE FOR LESS

HOW TO TACKLE THE CRISIS?

STRUCTURE

MODULAR DESIGN

COMPONENTS

REUSE

THE 1990S WILL BE
THE DECADE OF
SOFTWARE ARCHITECTURE

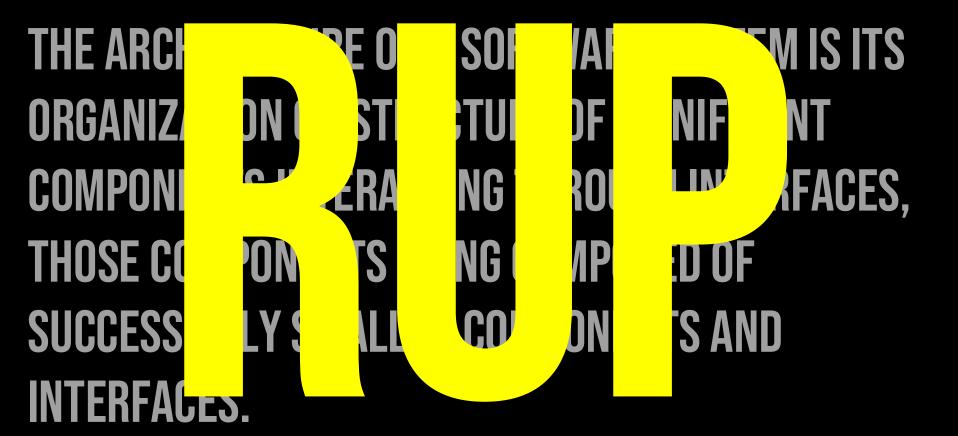RISE OF THE ARCHITECT

WHAT IS ARCHITECTURE?

IT'S WHAT ARCHITECTS DO

WHAT DOES AN ARCHITECT DO?

TENDS TO THE ARCHITECTURE!

THE ARCHITECTURE OF A SOFTWARE SYSTEM IS ITS ORGANIZATION OR STRUCTURE OF SIGNIFICANT COMPONENTS INTERACTING THROUGH INTERFACES, THOSE COMPONENTS BEING COMPOSED OF SUCCESSIVELY SMALLER COMPONENTS AND INTERFACES.

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RUP

RATIONAL UNIFIED PROCESS

UNIFIED MODELLING LANGUAGE

4+1 VIEW MODEL

PATTERNS MOVEMENT

BIG BALL OF MUD

http://www.laputan.org/mud/

ARCHITECTURE SCOPE CREEP

ARCHITECTURE FOR
SYSTEM PROPERTIES

ARCHITECTURE REPRESENTS THE SIGNIFICANT DESIGN DECISIONS THAT SHAPE THE FORM AND FUNCTION OF A SYSTEM, WHERE SIGNIFICANT IS MEASURED BY THE COST OF CHANGE.

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BOOCH

HOW DID IT GO?

AGILE THE ASSASSIN

WHY?

UNCOMFORTABLE

IRRELEVANCE AND HARM

MANY DEVELOPERS NEVER EXPERIENCED WORKING WITH **AN ARCHITECT THAT DID MORE GOOD THAN HARM**
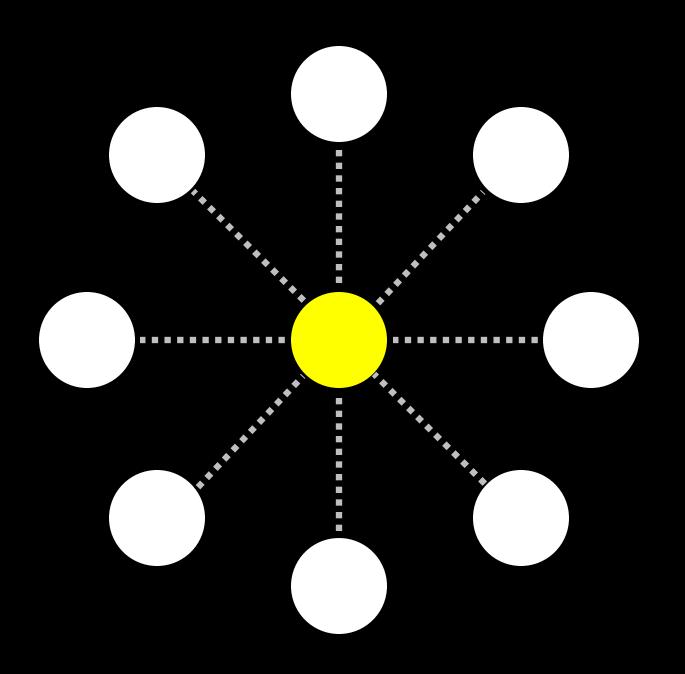
WHY?

ARCHITECTURE SOUNDS GOOD

WHY AN ARCHITECT?

CONCEPTUAL INTEGRITY

MASTER BUILDER

ECONOMY?

SKILL COST

ARCHITECT AS ANTI-PATTERN

ARCHITECT AS BOTTLENECK

ARCHITECT AS BOTTLENECK

ASYNCHRONOUS

ARCHITECT AS BOTTLENECK

SLOW

ARCHITECT AS BOTTLENECK

DETACHED

ARCHITECT AS BOTTLENECK

POOR DECISIONS

ARCHITECT AS BOTTLENECK

LOSS OF TRUST

CONFLICTS OF INTEREST

TEAM

ARCHITECT

TEAM	ARCHITECT
LOCAL	
SPECIFIC	
INTERNALLY LEGIBLE	

TEAM	ARCHITECT
LOCAL	GLOBAL
SPECIFIC	GENERIC
INTERNALLY LEGIBLE	EXTERNALLY LEGIBLE

TEAM	ARCHITECT
LOCAL	GLOBAL
SPECIFIC	GENERIC
INTERNALLY LEGIBLE	EXTERNALLY LEGIBLE

NOT A RECIPE FOR SUCCESS!

SYSTEMIC PROBLEMS

THE AGILE REVOLUTION

INDIVIDUALS AND INTERACTIONS
OVER PROCESSES AND TOOLS
WORKING SOFTWARE
OVER COMPREHENSIVE DOCUMENTATION
CUSTOMER COLLABORATION
OVER CONTRACT NEGOTIATION
RESPONDING TO CHANGE
OVER FOLLOWING A PLAN

INDIVIDUALS AND INTERACTIONS
OVER ~~PROCESSES AND TOOLS~~

WORKING SOFTWARE
OVER ~~COMPREHENSIVE DOCUMENTATION~~

CUSTOMER COLLABORATION
OVER ~~CONTRACT NEGOTIATION~~

RESPONDING TO CHANGE
OVER ~~FOLLOWING A PLAN~~

SCRUM + JIRA

A PROCESS AND A TOOL?

INDIVIDUALS AND INTERACTIONS

OVER ~~PROCESSES AND TOOLS~~

WORKING SOFTWARE

OVER ~~COMPREHENSIVE DOCUMENTATION~~

CUSTOMER COLLABORATION

OVER ~~CONTRACT NEGOTIATION~~

RESPONDING TO CHANGE

OVER ~~FOLLOWING A PLAN~~

OH WELL

SCRUM

still chaotic-good
@TotherAlistair

Scrum struck a magnificent bargain in hostile territory:

Mgmt got 12 times/yr (1ce /mo) to change direction in any way they wanted;
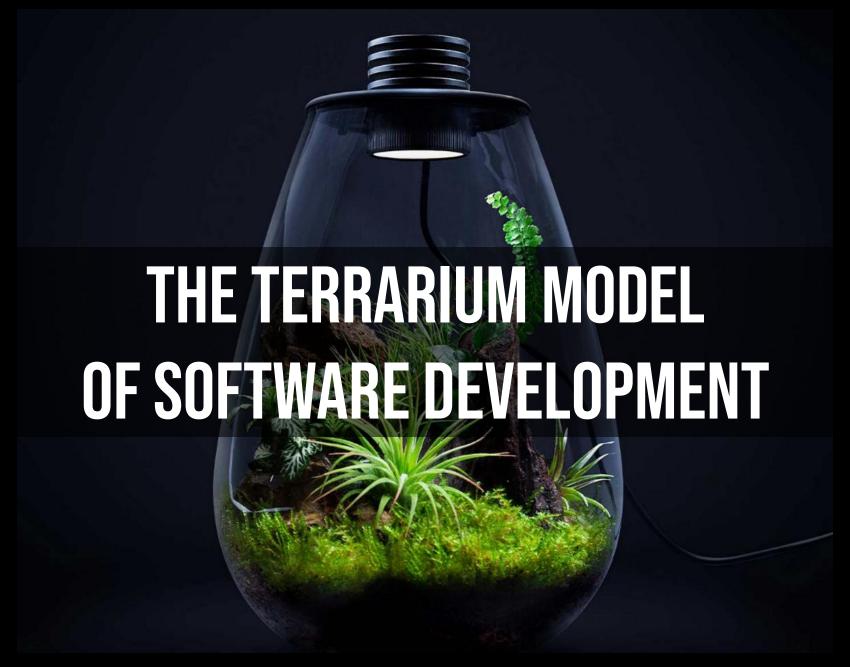
Team got 1 mo of total quiet time w no interruptions or changes of direction to do heavy thinking/working.

No execs ever got a better deal.

7/

9:50 PM · Jun 16, 2021

THE SCRUM PACT

THE TERRARIUM MODEL
OF SOFTWARE DEVELOPMENT

WILL PRODUCE

FEATURES

~~SILK~~ FOR

PROTECTION

WILL PRODUCE FEATURES ~~SILK~~ FOR PROTECTION

WILL OFFER PROTECTION FOR FEATURES* ~~SILK~~

THAT WAS 20 YEARS AGO

AND THEN... NOTHING?

NOT QUITE

AGILE SCOPE CREEP

AGILE SOFTWARE DEVELOPMENT

AGILE SOFTWARE DEVELOPMENT
⬇
AGILE PRODUCT DEVELOPMENT

AGILE SOFTWARE DEVELOPMENT

↓

AGILE PRODUCT DEVELOPMENT

↓

AGILE ORGANIZATIONS

AGILE SOFTWARE DEVELOPMENT
↓
AGILE PRODUCT DEVELOPMENT
↓
AGILE ORGANIZATIONS
↓
AGILE BUSINESS

AN ENDLESS STREAM OF SILICON VALLEY SELF-HELP BOOKS PUSHING THE AGILE FRONTIER

RADICAL PIXIE DUST

HAS IT WORKED?

WE'VE TRIED

EVERYTHING IS A SUCCESS
UNTIL IT IS ABANDONED

VERY LITTLE STICKS

THINGS HAVE GOTTEN WEIRD

THE **IDEALS** HAVE EVOLVED

THE IDEALS HAVE EVOLVED

" BRIDGING THE GAP "

THE IDEALS HAVE EVOLVED

" CUSTOMER OBSESSION "

THE IDEALS HAVE EVOLVED

" SEAT AT THE TABLE "

REALITY IS LARGELY THE SAME

THE DEVELOPMENT TERRARIUM

COMMUNICATION THROUGH MEDIUMS

UNCOMFORTABLE TRUTHS

DON'T USE THAT FOREIGN WORD **IDEALS**
WE HAVE THE EXCELLENT NATIVE WORD **LIES**

ARCHITECTURE IS DEAD

AGILE ISN'T AGILE

NOW WHAT?

WHAT IS THE PROBLEM?

THE PASSING OF TIME

THINGS HAPPEN

SOME OF THOSE THINGS
AFFECT THE SYSTEMS WE MAKE

THE SYSTEMS MUST CHANGE
TO REFLECT THE NEW REALITY

PROBLEM
THE CODE IS DEAD

WE MUST MAKE IT
APPEAR TO BE ALIVE

CODE

PROGRAMMER

PROGRAMMER

CODE

THIS IS THE SOFTWARE SYSTEM

SOFTWARE IS A CYBORG

CHANGES MUST BE
RESPONDED TO BY PEOPLE

HOW DO WE RESPOND?

RESPONDING TO CHANGE

RESPONDING TO CHANGE

DETECT THE CHANGE

RESPONDING TO CHANGE

EVALUATE IMPACT

RESPONDING TO CHANGE

IDENTIFY THE GAP

RESPONDING TO CHANGE

FIND OUT IF AND HOW TO RESPOND

RESPONDING TO CHANGE

TRADEOFFS

RESPONDING TO CHANGE

DECISION

RESPONDING TO CHANGE

ACTUALLY CLOSE THE GAP

RESPONDING TO CHANGE

DONE

RESPONDING TO CHANGE

?

CONSTRAINTS

CONSTRAINTS

TIME & MONEY

CONSTRAINTS

KNOWLEDGE & SKILL

CONSTRAINTS

INERTIA

IMPERFECTIONS

REMAINING WORK

DEBT

CODE

DEBT

CODE

DEBT

MODELLING

CODE

ARCHITECTURE

DEBT

MODELLING

CODE

ARCHITECTURE

DEBT

ORGANIZATIONAL

MODELLING

CODE

ARCHITECTURE

DEBT

KNOWLEDGE

ORGANIZATIONAL

MODELLING

CODE

ARCHITECTURE

COMMUNICATION

DEBT

KNOWLEDGE

ORGANIZATIONAL

MODELLING

CODE

ARCHITECTURE

COMMUNICATION

DECISION

DEBT

KNOWLEDGE

ORGANIZATIONAL

MODELLING

LESS FLEXIBLE IN THE FACE OF FUTURE CHANGES

" **TECHNICAL DEBT** "

A NATURAL BY-PRODUCT
OF **CHANGE** AND **INERTIA**

CHANGE

CHANGE

" CHANGE IS CONSTANT "

CHANGE

WHAT ABOUT THE AMOUNT OF CHANGE?

CHANGE

WHERE DO CHANGES COME FROM?

CHANGE

WHAT KINDS OF CHANGES?

CHANGE

HOW OFTEN?

CHANGE

SOURCES OF CHANGE

CHANGE

EXPOSURE TO CHANGE

CHANGE

CHANGE SURFACE

NECESSARY VS ACCIDENTAL

CAPACITY FOR CHANGE

CHANGES THAT AFFECT THE CODE

CHANGES THAT AFFECT THE CODE

REQUIREMENTS

CHANGES THAT AFFECT THE CODE

BUSINESS DOMAIN

CHANGES THAT AFFECT THE CODE

TECHNOLOGY

CHANGES THAT AFFECT THE CODE

✨ TECHNOLOGY ✨

ICEBERG APPLICATIONS

EVERY DEPENDENCY IS
A SUBSCRIPTION TO
A STREAM OF CHANGES

ALL CHANGES TO DEPENDENCIES ARE ACCIDENTAL

WHAT'S THE PERCENTAGE OF TIME SPENT ON **ESSENTIAL CHANGES**?

REDUCE EXPOSURE TO ACCIDENTAL CHANGES

PROTECT OUR
CAPACITY FOR CHANGE

WHAT CAN AFFECT OUR CAPACITY FOR CHANGE?

CHANGES THAT AFFECT THE PEOPLE

CHANGES THAT AFFECT THE PEOPLE

TEAM CHANGES

CHANGES THAT AFFECT THE PEOPLE

ENVIRONMENT CHANGES

TRUST, MOTIVATION, KNOWLEDGE, AUTONOMY, +++

SUSTAINABLE CYBORGS

HUMAN VICES ARE CONSTANT

SOLUTIONS MUST BE SYSTEMIC

ORGANIZATION LEVEL

BEYOND THE TERRARIUM

BEYOND THE TERRARIUM

SELF-SUSTAINING TEAMS

BEYOND THE TERRARIUM

TEAMS AS TINY ORGANIZATIONS

BEYOND THE TERRARIUM

LARGER ORGANIZATION AS LOOSELY COUPLED ALLIANCE

ACTUAL AUTONOMY

ACTUAL AUTONOMY

MOVE THE MONEY INSIDE

ACTUAL AUTONOMY

PUT NON-TECHIES INSIDE

ACTUAL AUTONOMY

PUT THE DECISIONS INSIDE

DIRECT COMMUNICATION

DIRECT COMMUNICATION

WITH STAKEHOLDERS

DIRECT COMMUNICATION

WITH CUSTOMERS / USERS

WITHOUT DIRECT COMMUNICATION
FEEDBACK IS A BLUFF

TEAM LEVEL

INDEPENDENCE

INDEPENDENCE

MINIMIZE DEPENDENCIES

INDEPENDENCE

WRITE SIMPLE THINGS YOURSELF

INDEPENDENCE

PROTECT INTERNALS

RETAIN AND REBUILD KNOWLEDGE

RETAIN AND REBUILD KNOWLEDGE

WORK IN GROUPS

RETAIN AND REBUILD KNOWLEDGE

REWRITE AS ONBOARDING

RETAIN AND REBUILD KNOWLEDGE

AVOID CHURN

ARCHITECTURE LEVEL

TEAM ORIENTED

TEAM ORIENTED

ARCHITECTURE IS TOO IMPORTANT TO BE LEFT TO ARCHITECTS ALONE

TEAM ORIENTED

LOCAL

TEAM ORIENTED

SPECIFIC

TEAM ORIENTED

INTERNALLY LEGIBILE

CONSTRAINTS

CONSTRAINTS

COMMUNICATION

CONSTRAINTS

NEGOTIATION

CONSTRAINTS

REVIEW

OBSERVABILITY-DRIVEN

OBSERVABILITY-DRIVEN

YOUR SOFTWARE DOESN'T HAVE
ANY QUALITY ATTRIBUTES THAT HAVE NOT BEEN
RECENTLY VALIDATED IN PRODUCTION

OBSERVABILITY-DRIVEN

BROADCAST THE STATE OF YOUR SYSTEM

OBSERVABILITY-DRIVEN

EXTERNALLY LEGIBILE

SIMPLICITY

(BUT FOR REAL)

SIMPLICITY

MINIMIZE MOVING PARTS

SIMPLICITY

AVOID SOPHISTICATION

SIMPLICITY

GO BRUTALIST

SIMPLICITY

EMBRACE CONSTRAINTS

SIMPLICITY

PRESERVE OPTIONS

ORGANIC

ORGANIC

PLAN FOR DELETION

REDUCE CHANGE SURFACE

REDUCE CHANGE SURFACE

SHRINK THE ICEBERG

SUMMARY

IT'S NOT A BALANCE

ARCHITECTURE BELONGS IN TEAMS

SMASH THE TERRARIUM

SHRINK THE ICEBERG

BUILD SUSTAINABLE CYBORGS

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