



Building Rome in One Day

Uli Hitzel
February 2020

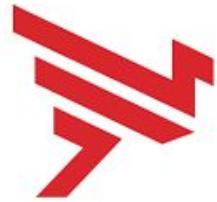


Sotong
Kitchen



NUS | Computing

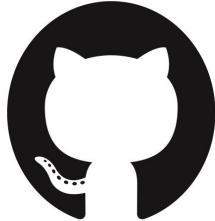
National University
of Singapore



Developer Advocate



/in/uhitzel



/u1i/slides



IBM





cosmicrenaissance

1,257 posts

194 followers

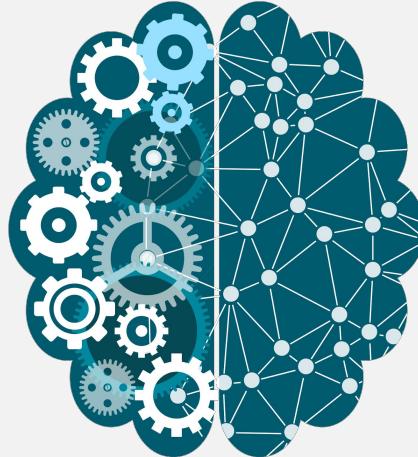
615 following

Just some guy, really.

+65

City life, scenery, food.

Camera: Samsung Galaxy S7/S9



{ api }

outdoor

city

water

train

plate

view

field

bench

crowd

piece

wine

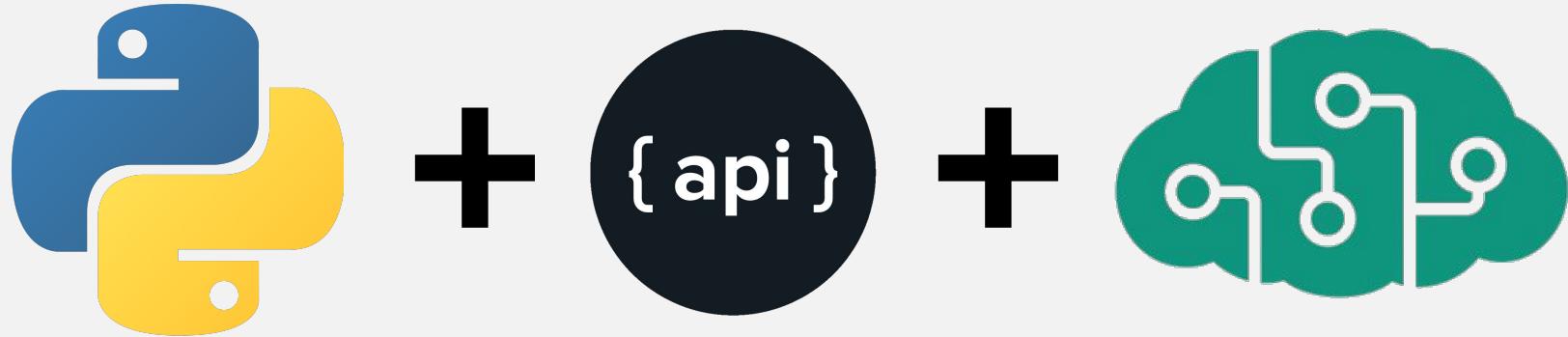
desk

light

young

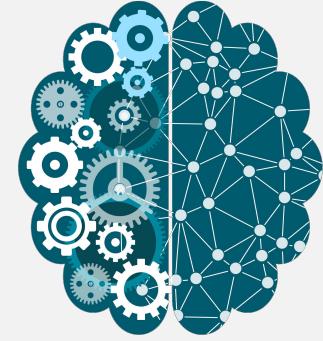
toppings

luggage



Microsoft

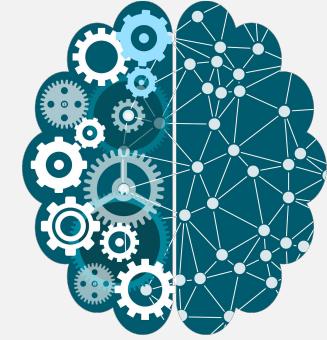
Cognitive Services



Text: "a close up of a pizza"

Confidence: 0.9246481371443355

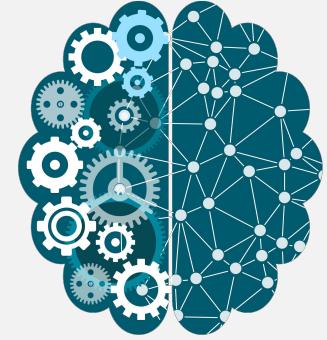
Tags: "pizza" "food" "table" "sitting" "cheese" "plate" "top" "piece" "slice" "toppings" "close" "eaten" "sauce" "covered" "wooden" "large" "pepperoni" "white" "pan"



Text: "a cup of coffee"

Confidence: 0.8527612488821656

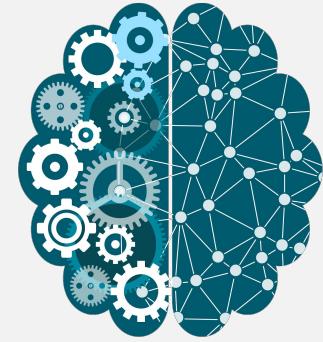
Tags: "cup" "table" "coffee" "food" "sitting" "drink" "plate" "sandwich" "breakfast"
"spoon" "glass" "close" "donut" "hot" "white" "phone" "soup"



Text: "a wooden table next to a window"

Confidence: 0.8365439206950018

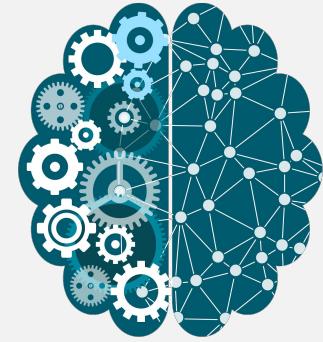
Tags: "table" "indoor" "window" "room" "sitting" "chair" "small" "desk" "wooden" "laptop" "lit" "top" "light" "counter" "computer" "living" "kitchen"



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 firsts summs from us
to nevared
Hath drwy iau'degof Yndystroddy to
dutives anf all sraw
ysell dys 1900 summl xoj nwoal Kic平 art

0000000

a decessis: ut post equos rufos varios
negros: et albos: et dissipatas quadrigas
et ecclesiam: et equum de ihesu: pauperem
regem vaticinatur: et predictum 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 regi-
num: et num? non suscipiam de manu
vestra. Ab ore enim solis usq; ad oc-
culum magnum est uomen meu in gen-
tibus: et in omni loco sacrificatur et
officetur nomini meo oblatio munda.
Viam: ibreniam: ezechiel: et daniel:
quis potest uel intelligere vel respondere?
Duorum prim? non prophetiam vide-
tur nichil recte sed euangelium. Hecun-
duis uirgam uiceam et ollam acce-
sam a facie aquilonis: et pardum spo-
liani sui coloribus: et quadruplices di-
uines metis nedit alphabetum. Iter-
nus principia et finem tantum habet
obscuritatis iniulata: ut apud he-
breos ipse partes cum cordio gene-
os ante annos migrauit non legantur.
Quare vero qui et egerent inter qua-
mum prophetas temporum consuls: et
tonus mundi philohistoricus lapide
precisum de monte sine manibus: et
regna omnia subuertentem claro sce-
mone pronuntiatur. David symonides
nostr? pindarus et alchimus flaccus
quoniam carulus ang? serenus casti lycra
predicat: et in decacordo psalterio ab
infantibus resurgantur. Salomon
panificus et amabilis domini morea cor-
rigit: naturam docet: ecclesia iugit et
prophetia: et scripturae ueritatem dulce canit.

retribue miratur i posteros. Paralipome-
non liber instrumentum ueroris epiphonē
tante ac talis est: ut absq; illo si q; sci-
entia scripturarū sibi voluerat accrogere
scīpū recidat. Per singula quippe noīa
indurasq; uerbor? et permisile i regū li-
bris rāgū historie: et immutabiles
replicans cuādī questiones. Edora
et neamas: et admiror uidelicet et conso-
latores a dūo: in uno volumine arean-
tur: instaurare templū: muros exten-
sive ciuitatis: omnibus illa turba psl
redunus in partiā: et descripicio sacre-
domini: leuitas: israhelis: pleitor: ac
et singulas familias muroz et turren
opera diuisa: aliud in cortice plearunt:
aliud in medulla reuident. **L**euis me
scripturas amore rapu: et possesse mo-
dum epistolole: et tamē non impelle qd
volui. **A**ndiuim? tamē qd nolle quid
super debeam: ut et nos q; possum
dicere: concipiuit anima mea deside-
rare iustificationes tuas i omni tēpore.
Leatu illud locan cu implure in no-
bis. **H**oc tamē scio qd nescio. Tangu
et nonū breuiter testimoniū. **M**attheo:
marcus: lucas: et iohannes quadriga
dñi: et uero threubin qd interpretat sc̄i-
entie plenitudo pr? totū corpus oculati
sunt: sancte tuuicant: discantur ful-
gura: pedes habent redos: et in sub-
lime tendentes: terga pennata: et ubiq; uol-
antia tenent se mutuo sibiq; perple-
xi sunt: et quasi rota in rotam uolu-
ntur: et pergit quodcuq; eos stat spire
sancti pduerit. **P**aulus ap̄s ad sept̄
scriptas: octaua enim ad hebreos
a plesq; et cetera numeri ponit. **T**himo-
neum in hebreos et plurimum pre-

sonare historiam et nascens ecclie
infamia trece: sed si nouitum scripto-
rem eoru lucam esse medicum: cum
laus est i euangelio: animaduictum
parere omnia verba illius anime lan-
guens esse medicina. **J**acobus: pte.
iohannes: iudas: septem epistles edi-
derunt tam multas q; succindas: et
breves parere et longas: breves in ure-
bia: longas in semper: ut rarus sit
qui noī in earu occular letione. **A**po-
calypsis iohannis tot habet sacramen-
ta quot verba. **P**arū dixi: et pro medi-
to voluminis laus omnis inferior est.
In verbis singulis: multiplices latente
intelligente. Oro te faciat carissime
intra huc viuere ista meditari: nil ali-
ud nosse: nichilq; aliud querere: non
videtur tibi iam hic in terris regni ce-
lestis habitaculū. **A**olo ut offendari
in scripturis sanctis: simplicitate et qsi
uilitate uerbor? que uel unio incepit
uel de industria sic prolate sunt: ut ri-
sticam conitionem facilius instrueret:
et in una eademq; sententia aliore do-
dus: aliore sentiret in dodus. **N**ō sum
tam p̄uulans et habes ut huc me nos-
se pollicar: et eoru fruitus carpere i ter-
ra quorū radices in celo fixe sunt: sed
velle fatior: sedem me prefaco: magi-
strum rurum comitem spundo. Pe-
tem datur: pulsanti appetitur: quecū
inuenit. **D**iscam i terris: quos sancti
nobis p̄fuerent in celo. **O**buius te ma-
nibus exponi: et ut ingre aliquid ac de-
canagore tumiditate effundit: quiq; qd
questeris tecum scire conabor. **C**an-
Debes hic amannissimum qui sōn-

eloquij uenustatē etiā absq; illo ipsa
epistola p̄ferbar. **F**elina questo te: et
hacten i salo nauncile funem magis p-
loide q; solue. **N**emo remūciatur
seculo bene potest vendere: que coti-
pliit ut vendere. Quicquid in sumptu
te tuo nescias: pro luco computa. An
aīcum dictum est. **A**uaro deit tam qd
habet: q; quod non habet. **L**edent
tous inuidus dūmārū est. **I**nfectus
aut enī obulo indiget. **S**ic vivam
quasi nū habentes: et omnia possiden-
tes. **V**ictus aīq; vestitus diuine epia-
norū. **S**i habes in portæ reu tua
vende: si non habes proice. **T**ollenti
tunicam: et pallium relinquendū est.
Nisi calice tu semper excauans et
diu de die trahēs cause: et pectinum
tuas possessandas vendidiras: non
habet xps unde alat pauperes suos.
Tonū deo dedit: quē se obrulit. **A**posto-
li tamē naue: et reia relinquēat: vi-
dua duo era mittit in grecophilam:
et pfectur eccl diuinijs. **F**acile depin-
qia: qui se semper cogitat esse moriorū.
Epilogū capitulo plogū i lūs mōsi

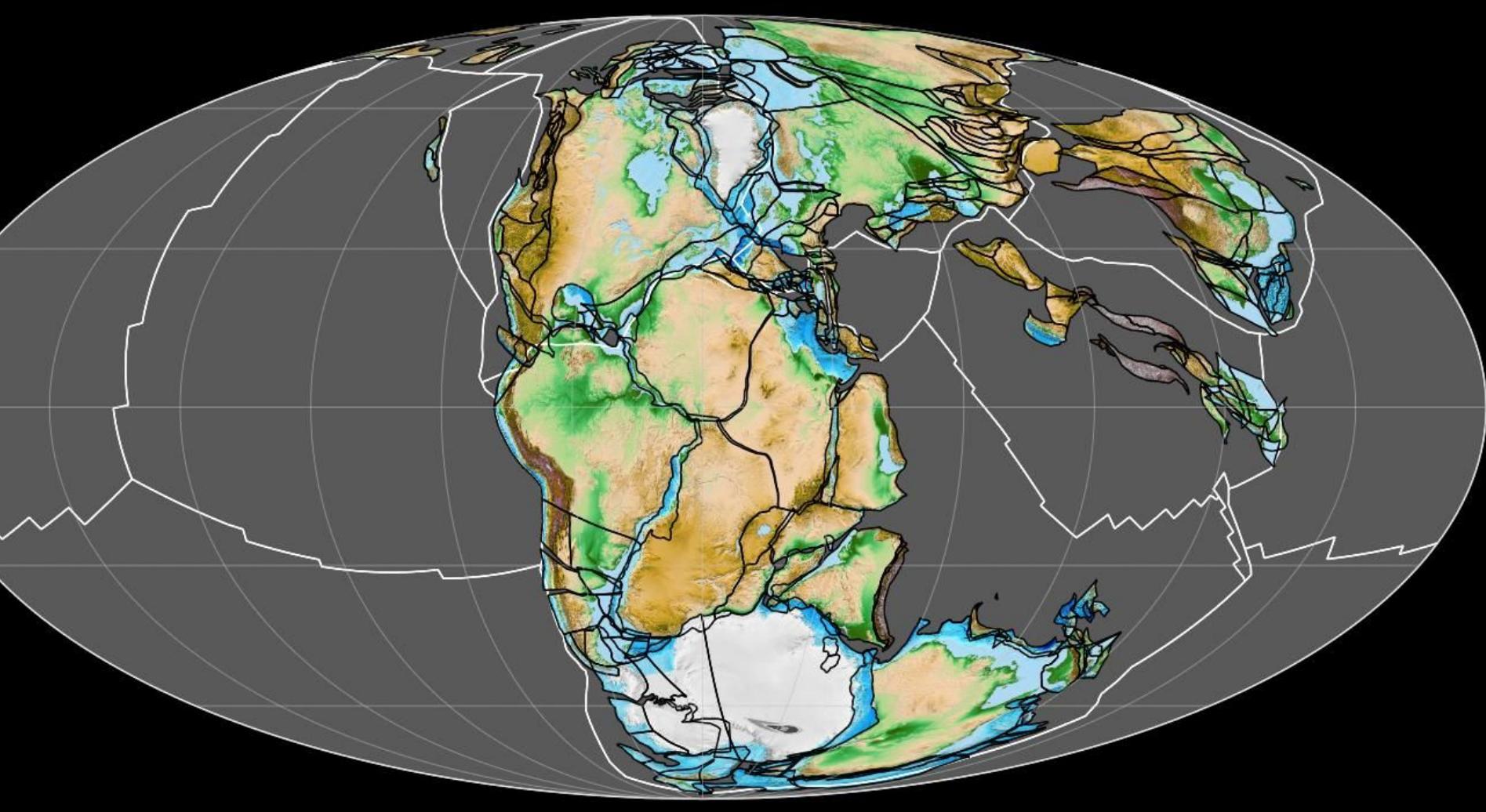
Elderū mei desideratas
acepi litteras: qui quodā
presagio futurorū: cum
daniele sonū est nomen
obscurantis: ut translatum in latini
linguam de hebreo sermonē pentha-
tecum nostrorū auribus tradet. **P**e-
niciolus opus certe: et obsecratorū
meorū lactambus patens: qui me asse-
runt i sepraginta inceptum surgilla-
nonem: noua p veteribus caderet: ita
ingenui qsi vīnu probantes: cum ego



entropy

/'entrəpi/

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



From Monolith to Distributed Systems

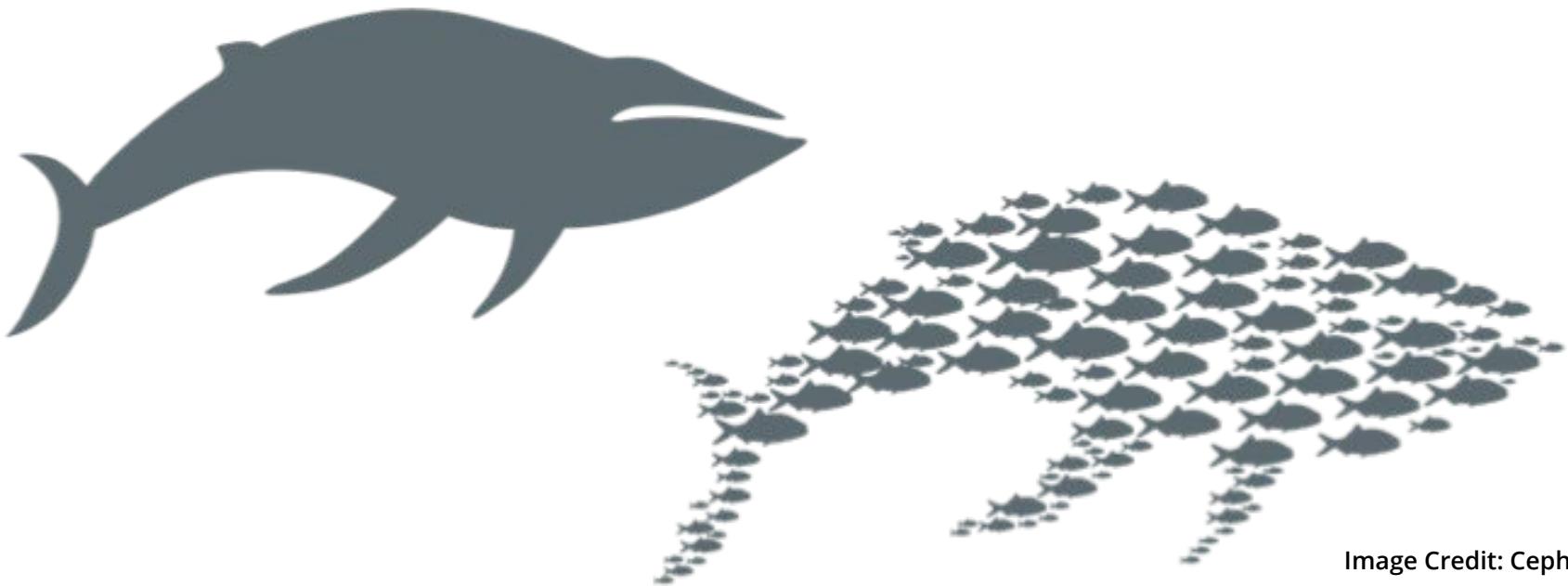


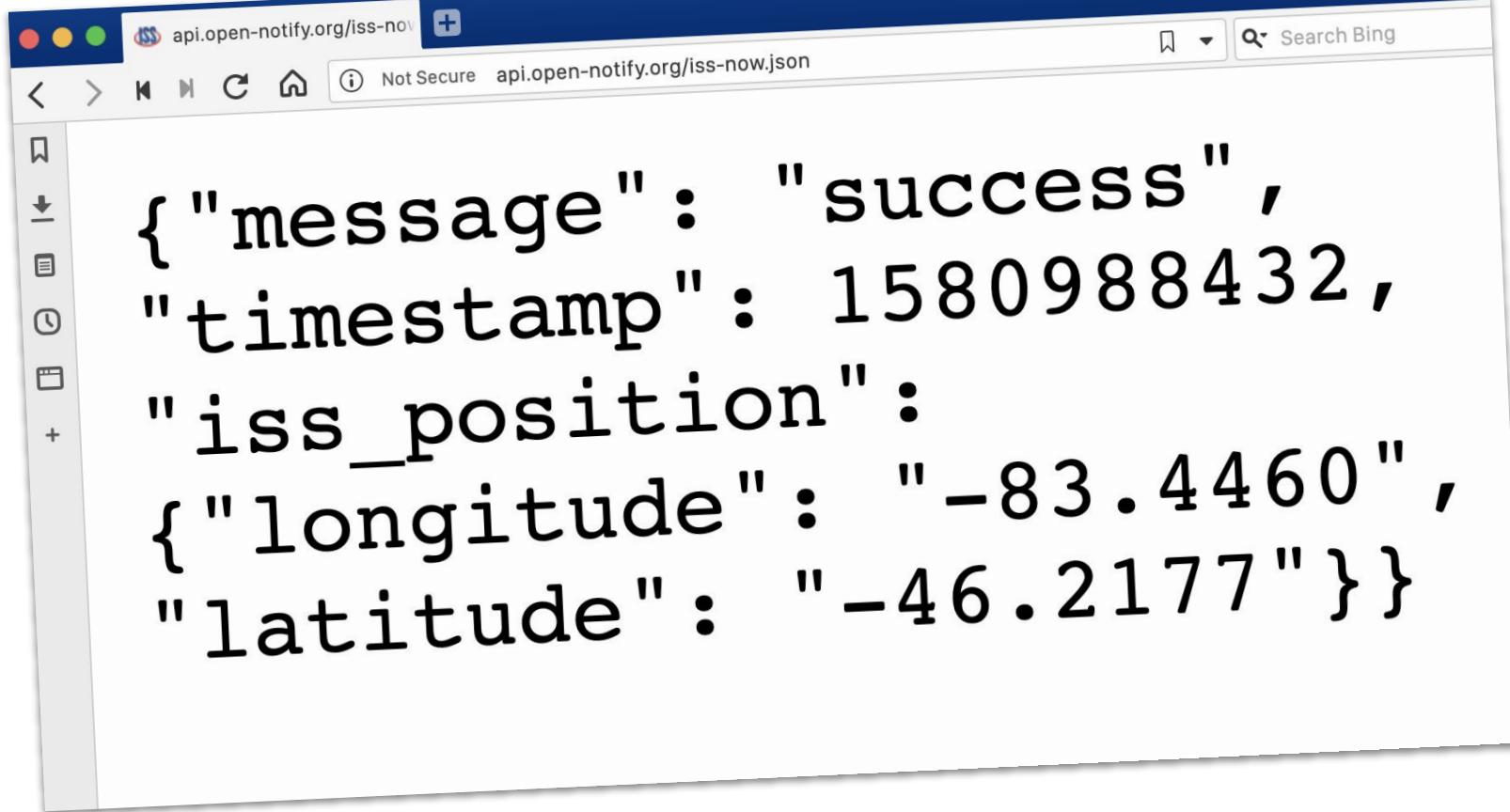
Image Credit: Ceph/RH

Modular Building Blocks that have APIs





**Summary:
Things have
become
COMPLICATED.**



A screenshot of a web browser window displaying a JSON response. The URL in the address bar is `api.open-notify.org/iss-now.json`. The browser interface includes standard controls like back, forward, and search, along with a sidebar on the left containing various icons.

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

Agenda

1 – Entropy & Distributed Systems

2 – The Good & The Bad

3 – Then... how?



that to firsts summs from us
that to us by industry to never end
that we will never want
that we will never lack
that we will never be poor

De Natura

Murder Mystery Games





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

- **[Arts and Humanities](#)** [Xtra!]
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...
- **[Reference](#)**
Libraries, Dictionaries, Phone Numbers...
- **[Regional](#)**
Countries, Regions, U.S. States...
- **[Science](#)**
CS, Biology, Astronomy, Engineering...
- **[Social Science](#)**
Anthropology, Sociology, Economics...
- **[Society and Culture](#)**
People, Environment, Religion...

[Yahoo!ligans!](#) for Kids - [Beatrice's Guide for Women](#) - [Yahoo! Internet Life](#)
[What's New](#) - [Weekly Picks](#) - [Today's Web Events](#)
[Visa Shopping Guide](#) - [Yahoo! Store](#)

[World Yahoos](#) [Australia & NZ](#) - [Canada](#) - [France](#) - [Germany](#) - [Japan](#) - [Korea](#) - [UK & Ireland](#)
[Yahoo! Metros](#) [Atlanta](#) - [Austin](#) - [Boston](#) - [Chicago](#) - [Dallas / Fort Worth](#) - [Los Angeles](#)
[Get Local](#) [Miami](#) - [Minneapolis / St. Paul](#) - [New York](#) - [S.F. Bay](#) - [Seattle](#) - [Wash D.C.](#)

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

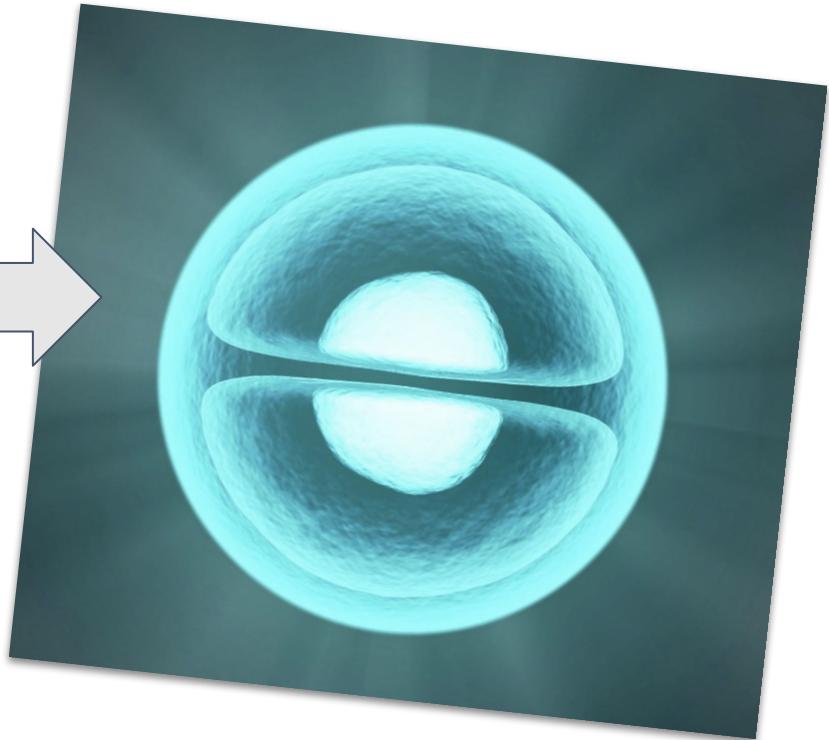
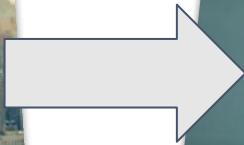
1 – Entropy & Distributed Systems

2 – The Good & The Bad

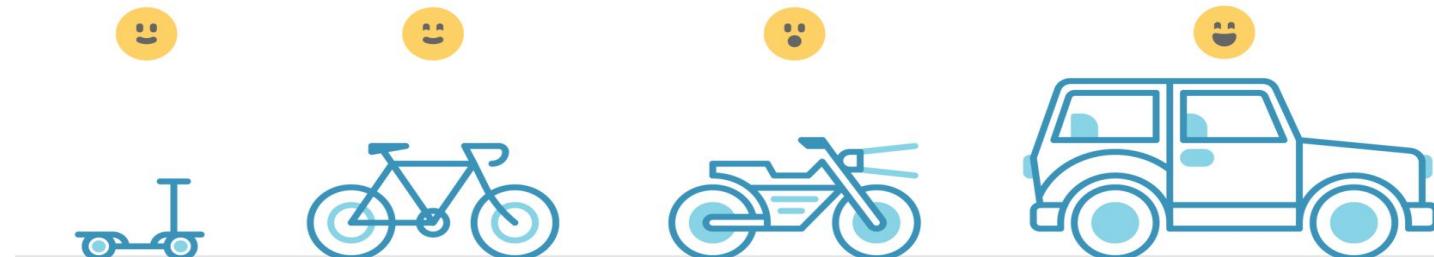
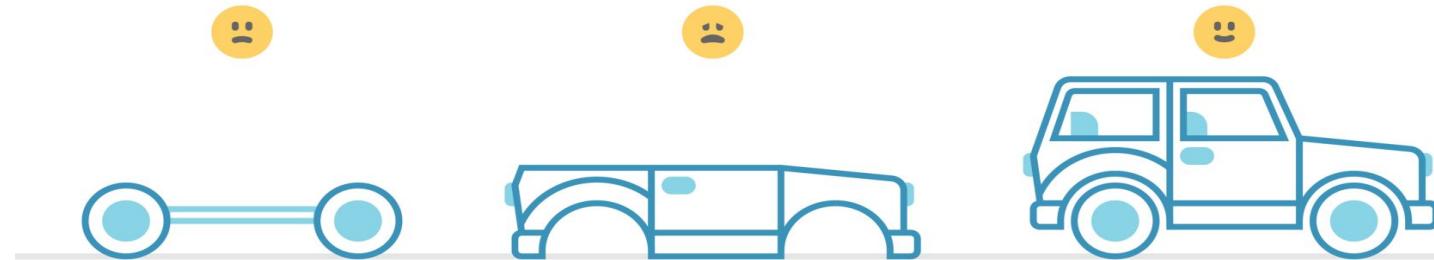
3 – Then... how?

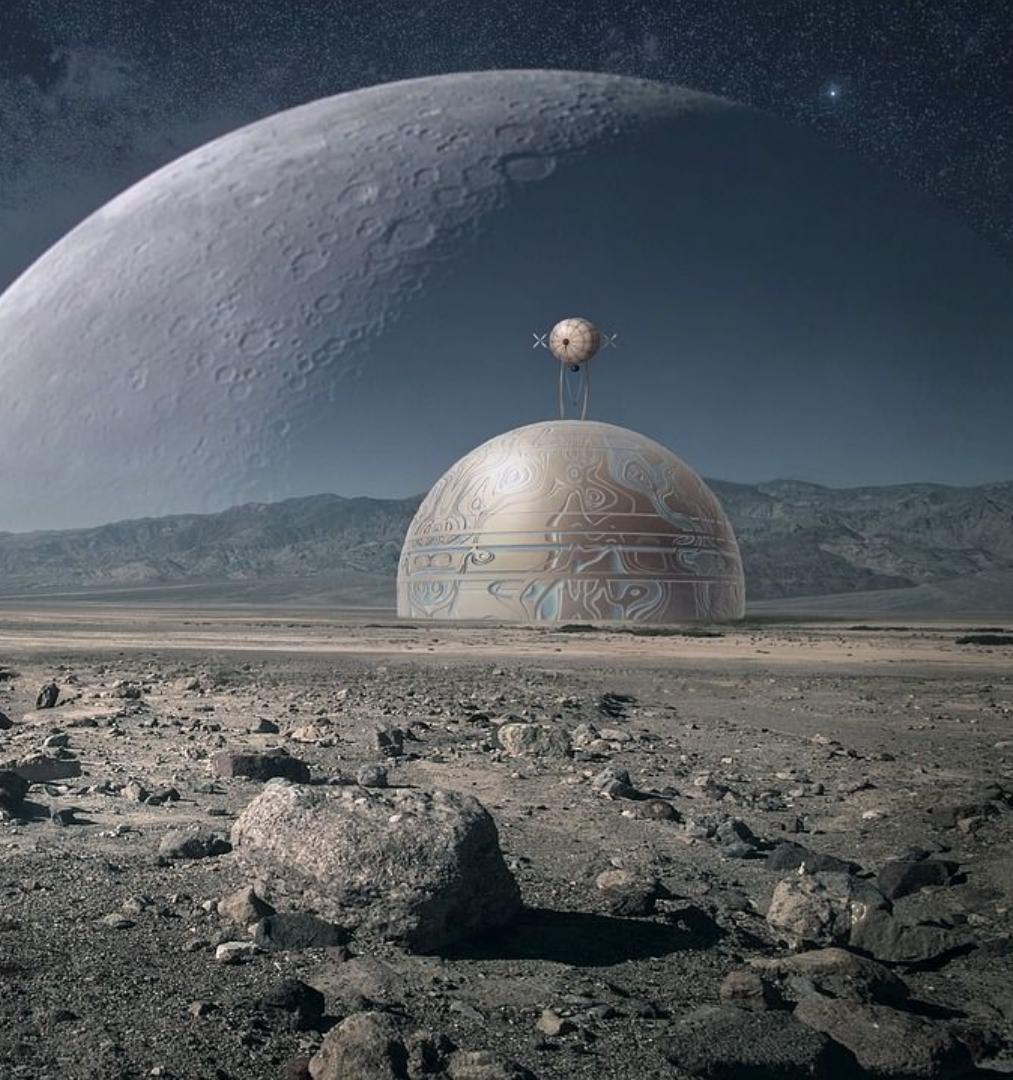


Design for Change



Evolutionary Design

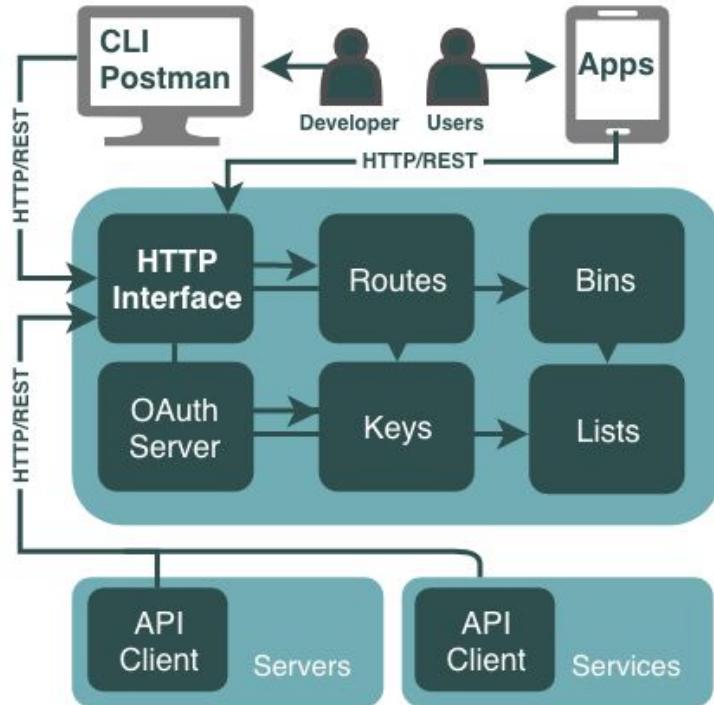




Kubernetes
Microservices
Kafka
Elastic
Zookeeper
MongoDB

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.



Specialize

Monolith

Microservices

API Definition

Service Mesh

Generalist

Specialist

LinkedIn Profile

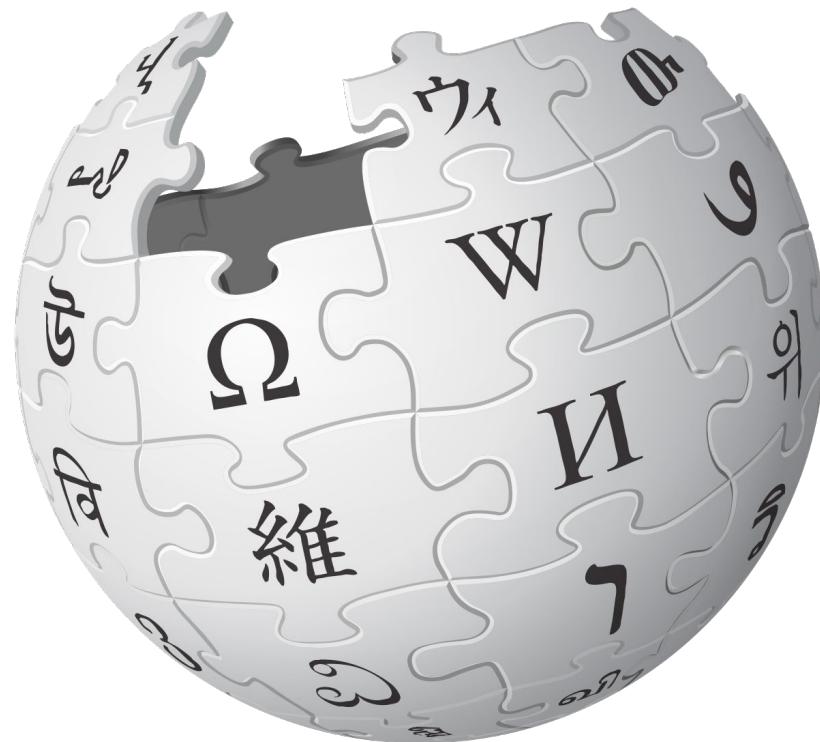
Community, Open
Source, Purpose





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

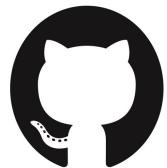
Nations and corporations have called travel bans, quarantines, and are asking their associates to work from home. Schools may close and are starting to embrace online learning. How do we quickly move to a digital, distributed working style?

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

