

Neum 18-20/4/2018

NetWork 



MAKE IT
cLOUD

Trust me, I'm an architect

Luka Gospodnetić,
PKE sistemi d.o.o.

Mitska bića

A **mythological creature**, traditionally called a **fabulous creature**, is a imaginary and often supernatural animal, often a hybrid, **sometimes part human**, whose **existence** has not or **cannot be proved**

and that is described in legends, myths, mythology, fables, folklore, poetry, fairy tales, novels, or other fiction...

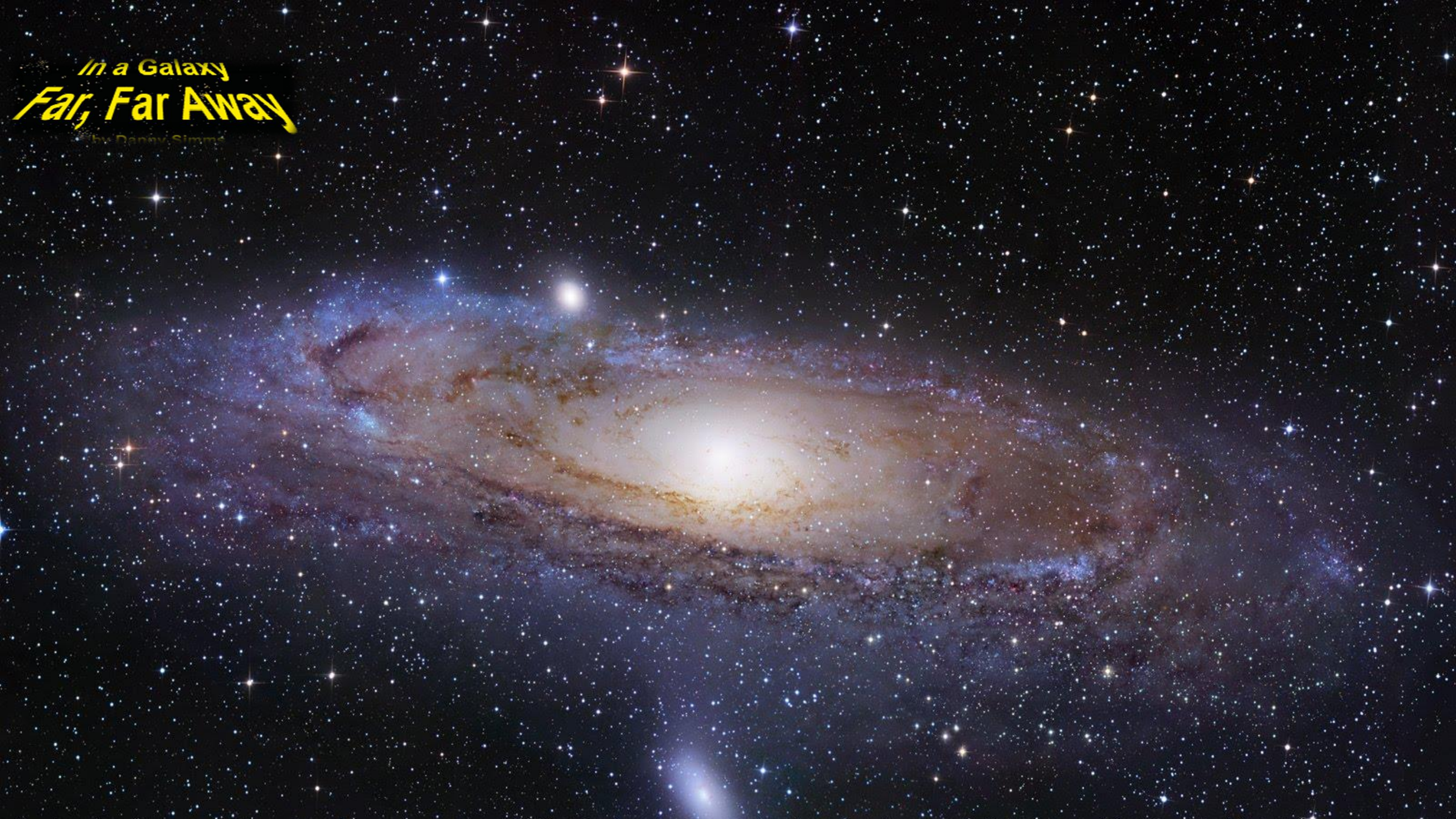
Mitska bića...

Eksperti, početnici, ...



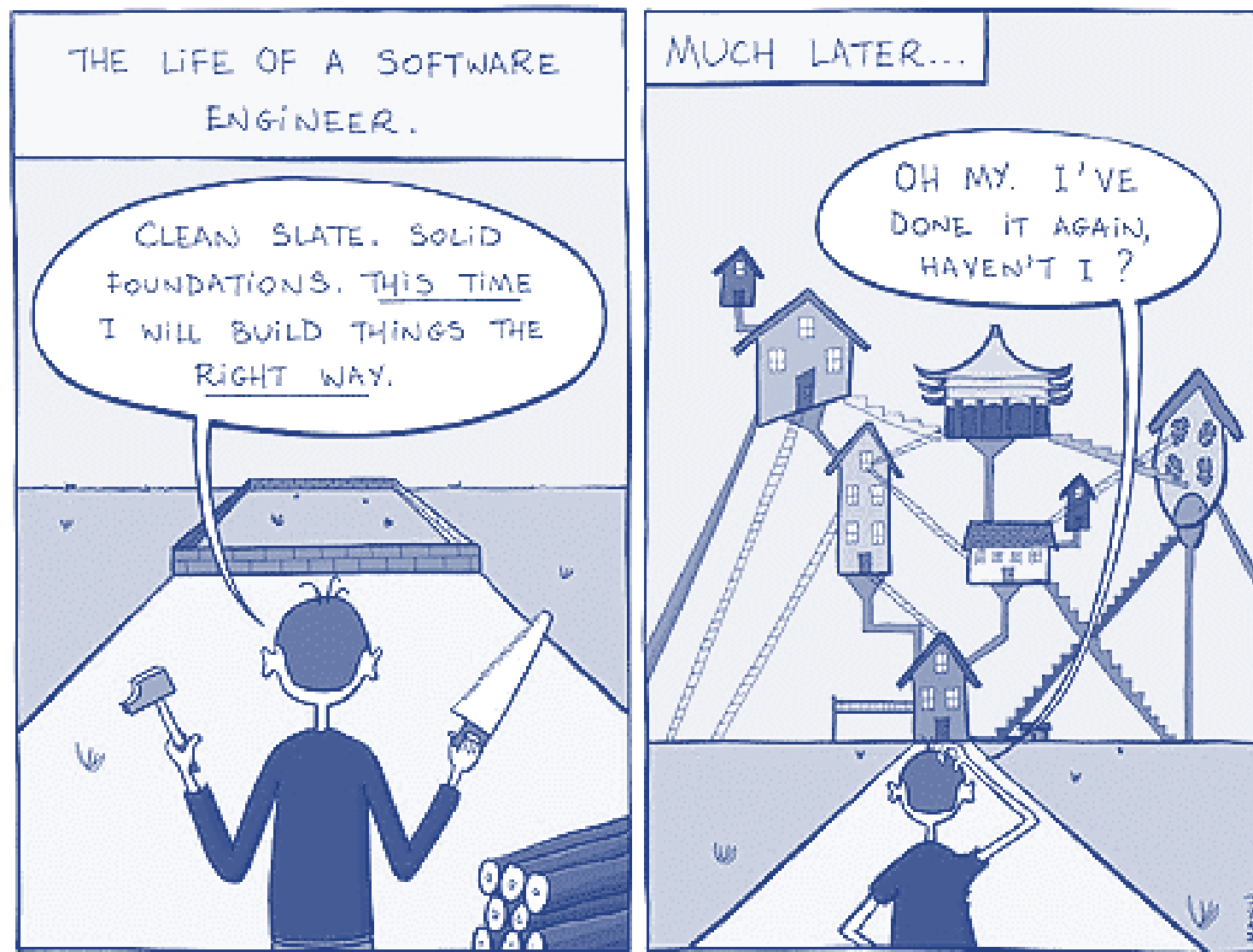
*In a Galaxy
Far, Far Away*

by Danny Simms



Arhitektura

Dizajn



Konzistencija?

Funkcionalnosti?

Standard?

Arhitektura - definicija



*"As the size and **complexity** of software systems **increases**, the design problem goes **beyond** algorithms and data structures. Designing and specifying the overall system structure (Software Architecture) emerges as a **new kind of problem**"*

*"Architecture is the decisions that you **wish you could get right** early in a project."*

Zašto?

"stvari koje ljudi smatraju kao teško promjenjive"

Arhitektura – definicija 2

„the highest level concept of a system in its environment”

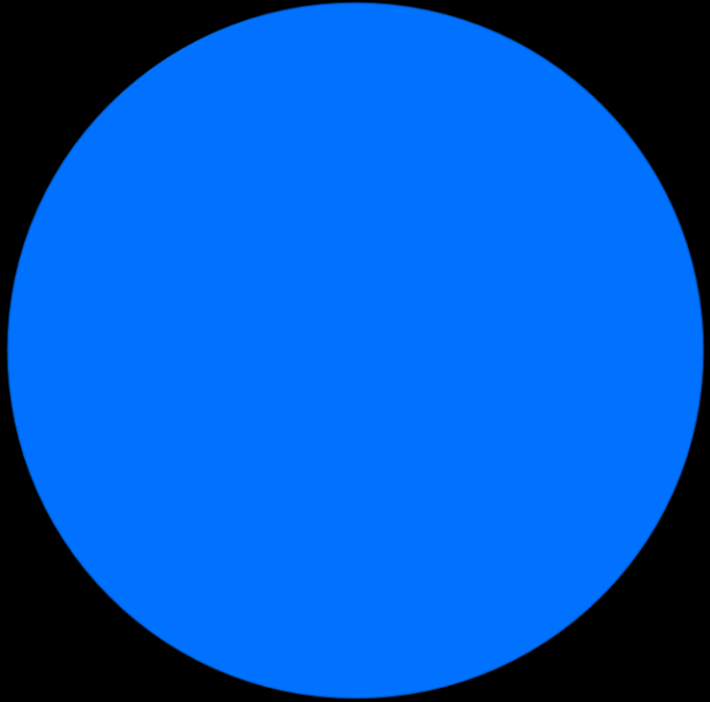
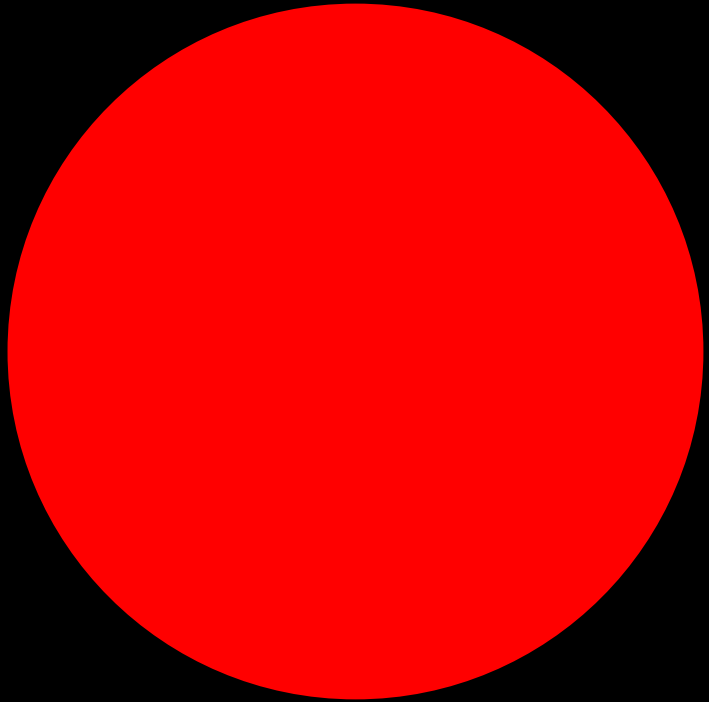
Što je to „highest level...”? Kupac ima drugačiji pogled nego developer o značajnim komponentama... ovisi i o poslovnom području...

„the highest level concept that expert developer have of a system in its environment”

Što čini komponentu važnom? Zato što je tako rekao expert developer!

Arhitektura – definicija 3

- *Ako je arhitektura skup „važnih” stvari – onda je arhitekt osoba koja se brine o važnim stvarima*
 - *“In most successful software projects, **the expert developers** working on that project have a **shared understanding** of the system design. This shared understanding is called ‘**architecture**.’*
 - *This **understanding** includes how the system is **divided** into **components** and how the components **interact** through **interfaces**.*
 - *These components are usually composed of **smaller** components, but the architecture only includes the components and interfaces that are **understood** by **all the developers**.”*





Arhitekt

Software architect

Page issues

This is an [old revision](#) of this page, as edited by [Bhny](#) ([talk](#) | [co](#)) on 17 August 2012 (replace uninformative weasel word with a definition). The present address is a [permanent link](#) to this revision. It may differ significantly from the [latest revision](#).

([diff](#)) ← [Previous revision](#) | ([diff](#)) | [Newer revision](#) → ([diff](#))

✎A

Software architect is a [computer manager](#) who makes high-level design choices and dictates technical standards, including software coding standards, tools, or platforms.

bonbon 4G 09:12 99%



en.m.wikipedia.org



Software architect

Page issues

✎A



A **software architect** is a software expert who makes high-level design choices and dictates technical standards, including software coding standards, tools, and platforms. The leading expert is referred to as the *chief architect*.

History

Responsibilities

hitect

revision of this page, as edited by [.67.60](#) ([talk](#)) at 15:43, 2012. The present address is a [permanent link](#) to this revision. It may differ significantly from the [latest revision](#).

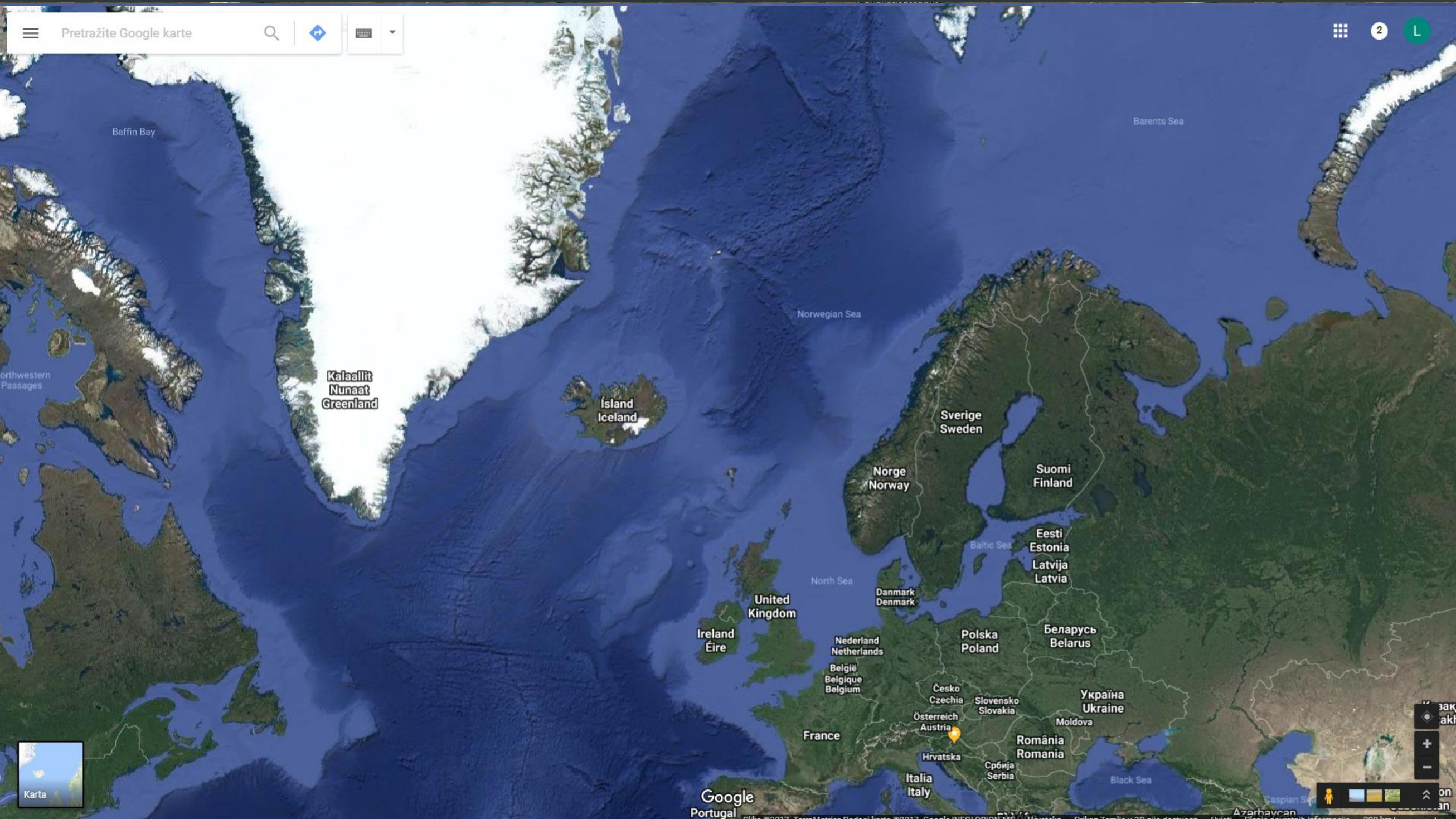
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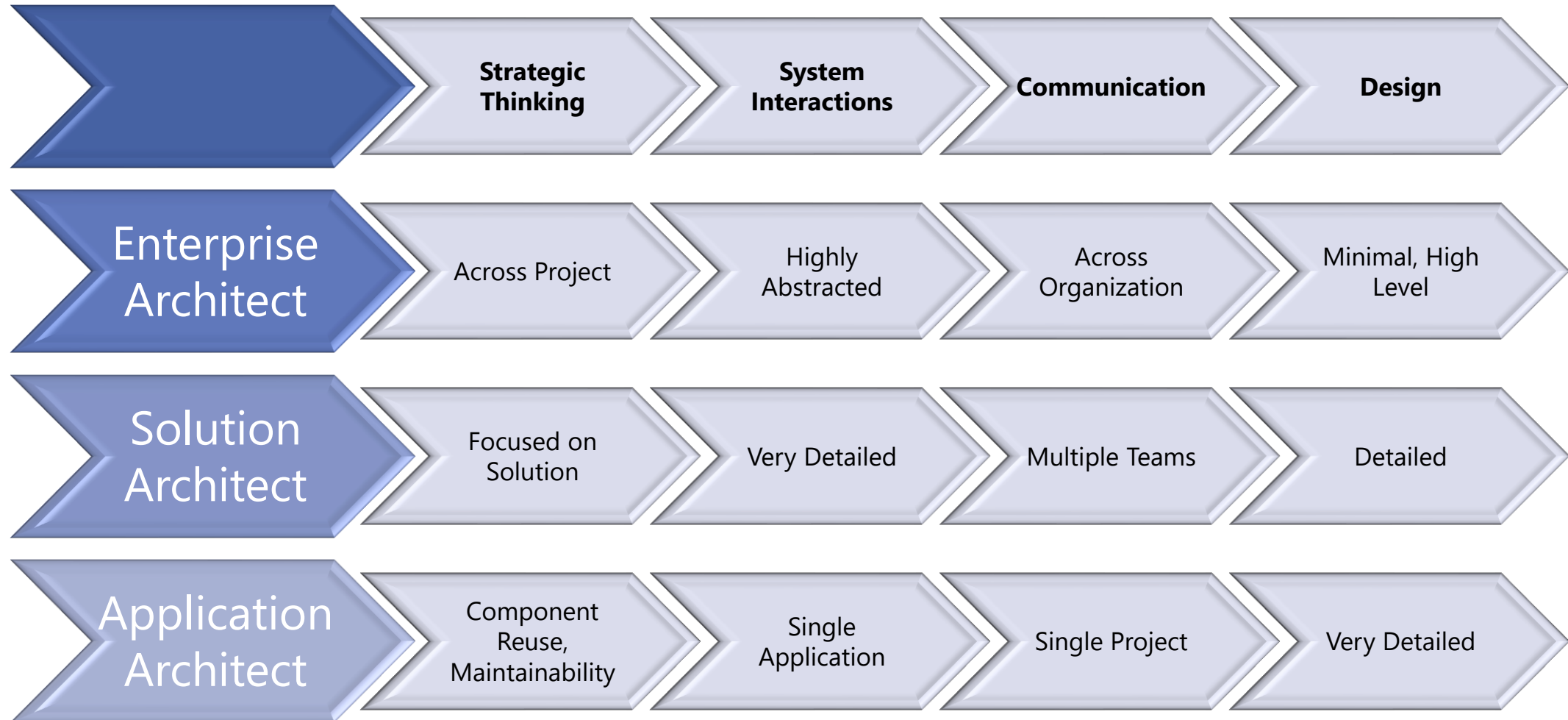
is a [computer manager](#)

who makes high-level design choices and dictates technical standards, including software coding standards, tools, and platforms.





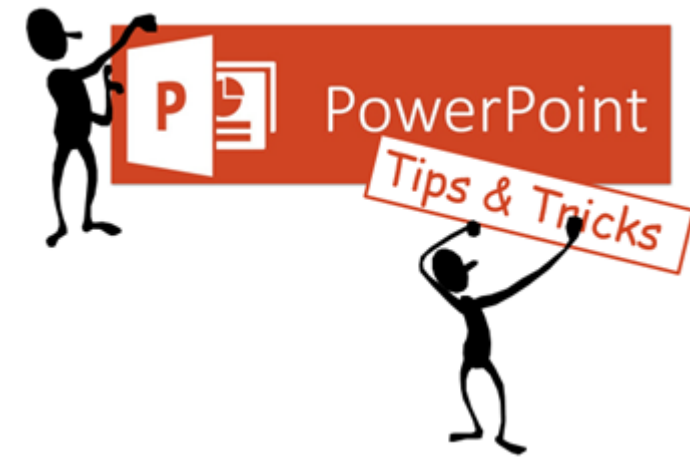
Arhitekt





Meanwhile on planet Earth...

Powerpoint arhitekti



- Arhitekti koji ne kodiraju
- Pridruže se na *kick-off* sastanku
- Crtaju razne dijagrame, i z brišu prije nego počne razvoj
- Odvojenost od povratnih informacija tijekom razvojnog ciklusa ih čini neefikasnim (pogotovo jer se zahtjevi na kojima se temeljila arhitektura mijenjaju)

*„The System Architect responsible for designing your system **hasn't written a line of code in two years.** But they've produced quite a lot of ISO9001-compliant documentation and are quite proud of it.,,*

<http://wiki.c2.com/?ArchitectsDontCode>

Astronaut arhitekti



- Arhitekti koji su previsoko u apstraktnim nivoima da ostanu bez kisika.
- Veliki mislioci koji ne znaju stati sa apsurdnim i sveobuhvatnim slikama svemira na vrlo visokoj razini – sve su dobre ali zapravo... ne znače puno

„Someone who doesn't have to live with their technology choices”

- Ali i oni imaju svoje mjesto...tko bi nam radio design patterne 😊

Digitalni arhitekt?!

A **digital architect** is a modern business and technology architect that is driven by **customer experience** to utilize technology to transform business, increase revenue and profitability and improve the competitive position of a business. Digital architects focus on the synergy and cross discipline integration of the following disciplines: (1) **customer experience**; (2) **cloud, webscale, iot**; (3) **data science** including **analytics**; (4) business, application, information, technology and security architecture; (5) **artificial intelligence, cognitive science, neuroscience, robotics** and **artificial creativity**; (6) traditional science and mathematics including physics, chemistry and biology; and (7) digital 3D printing and nano-manufacturing

Capgemini: „Digital Architect has a key role in defining and delivering a Dig. Government”

Ja sam analogni arhitekt?! Jel me vrijeme progutalo?! Kako postanem?!



There are only 10 types
of people in the world:
Those who understand binary
and those who don't.



Anti-pattern:

“The Ivory Tower Architect”

Yes, Architects need to sit in Ivory Towers. With refreshments and good music.

Development team



Full-Stack Architect

Marcus Vitruvius Pollio (80 BC – 15 BC), arhitekt, autor, inženjer (vojni i civilni)



Role of the architect :

The ideal architect should be a [person] of letters, a mathematician, familiar with historical studies, a diligent student of philosophy, acquainted with music, not ignorant of medicine, learned in the responses of juriconsults, familiar with astronomy and astronomical calculations.



Hypocaust or heating chamber

Full-Stack Architect

Full-Stack Web Architect needed with the experience with web services, back end Web platforms, databases, cloud based hosting such as Heroku and AWS, visual design, UX/UI, experience of mobile web development, all in agile environment.

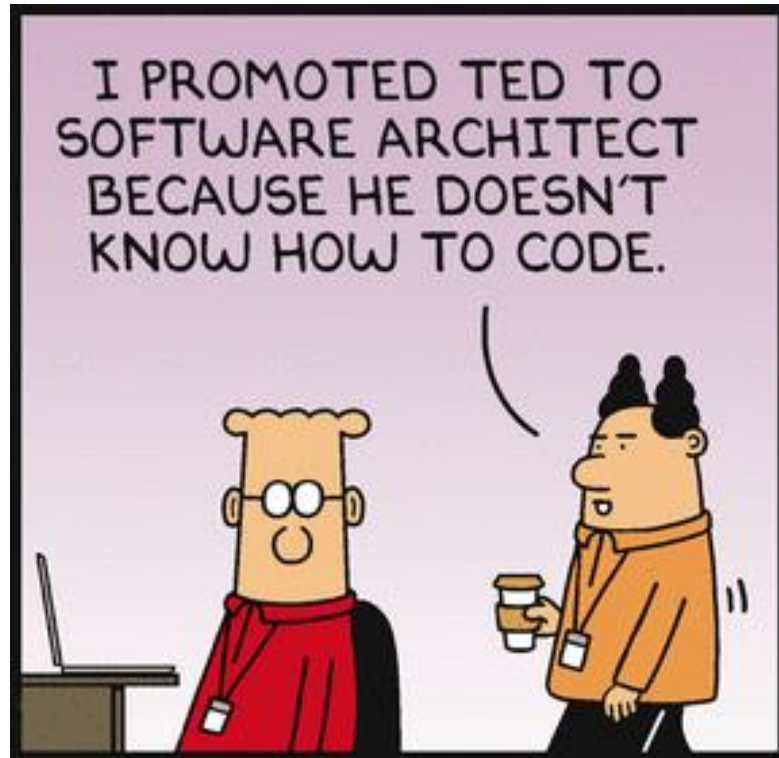
- Stvarni oglas iz 2014. za posao u Londonu

Full-Stack Digital Architect needed with 7-10 years of dev. experience

- Stvarni oglas od neki dan za posao u SAD

Experience with building consumer quality products, enabling business capability and objectives through technology	Infrastructure experience including Docker, Chef, Puppet, AWS, CloudFormation, OpenStack, Consul, Nginx, Mesosphere, Terraform, Atlas, ElasticSearch, Logstash, Kibana Hubot, NewRelic, etc.
Strong application development knowledge of any of the following technologies: NodeJS, Ruby on Rails, Java, Clojure, Golang, Scala, Erlang, Docker, *MQ, Apache Kafka, Spark, Storm, Cassandra, PostgreSQL, Datomic, Neo4J, Chef, Puppet, CloudFormation, OpenStack, Python, .Net, JavaScript, CSS, SASS	Experience in engineering practices such as code refactoring, design patterns, design driven development, continuous integration, building highly scalable applications, application security, functional programming
Knowledge of Agile software development process	Familiarity with performance metric tools

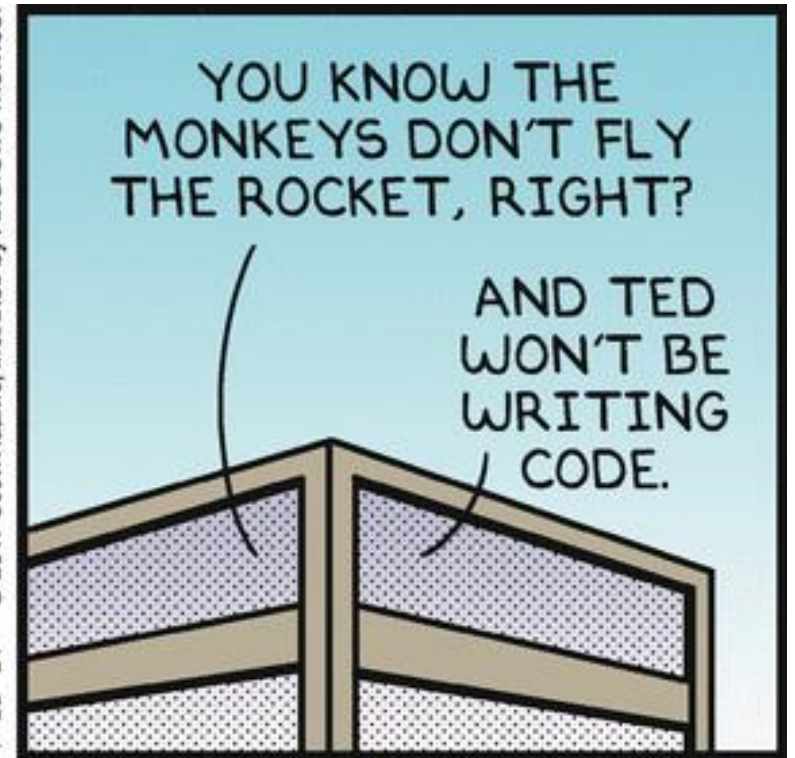
Architect != Coding ? Experience : Experience + Learning



Dilbert.com @ScottAdamsSays



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Hrvatski ili svjetski problem...

Experienced developers (technology fascinated) are not overjoyed with becoming managers, yet clearly need to be in a leadership position of some kind because they are kicking them out of the developers' kindergarten - what do you mean I am too old to hang around the playground, and why is it 'creepy'?

Management has been a traditional career growth path, and some still believe it is the only smart choice for former developers.



**'You want to know
The difference
Between a master
And a beginner?
The master
Has failed more times
Than the beginner
Has ever tried...'**

-Master Yoda



**„An expert is a man who
has made all the mistakes
which can be made, in a
narrow field.”**

- Niels Bohr

Microservices...

Uloga



Uloga

Architectural Drivers

Understanding requirements and constraints

Technology Selection

Choosing and evaluating technology

Architecting

Designing software

Architecture Evaluation

Understanding that the architecture works

Coding

Involvement in the hands-on elements of software delivery

Architecture Evolution

Ownership of the architecture throughout the delivery



Quality Assurance

Introduction and adherence to standards and principles

Coaching and Mentoring

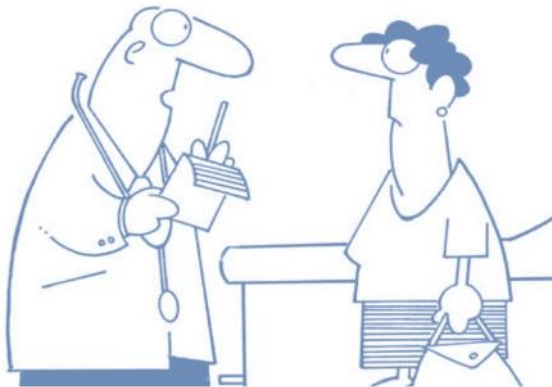
Guidance and assistance

Vratimo se na početak...

"Software Architect is a computer manager who makes high-level design choices and dictates technical standards, including software coding standards, tools and platforms"

*"Software Architect is a **techo polymath** who **offers** high-level design choices and **facilitates** best technical practices, including software coding standards, tools and platforms"*

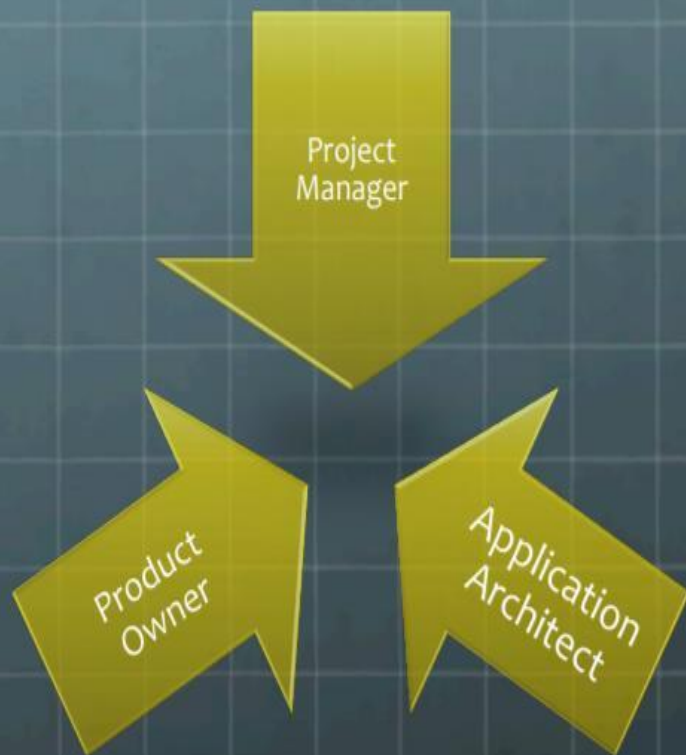
Nitko ne voli gnjavatore!



Od ovog recepta vam neće biti bolje, ali ćete prestati gnjaviti druge pa će njima biti bolje!



Convergence



BUSINESS = IT

Dnevni posao

- **Jutro** – sudjeluje i kolaborira sa razvojem
- **Popodne** – sudjeluje u radionicama, pomaže poslovanju shvatiti tehničke posljedice njihovih ideja ne-tehničkim rječnikom
- **U rupama** – mentor razvojnom timu kako bi im podigao razinu za rješavanje složenijih problema

... kad piše specifikacije? Kad spava? 😊

„This leads to the satisfying rule of thumb that an architect's value is inversely proportional to the number of decisions he or she makes“

– Martin Fowler

Pregovaračke vještine



TRIPLE FACEPALM

Ja: *Zašto ne spremaš?!?!*

Nika: *Zato jer ti ne spremaš!*

Ja: *Nisam ja razbacao igračke.*

Nika: *Pa nije ni baka pa ona sprema!*

Ja: *Krivo od nje, ti bi trebala spremati!*

Nika: *Pa ja sam joj pokazala kako se spremaju autići pa ona sad sprema!*



All solutions are obsolete

„Hope that nothing you do will last.“



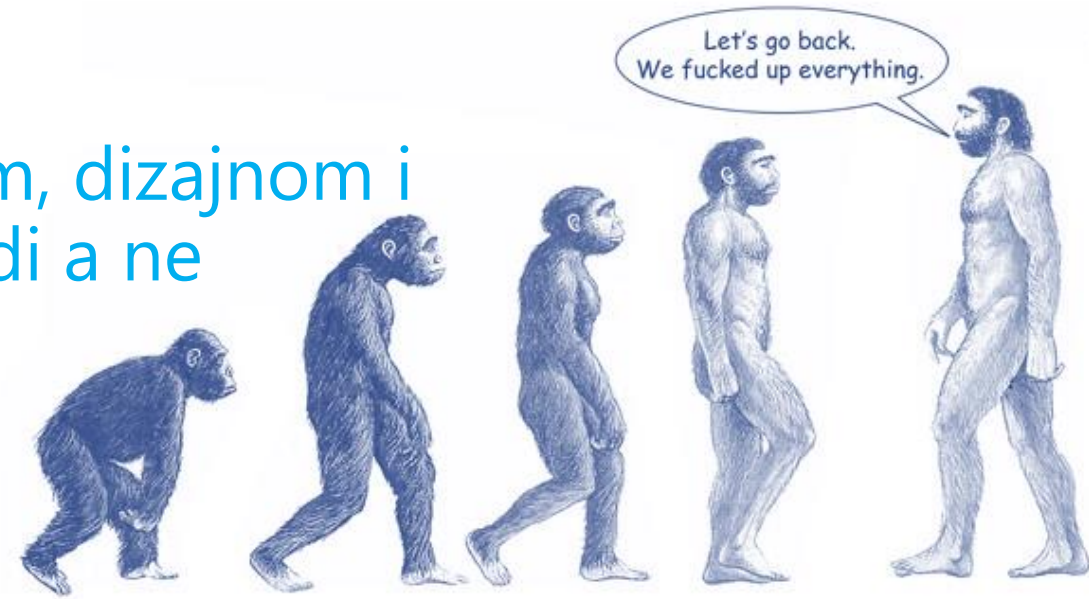
Za kraj

*„Architecture is the decisions that you **wish you could get right** early in a project.“*

*„**Irreversibility** was one of the prime **drivers of complexity**“*

*„Architecture is a job that seeks to contain **complexity** by reducing irreversibility by finding ways to eliminate irreversibility in software designs“
(technology? DB architectural layer?)*

Softver nije ograničen fizikom, već maštom, dizajnom i organizacijom – svojstvima ljudi a ne svojstvima svijeta!



*„We have met the
enemy, and he is us“*

- Pogo - Oliver Hazard Perry (1813)

