



A MEETING OF ZOMBIES

EINAR W. HØST

ME



Norkart

AGILE **VS** ARCHITECTURE



HOW MUCH ARCHITECTURE?

HOW MUCH AGILITY?

HOW MUCH AUTONOMY?

“ JUST ENOUGH ”



THE GOLDBLOCKS 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.

THE MAJOR CAUSE OF THE SOFTWARE CRISIS IS
THAT THE MACHINES HAVE BECOME SEVERAL
ORDERS OF MAGNITUDE MORE POWERFUL BUT IT
QUITE UNFORTUNATELY AS THERE WERE NO
MACHINES, PROGRAMMING WAS NO PROBLEM AT
ALL; WHEN WE HAD A FEW WORK COMPUTERS,
PROGRAMMING BECAME A MODERATE PROBLEM AND NOW
WE HAVE GIGANTIC COMPUTERS, PROGRAMMING
HAS BECOME AN EQUALLY GIGANTIC PROBLEM.

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**



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.

RUUP

THE ARCHITECTURE OF SOFTWARE IS ITS ORGANIZATION OF STRUCTURE OF DIFFERENT COMPONENTS INTERACTING THROUGH INTERFACES, THOSE COMPONENTS BEING COMPOSED OF SUCCESSFULLY SMALL COMPONENTS AND INTERFACES.

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.**

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?

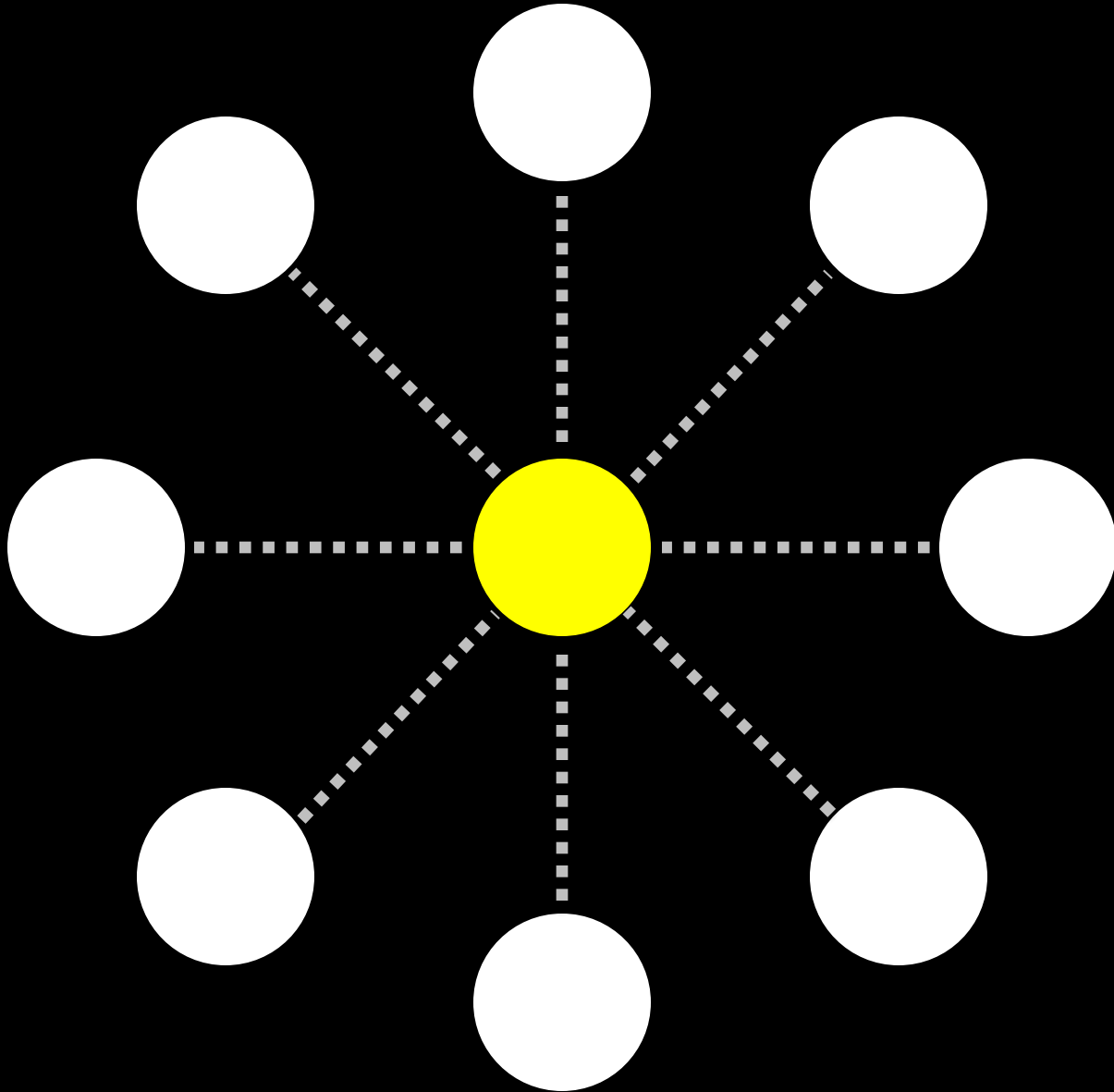
CONCEPTUAL INTEGRITY

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

A dramatic, painterly illustration of a revolutionary leader standing atop a crowd, holding a red flag, with a classical building in the background. The leader is a man with a beard and intense expression, wearing a dark coat and a scarf. He is holding a large red flag aloft with his right arm. The crowd below is dense and chaotic, with many people looking up at him. In the background, a grand classical building with columns is visible under a cloudy sky. The overall tone is one of revolution and struggle.

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

A horror-themed illustration. In the center, a man with a pale, skull-like face and glowing red eyes sits at a desk, holding a pen over a document. To his right, a human skeleton sits at the same desk, looking towards the man. The scene is dimly lit, with a large, bright yellow full moon in the background. A black mug sits on the desk to the left. The overall mood is dark and ominous.

THE SCRUM PACT



THE TERRARIUM MODEL OF SOFTWARE DEVELOPMENT

WILL PRODUCE
FEATURES
~~SILK~~ FOR
PROTECTION

WILL PRODUCE
FEATURES
~~SILK~~ FOR
PROTECTION

WILL OFFER
PROTECTION
FEATURES*
FOR ~~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

A dark, horror-themed illustration of a terrarium. In the center, a zombie with wild hair and a torn jacket stands with arms outstretched. To its left and right, other zombies are visible, some with glowing red eyes or faces. The scene is set within a structure with a grid-like window at the top, through which some light enters. The overall color palette is dark blue and black, with red highlights on the zombies' faces and eyes. The text "THE DEVELOPMENT TERRARIUM" is overlaid in the center in a bold, white, sans-serif font.

THE DEVELOPMENT TERRARIUM



COMMUNICATION THROUGH MEDIUMS

UNCOMFORTABLE TRUTHS

A black and white photograph of a man with a full white beard and hair, wearing a dark suit. He is sitting at a desk, looking towards the camera with a serious expression. On the desk in front of him is a typewriter and some papers. To his right, there is a lamp with a glass chimney. The background is dark and indistinct.

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**

A man in a black t-shirt is carrying a heavy load of sandbags. He is looking down with a concerned expression. The sandbags are tied with blue and red ropes. The background shows a wooden fence and green foliage.

“ TECHNICAL DEBT ”

A man with a determined expression is carrying a heavy load of sandbags. He is wearing a black t-shirt and a blue and red striped backpack. The sandbags are tied with blue and red ropes. The background shows a wooden fence and green foliage.

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 ✨

A conceptual image of an iceberg floating in dark blue water. The visible tip above the surface is small and jagged, while the submerged portion below the surface is much larger and more complex in shape, illustrating the concept of hidden potential or applications.

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 LEGIBLE

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 LEGIBLE

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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