



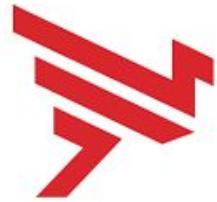
# Building Rome in One Day

Uli Hitzel  
February 2020



Sotong  
Kitchen

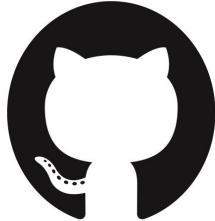




# Developer Advocate



/in/uhitzel



/u1i/slides



IBM





## cosmicrenaissance

1,257 posts

194 followers

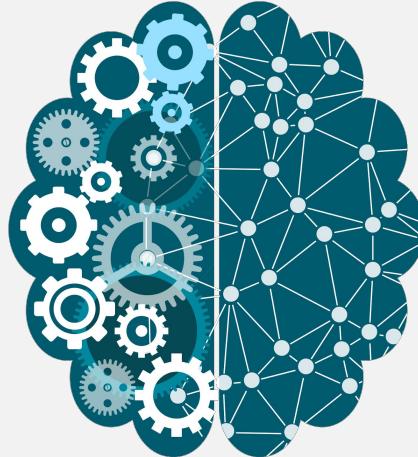
615 following

Just some guy, really.

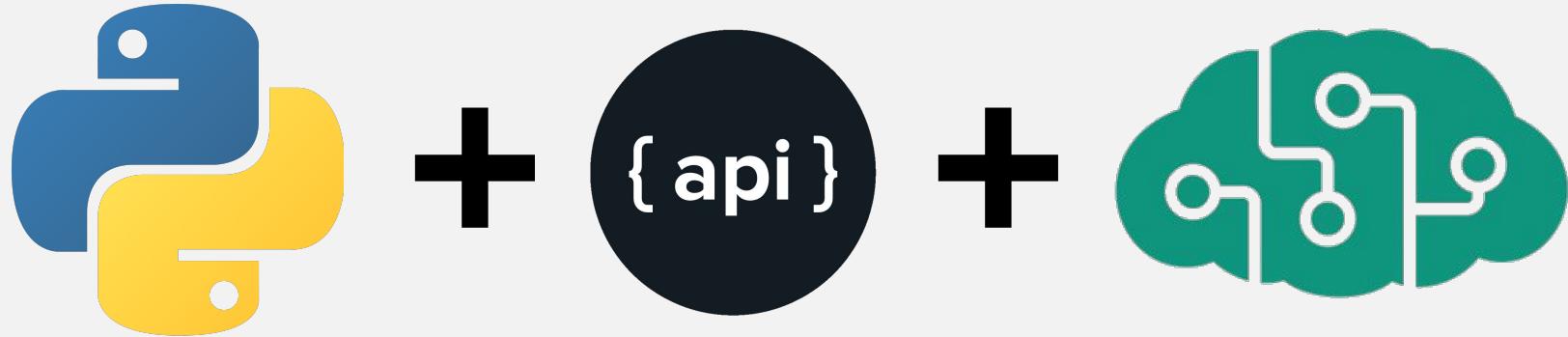
+65

City life, scenery, food.

Camera: Samsung Galaxy S7/S9

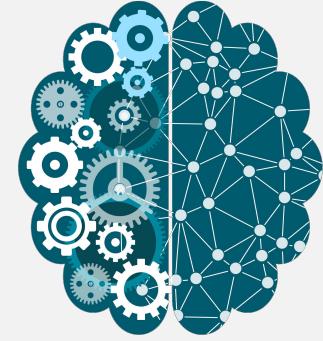


clock outdoor person  
furniture docked bunch paper ship sun  
counter different dish mountain bed  
sauce tray pier slope  
yellow cup stop  
donut sidewalk surfing harbor  
glass kite brown airplane laying display  
garden wooden eaten side food indoor chair track  
riding hydrant meat broccoli drink  
tree sunset double fries flower car house  
train indoor food sandwich dirt  
half close busy lot fork  
brick traffic orange traveling herd  
cheese street city nature several fruit  
colorful window clouds motorcycle fire outdoor food  
tower clouds stuffed body room living bench  
flying plane overlooking room water several  
ground church flying pole living bench  
decoration flying plane forest piece  
sign hanging pole  
driving cloudy



Microsoft

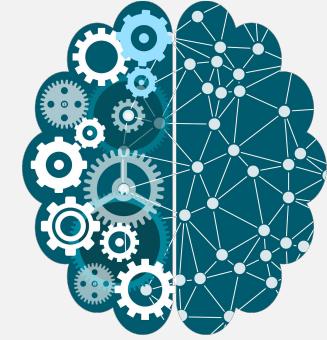
Cognitive Services



**Text:** "a close up of a pizza"

**Confidence:** 0.9246481371443355

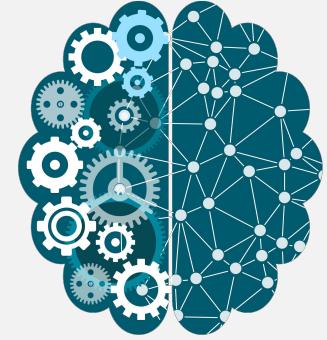
**Tags:** "pizza" "food" "table" "sitting" "cheese" "plate" "top" "piece" "slice" "toppings" "close" "eaten" "sauce" "covered" "wooden" "large" "pepperoni" "white" "pan"



**Text:** "a cup of coffee"

**Confidence:** 0.8527612488821656

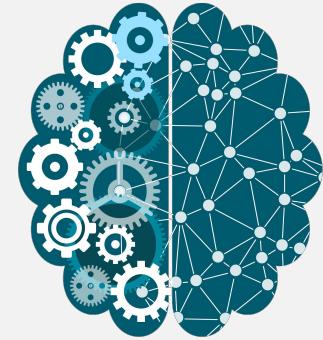
**Tags:** "cup" "table" "coffee" "food" "sitting" "drink" "plate" "sandwich" "breakfast"  
"spoon" "glass" "close" "donut" "hot" "white" "phone" "soup"



**Text:** "a wooden table next to a window"

**Confidence:** 0.8365439206950018

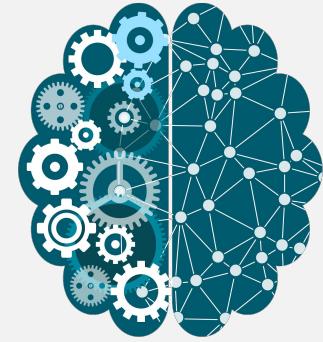
**Tags:** "table" "indoor" "window" "room" "sitting" "chair" "small" "desk" "wooden" "laptop" "lit" "top" "light" "counter" "computer" "living" "kitchen"



**Text:** "a sunset over the ocean"

**Confidence:** 0.8065587199349568

**Tags:** "outdoor" "water" "beach" "sunset" "ocean" "sun" "man" "pier" "track"  
"board" "top" "large" "red" "standing" "surfing" "walking" "boat" "holding" "flying"



**Text:** "a bunch of bananas"

**Confidence:** 0.37608016747604295

**Tags:** "animal" "covered" "sitting" "old" "side" "large" "water" "lot" "many" "top"  
"table" "bunch" "street" "fire" "bird" "snow" "parking" "group" "river" "ocean" "field"

# Agenda

**1 – Entropy & Distributed Systems**

2 – The Good & The Bad

3 – Then... how?





# The Year 1450.



the first to show some signs of industrialisation to never had  
such a large number of slaves and it is still has got  
less than two thousand today

Deutschland

a decessis: ut post equos rufos varios  
negros: et albos: et dissipatas quadrigas  
et effigiam: et equum de ihesu: pauperem  
regem vaticinatur: et predictus regem se-  
decentem super pullum filium astine subiu-  
galis. Malachias aperte: et in fine o-  
mnium prophetarum: de abiectione israe-  
hel: et vocacione gentium: non est nichil  
aut voluntas in uobis dicit dominus reges-  
truum: et nunc non suscipiam de manu  
vestra. Ab ore enim solis usque ad oc-  
casum magnum est uomen meu in gen-  
tibus: et in omni loco sacrificatur et  
officetur nomini meo oblatio munda.  
*Yisaiam: iheroniam: ezechiel: et daniel:*  
quis potest uel intelligere vel respondere:  
Quocum primus non prophetiam vide-  
tur michi repte sed euangelium. Hecum-  
dus uirgam mitram et ollam acce-  
sam a facie aquilonis: et pardum spo-  
liani sui coloribus: et quadruplices di-  
uines metis nudit alphabetum. Iter-  
nus principia et finem tantum habet  
obscuritatibus inuoluta: ut apud he-  
breos ipse partes cum cordio gene-  
os ante annos inuigita non legatur.  
Quare vero qui et exterius inter qua-  
mum prophetas temporum consuls: et  
tonus mundi philohistoricus lapide  
precisum de monte sine manibus: et  
regna omnia subuertentem claro sce-  
mone pronuntiar. David symonides  
nostrae: pindarus et alchus flaccus  
quorum carulus antiquus seruus casti lycia  
predicat: et in decacordo psalterio ab  
infans regum resurgentem. Salomon  
pannicus et amabilis domini morea cor-  
rigit: naturam docet: ecclesia iugit et  
prophetas regum uariant dulce canit

retribuit in posteris. Paralipome-  
non liber instrumentum uerbi prophetae  
tamen ac talis est: ut absq; illo si q; scie-  
tia scripturarum sibi voluerit accrogere  
scimus recidat. Per singula quippe no[n] a  
iudicari: uel dor: et permisso i regu li-  
bris tamquam historie: et immutabiles  
replicant euangelij questiones. Edora  
et neumas: adiutor videlicet et conso-  
latores a duo: in uno volumine articulati  
in staurate templi: muros extenuant  
civitas: omnisq; illa turba pli  
redunus in partia: et descriptio sacre  
domini: leuitas israhelis: pleitor ac  
et singulas familias muros et tauri  
opera diuisa: aliud in cortice pterunt:  
aliud in medulla renuent. Letis me  
scripturas amore rapta: et mississimo  
modum epistole: et tam non impelle qd  
volui. Andiuimus tamen qd nosque quid  
super debemus: ut et nos qd possumus  
dicere: concipiuit anima mea deside-  
rare iustificationes tuas i omni tempore.  
Letis illud soletan cu[m] implure in no-  
bio. Hoc tamq; scio qd nescio. Tangit  
et nonu[m] breuitate testamem. Mathe-  
marcus: lucas: et iohannes quadriga  
domini: et uero ihesu cu[m] interpretat la-  
tentie plenitude prout corpus oculati  
sunt: sancte tuantur: discuntur ful-  
gura: pedes habent redos: et in sub-  
lime tendentes: terga pennata: et ubiq[ue]  
volantia tenent se nuptio libris: perple-  
xi sunt: et quasi rota in rotam volu-  
ntur: et pergit quodcumq; eos stat spiritus  
sancti induxit. Paulus apostolus ad septem  
scriptas: octauam enim ad hebreos  
a plebsq; et ecclia numeri ponit. Thymo-  
reas in deo regi: et plurimorum me-

sonare historiam et nascens cedule  
infamia trece: sed si nouetur scripto-  
rum eorum lucam esse medicum: cunus  
laus est in euangelio: animaduictum  
parere omnia verba illius anime lan-  
guentis esse medicina. Jacobus: pte.  
iohannes: iudas: septem epistolas edi-  
decunt tam misericordia: et succindas: et  
breves parere et longas: breves in ure-  
bia: longas in felicitate: ut rarus sit  
qui non in eaci cecutus ledione. Apo-  
calipsis iohannes tot habet sacramenta  
quot uera. Paru dixi: et pro medi-  
to voluminis laus omnis interior est.  
In verbis singulis: missiplices latente  
intelligente. Oro te faciat carillum  
intra huc viuere ista meditari: nil ali-  
ud nosse nichilq; aliud querere: nonne  
videtur tibi iam hic in terris regum ce-  
lestis habitaculum? Solo ut offendaris  
in scripturis sanctis: simplicitate et qd  
uilitate uerborum: que uel unio inter ipsorum  
uel de industria sic prolate sunt: ut ri-  
sticam coniunctionem facilius instrueret:  
et in una eademque sententia aliore do-  
dus: aliore sentiret in dodeca. Non sum  
tam prolabens et habens ut huc me nos-  
se pollicor: et eorum fructus carpere et ter-  
ra quoru[m] radices in celo fixe sunt: sed  
uelle fatior: sedem me prefaco: magi-  
sticum munus comitem spundo. Pe-  
remi datur: pulsanti appetitur: quicquid  
inuenit. Discam i terris: quos sanctam  
nobis pleueret in celo. Obuius te ma-  
nibus exponi: et ut incepit aliquid ac de-  
cimagore tumiditate effundit: quicquid  
questiens tecum scire conabor. *Cum un-*

*eloquij venustatem etiam absq; illo ipsa*  
epistola p[ro]ferbar. *Sedina quo[rum] te: et*  
h[ab]et in salo nauncile funem magis p[ro]l[ati]o  
de qd solue. *Nemo remittatur us*  
seculo bene potest vendere: que conti-  
nit ut vendere. *Quicquid in sumptu*  
te tuo uulcis: pro luco computa. An-  
ciqui dictum est. *Quaro deit tam qd*  
habet: qd quod non habet. *Lendit*  
tous inuidus dominatu est. *Inuidus*  
aut enia obulo indigit. *Sic vivamus*  
quasi nil habentes: et omnia possidentes. *Vicitus arq;* vestitus diuine epia-  
noru[m]. *Si habes in portata reuua*  
vende: si non habes proice. *Tollenti*  
timicam: et pallium relinquendu est.  
Sustulit et semper recastans et  
diu de die trahens cause et pectorum  
nas possidentas vendididas: non  
habet xps unde alat pauperes suos.  
Tou[rum] deo dedit: quis se obruit. *Aposto-*  
*li tamq; naorem et reia relinquat: vi-*  
*dua duo etia mittit in gnosticalam:*  
et pectora celi diuinis. *Facile depin-*  
*gia: qui se semper cogitat esse mortuus.*  
*Explicit ep[istola] in ap[osto]li p[ro]logu[m] illius mosis*

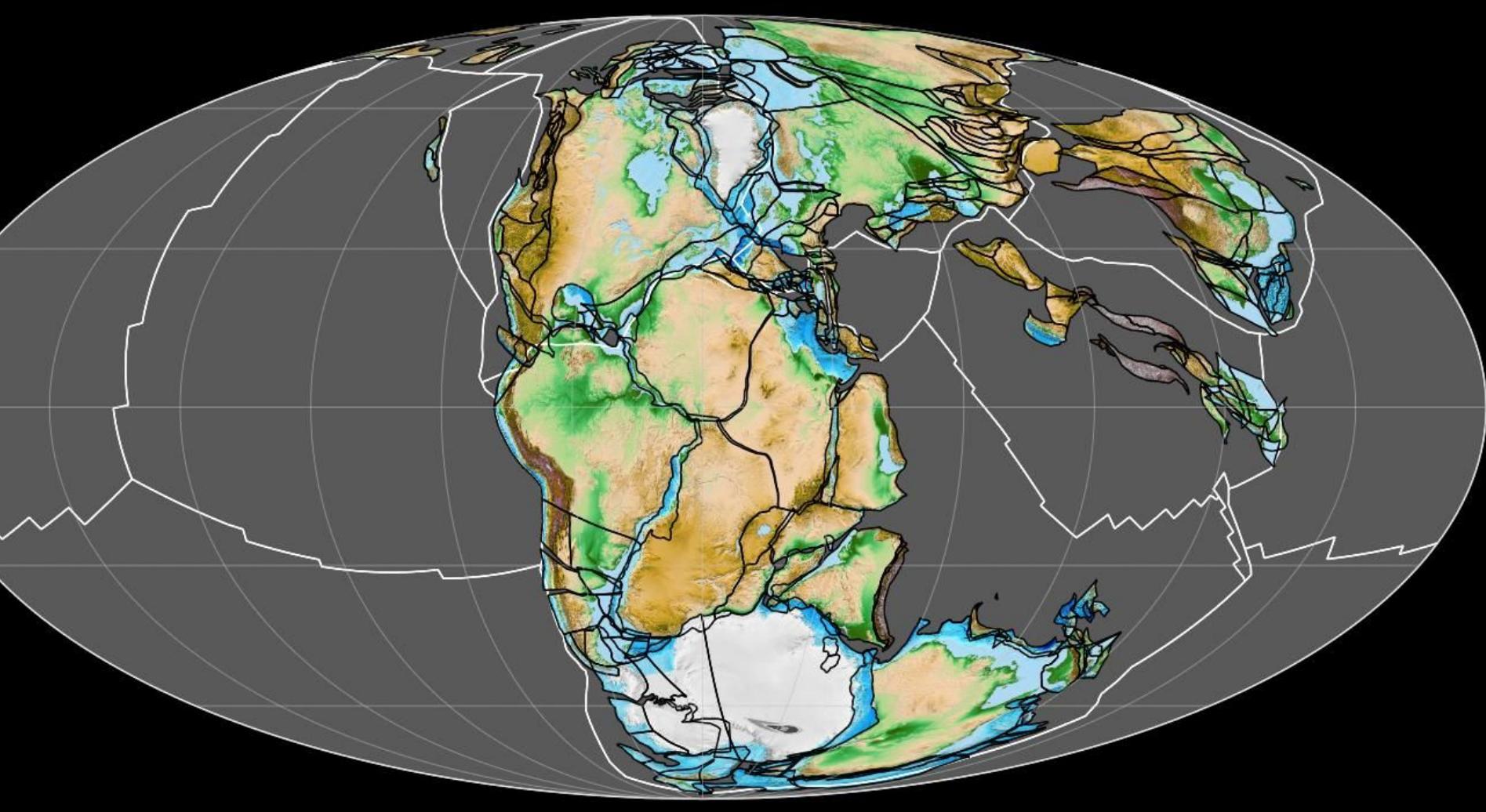
*Eidem mei desideratas*  
acepi litteras: qui quodam  
presagio futurorum: cum  
daniele sonu[m] est nomen  
obsecrantis: ut translatum in latinu[m]  
linguam de hebreo sermonem pentha-  
tecum nostri auribus tradet. Pe-  
riculosum opus esse: et obsecratoru[m]  
meos lactantes patens: qui me asse-  
runt i sepiuginta intercepimus surgilla:  
nonem: noua p[ro]terebus caderet: ita  
ingenui qd uini probantes: cum ego



# entropy

/'entrəpi/

1. <some physics stuff>
2. lack of order or predictability;  
gradual decline into disorder.



# From Monolith to Distributed Systems

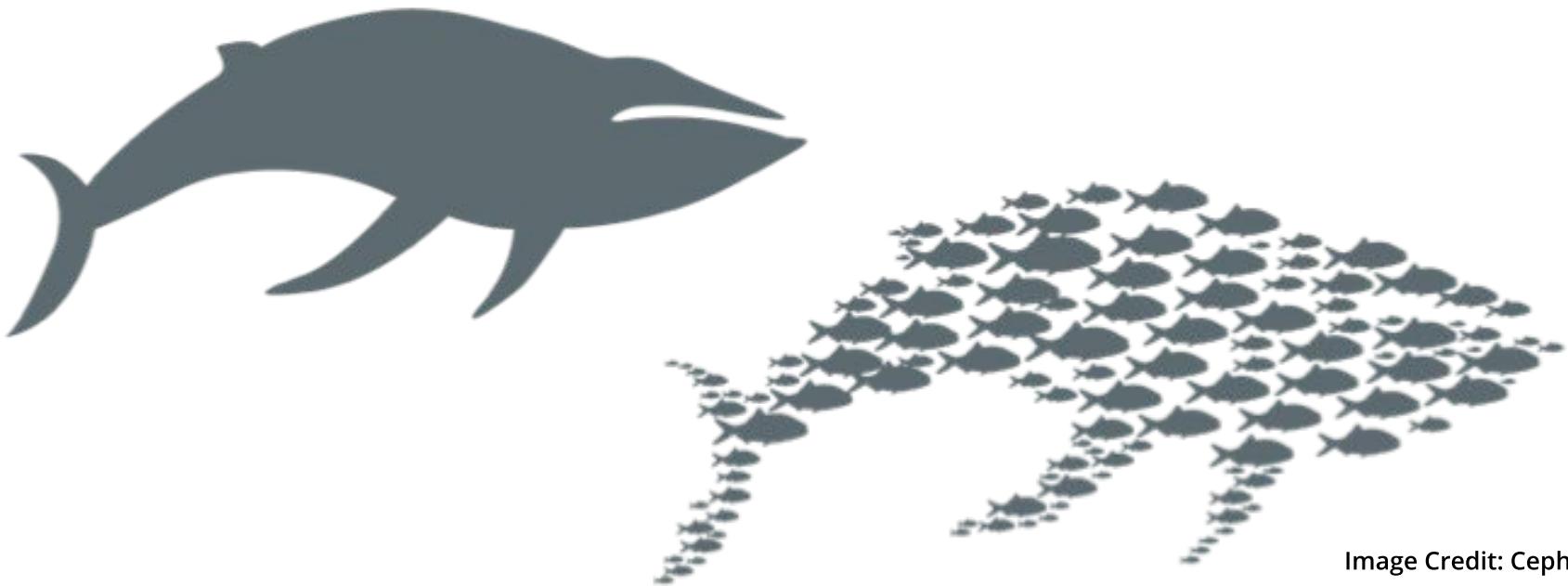
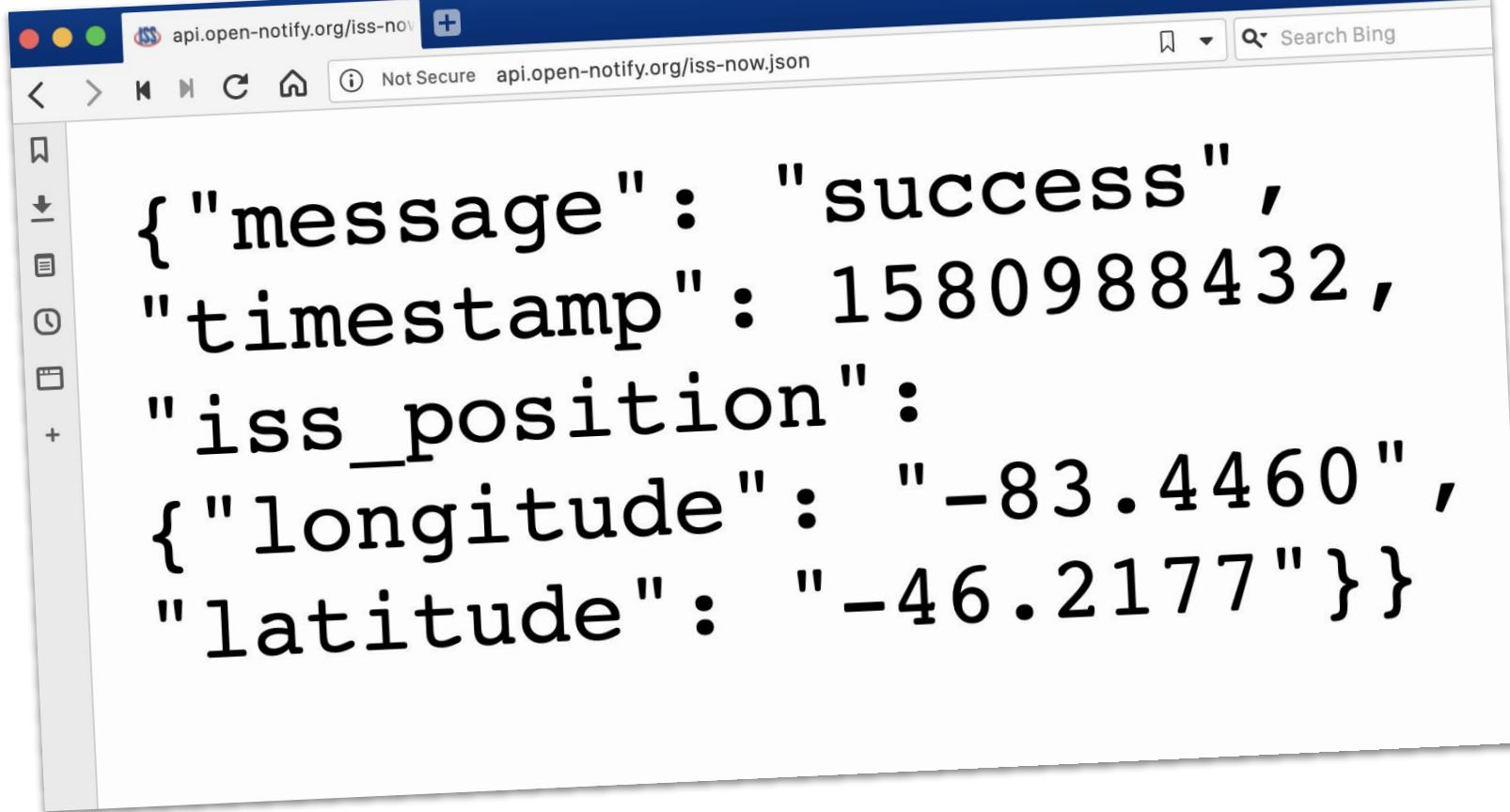


Image Credit: Ceph/RH

# Modular Building Blocks that have APIs





A screenshot of a Microsoft Edge browser window. The address bar shows 'api.open-notify.org/iss-now.json' with a 'Not Secure' warning. The main content area displays a JSON response. On the left, there is a vertical toolbar with icons for back, forward, search, and other browser functions.

```
{"message": "success", "timestamp": 1580988432, "iss_position": {"longitude": "-83.4460", "latitude": "-46.2177"}}
```

**Summary:  
Things have  
become  
COMPLICATED.**

# Agenda

1 – Entropy & Distributed Systems

**2 – The Good & The Bad**

3 – Then... how?



the first to show some of its  
industry to never had  
such a small square  
as this before

00000000

# Murder Mystery Games





[Win a Jeep](#)  
from ichat

**Kingston**  
Technology

Click here to  
enter contest.

[Win Free Music](#)  
for Life

Search [options](#)

[Yellow Pages](#) - [People Search](#) - [Maps](#) - [Classifieds](#) - [Personals](#) - [Chat](#) - [Email](#)  
[My Yahoo!](#) - [News](#) - [Sports](#) - [Weather](#) - [Stock Quotes](#)

- [\*\*Arts and Humanities\*\*](#)  
Architecture, Photography, Literature...

- [\*\*Business and Economy \[Xtra!\]\*\*](#)  
Companies, Investing, Employment...

- [\*\*Computers and Internet \[Xtra!\]\*\*](#)  
Internet, WWW, Software, Multimedia...

- [\*\*Education\*\*](#)  
Universities, K-12, College Entrance...

- [\*\*Entertainment \[Xtra!\]\*\*](#)  
Cool Links, Movies, Music, Humor...

- [\*\*Government\*\*](#)  
Military, Politics [Xtra!], Law, Taxes...

- [\*\*Health \[Xtra!\]\*\*](#)  
Medicine, Drugs, Diseases, Fitness...

- [\*\*News and Media \[Xtra!\]\*\*](#)  
Current Events, Magazines, TV, Newspapers...

- [\*\*Recreation and Sports \[Xtra!\]\*\*](#)  
Sports, Games, Travel, Autos, Outdoors...

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Libraries, Dictionaries, Phone Numbers...

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- [\*\*Social Science\*\*](#)  
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Smart Shopping with

---

[How to Suggest a Site](#) - [Company Information](#) - [Contributors](#) - [Yahoo! to Go](#)

**Summary:**

**You can build new  
things incredibly fast.**

**But there are many  
moving parts outside of  
your control.**

# Agenda

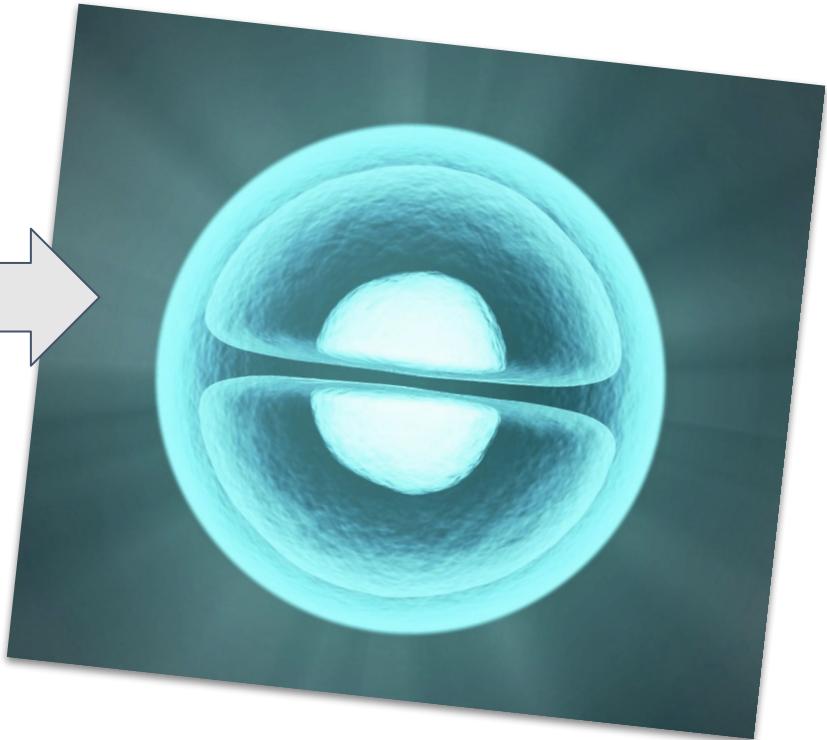
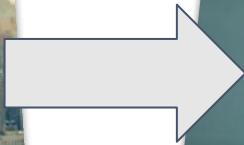
1 – Entropy & Distributed Systems

2 – The Good & The Bad

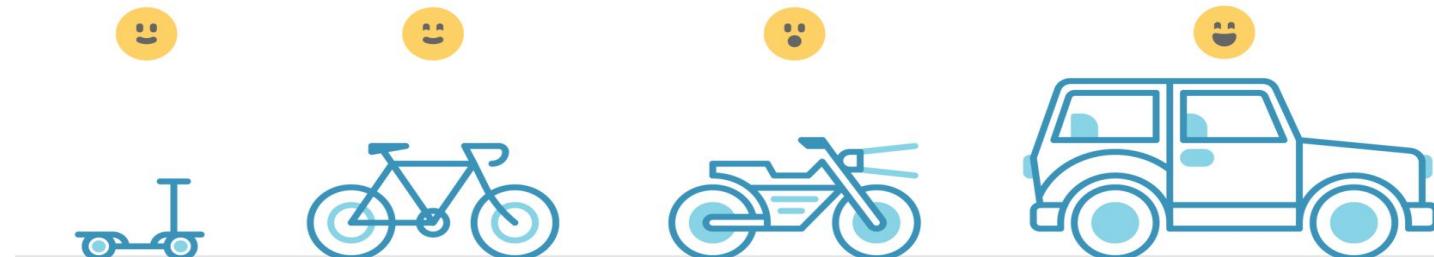
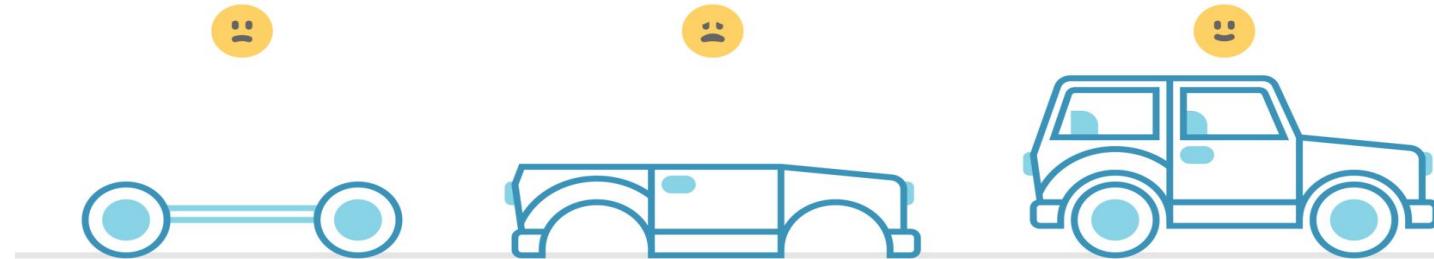
**3 – Then... how?**

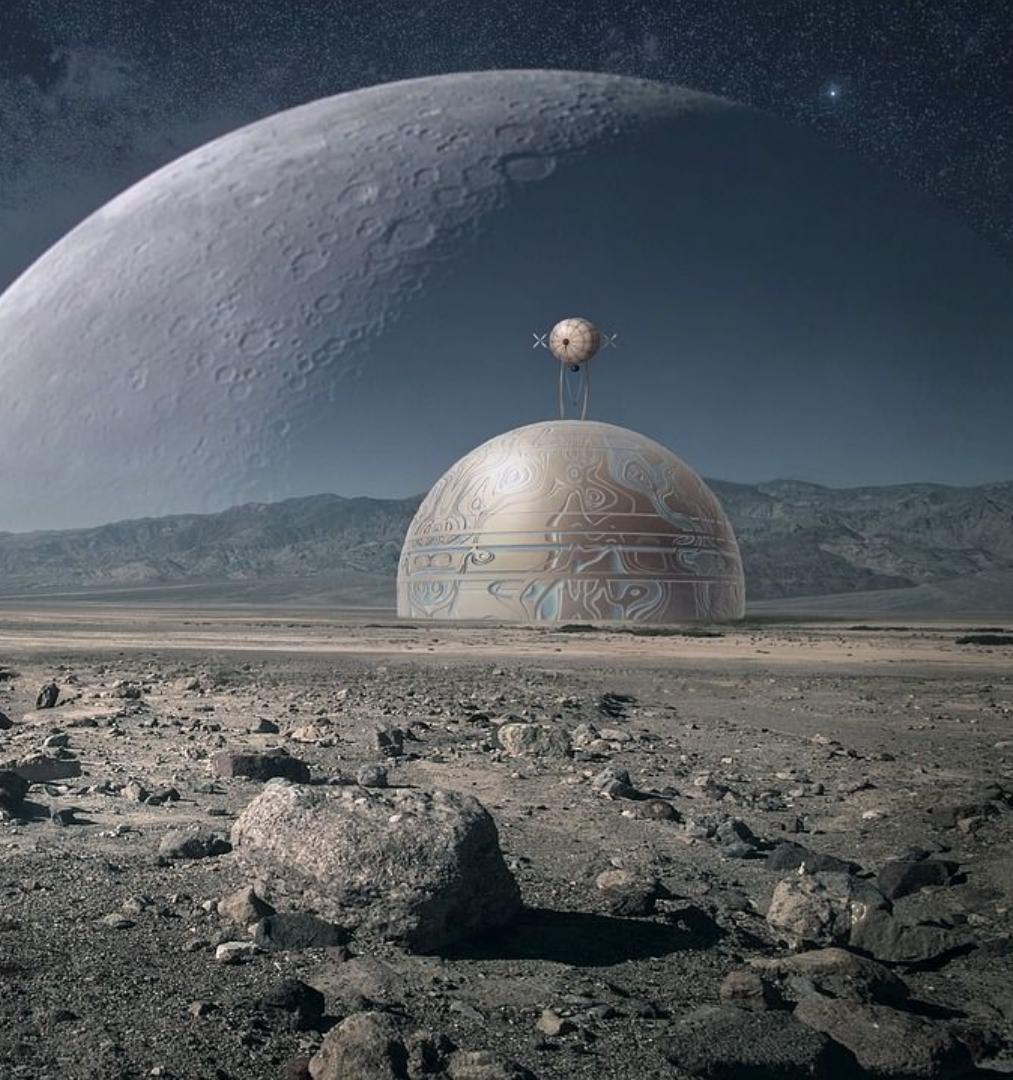


# Design for Change



# Evolutionary Design

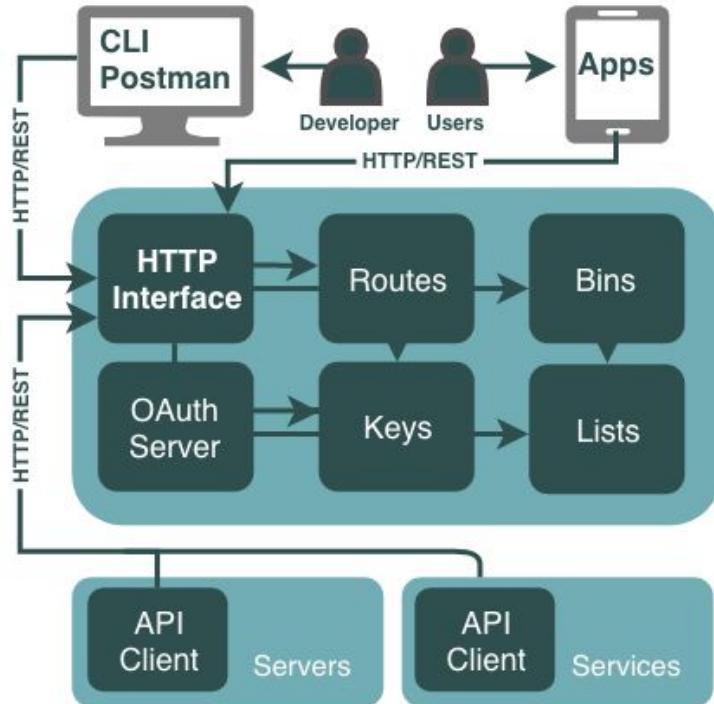




Kubernetes  
Microservices  
Kafka  
Elastic  
Zookeeper  
MongoDB

# Bambleweeny

- Lightweight HTTP/REST based Key-Value Store & Message Broker
- Multi-Tenancy → Manage Identities, Access & Quotas
- Fast, Easy to Use & Well-Documented
- Written in Python, using Redis, deployable in a tiny Container



# Your RedisConf19 session "Bambleweeny: Redis with HTTP & OAuth" has been accepted!

ⓘ You replied on Mon 2/25/2019 18:06

DN

Dave Nielsen <dave@redislabs.com>

Sat 2/23/2019 01:55



Uli Hitzel ▾

Dear Uli,

Thank you for submitting your talk to RedisConf19.

On behalf of the Speaker Selection Committee, I'm delighted to let you know that your talk has been accepted and we'd be honored to have you speak at RedisConf.



# Change the Way You Think

Monolith

Microservices

API Definition

Service Mesh

Generalist

Specialist

LinkedIn Profile

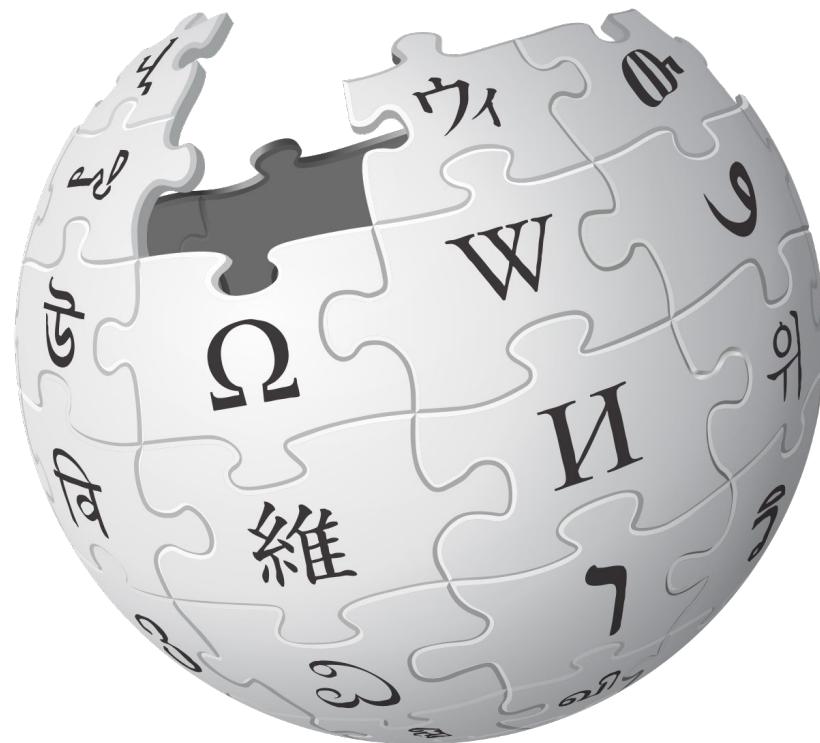
Community, Open  
Source, Purpose





# Arctic Code Vault

# Community Powered Innovation





**SCDF**  
The Life Saving Force



# myResponder App



**Summary:**  
**Uncertainty is the new**  
**'normal'. Design for Change.**  
**Specialize. Be verbose.**  
**Collaborate. Be part of a**  
**bigger thing.**



Uli Hitzel

Executive Geek

22h •

...

Please help me find a great title for one of my upcoming talks – I like 'How to Build a Death Star in One Day', but want something that sounds a little more positive. While staying geeky & referring to something that is HUGE and disruptive.

The story? With modular building blocks + APIs, effective use of the cloud & PaaS + the right approach you get results in days instead of months.



# THE MARTIANS





February 20th | Online Event

# Working from Mars: Staying Productive in Uncertain Times

Nations and corporations have called travel bans, quarantines, and are asking their associates to work from home. Schools may close and are starting to embrace online learning. How do we quickly move to a digital, distributed working style?

**Online Event: February 20th, 2pm SGT**

<https://martians.sg>

# Your Turn

- **Get:** A GitHub Account
- **Use:** LinkedIn. Add me.
- **Join & Share:** Help promote  
next week's event!



/u1i

