بسم الله الرحمن الرحیم

سمینـــــار (کارشناسی ارشد)

درس ۸

نقشه‌ی ذهنی ـ نقشه‌ی مفهومی

Mind-map – Concept-map

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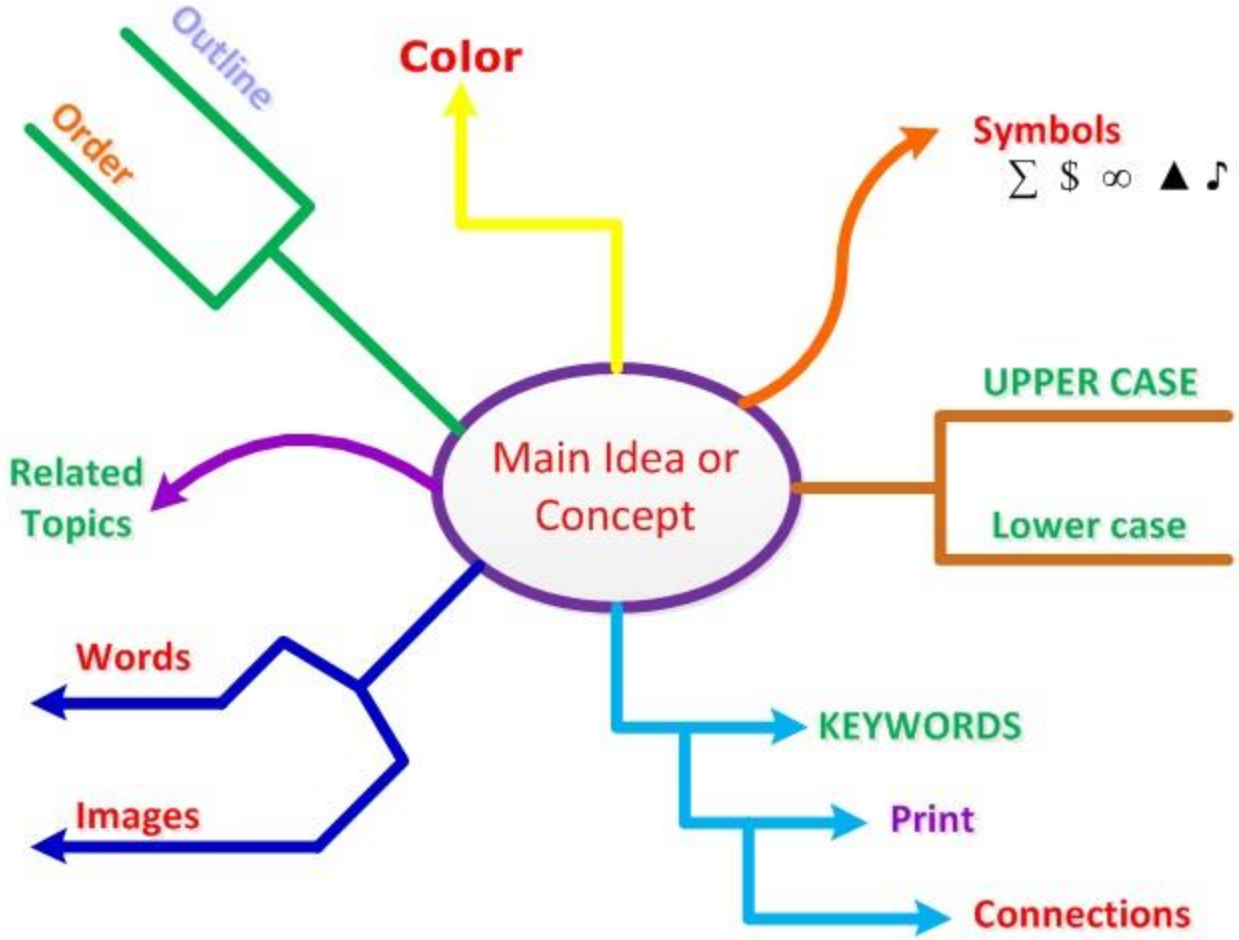
دانشگاه تهران

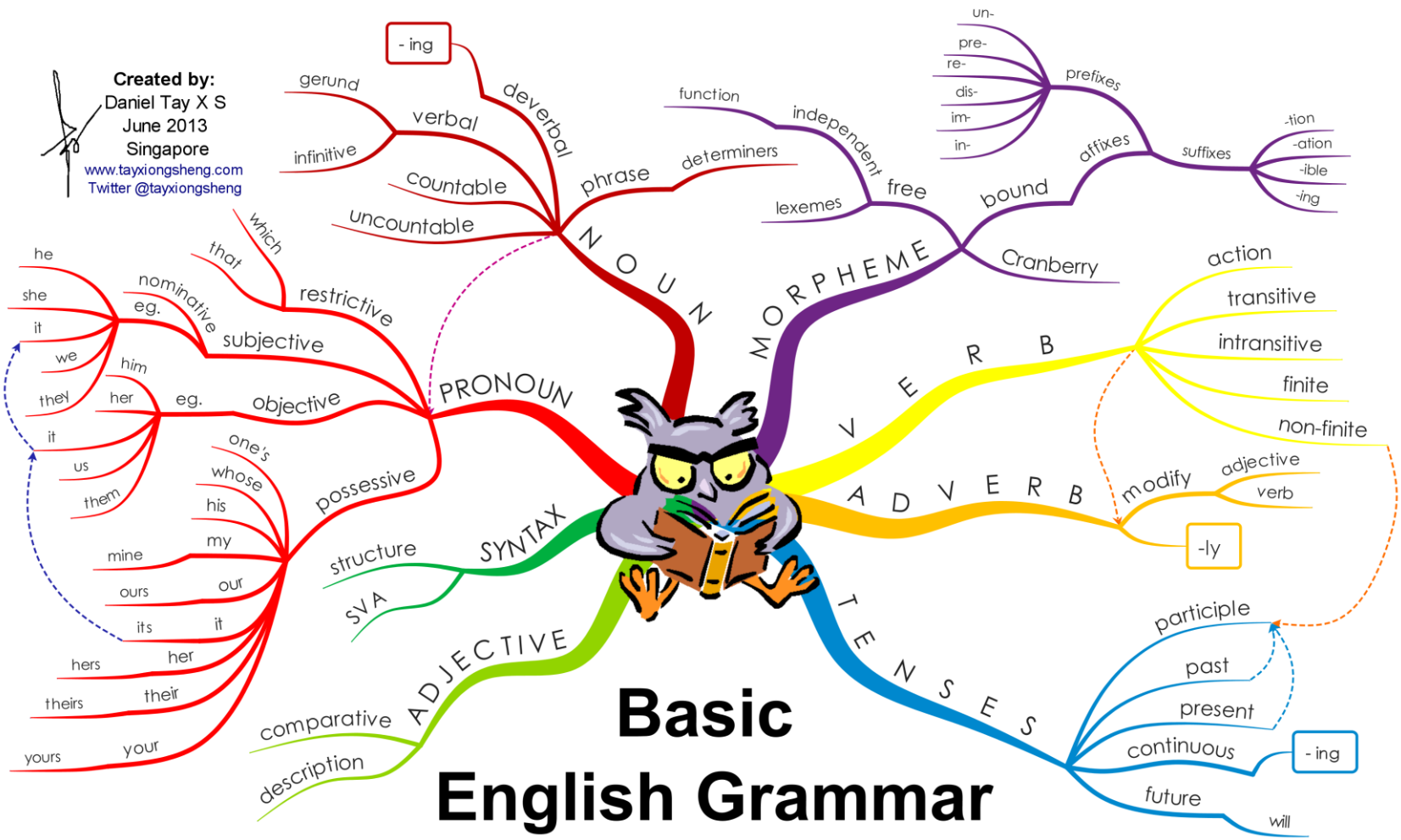
http://courses.fouladi.ir/seminar

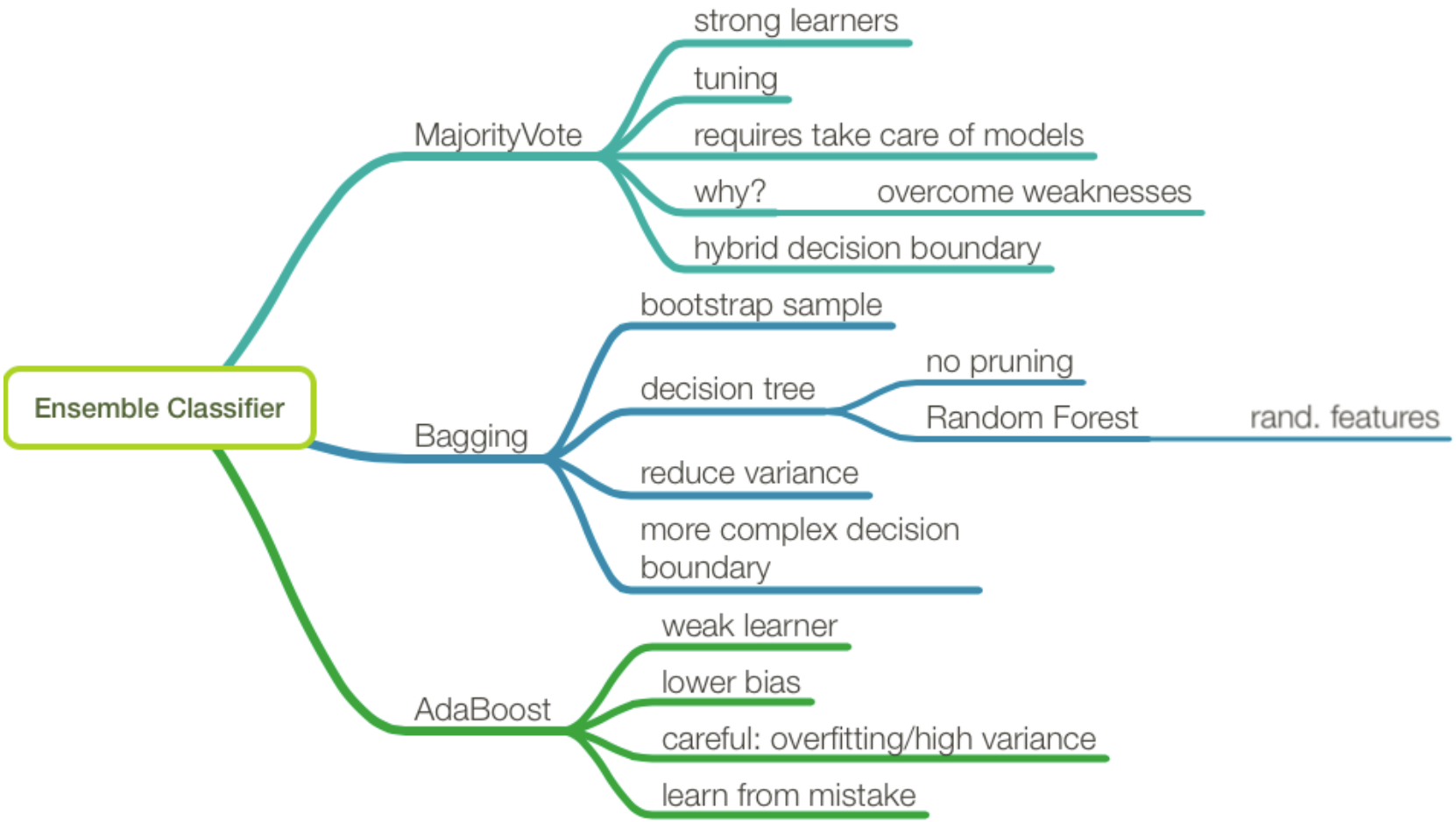
Mind-Map

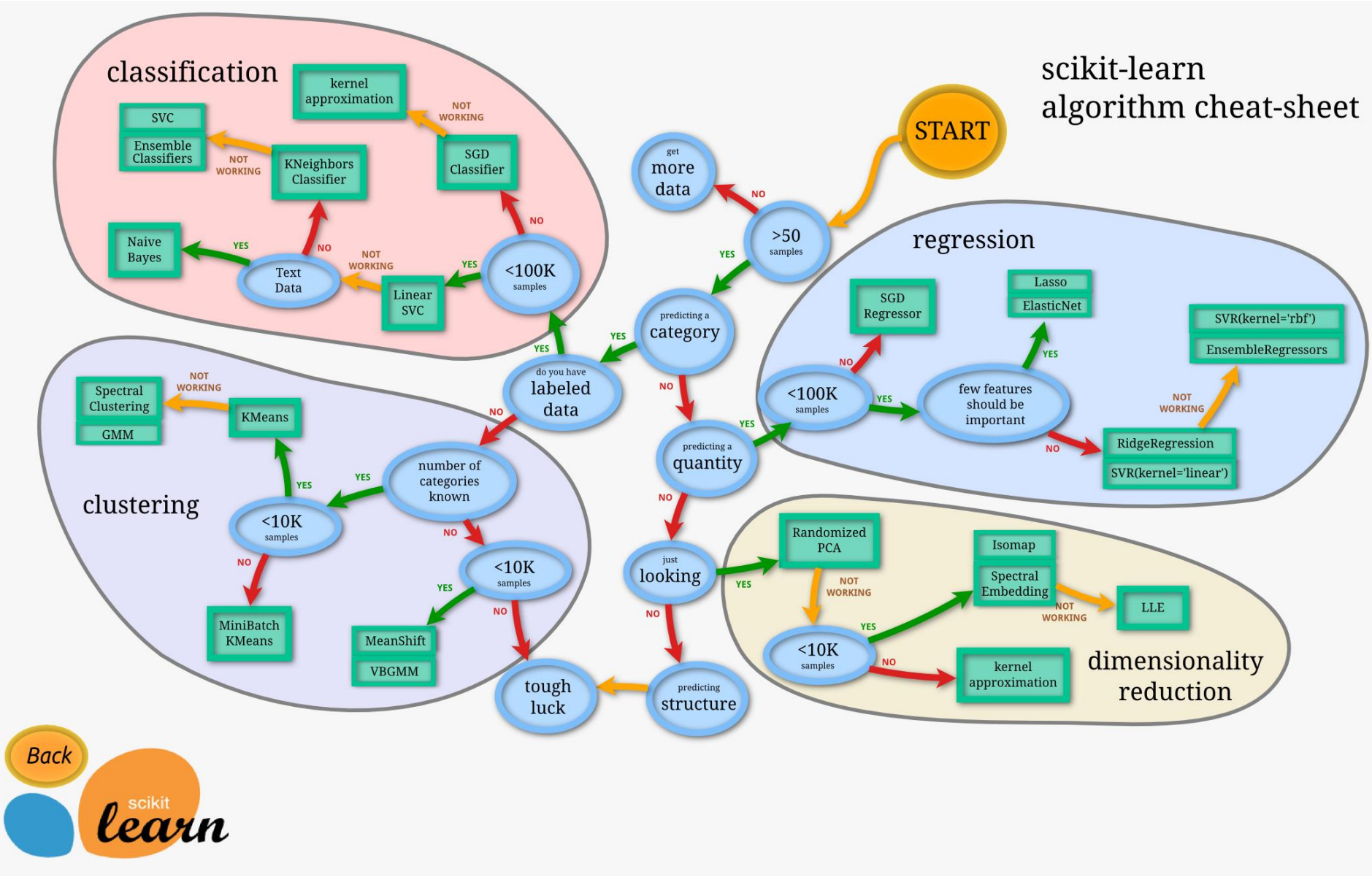

Outline
Order
Color
Symbols
∑ $ ∞ ▲ ♪
Related
Topics
Main Idea or
Concept
UPPER CASE
Lower case
Words
Images
KEYWORDS
Print
Connections


Mind Map Guidelines
Clarity
hierarchy
order
outlines
Center
Start
image
of topic
at least 3
colors
Style
personal
develop
Use
Links
Colors
Emphasis
images
codes
dimension
Keywords
print
case
UPPER and lower
lines
organised
central
thicker
more important
outer
thinner
less important
for each
word
image
alone
connect
center
radiate out
style
organic
free
flowing
length
same as
word
image


Uses
of
Mind Mapping
Clarify the Goals
Global Vision
Project Management
Understanding Complexity
Decision Taking
Planning Activities
Preparing for Negotiation
Make Learning a Pleasure
Creativity
Analysis
Teamwork
Meetings Management
Note Taking
Information Management
Problem Solving
Improve Memory


Created by:
Daniel Tay X S
June 2013
Singapore
www.tayxiongsheng.com
Twitter @tayxiongsheng
Basic
English Grammar
NOUN
deverbal
- ing
gerund
verbal
infinitive
countable
uncountable
phrase
determiners
PRONOUN
nominative
eg.
subjective
he
she
it
we
they
restrictive
which
that
objective
him
her
eg.
it
us
them
possessive
one's
whose
his
my
mine
our
ours
its
it
hers
her
theirs
their
yours
your
MORPHEME
function
independent
free
lexemes
bound
affixes
prefixes
un-
pre-
re-
dis-
im-
in-
suffixes
-tion
-ation
-ible
-ing
Cranberry
VERB
action
transitive
intransitive
finite
non-finite
ADVERB
modify
adjective
verb
-ly
TENSES
participle
past
present
continuous
- ing
future
will
SYNTAX
structure
SVA
ADJECTIVE
comparative
description


Ensemble Classifier
MajorityVote
strong learners
tuning
requires take care of models
why?
overcome weaknesses
hybrid decision boundary
Bagging
bootstrap sample
decision tree
no pruning
Random Forest
rand. features
reduce variance
more complex decision boundary
AdaBoost
weak learner
lower bias
careful: overfitting/high variance
learn from mistake


scikit-learn
algorithm cheat-sheet
START
get more data
NO
>50 samples
YES
predicting a category
YES
do you have labeled data
YES
<100K samples
YES
Linear SVC
NOT WORKING
Text Data
NO
Naive Bayes
YES
KNeighbors Classifier
NOT WORKING
Ensemble Classifiers
SVC
SGD Classifier
NOT WORKING
kernel approximation
NO
classification
NO
predicting a quantity
YES
<100K samples
NO
SGD Regressor
YES
few features should be important
YES
Lasso
ElasticNet
NO
RidgeRegression
SVR(kernel='linear')
NOT WORKING
SVR(kernel='rbf')
EnsembleRegressors
regression
NO
just looking
YES
Randomized PCA
NOT WORKING
<10K samples
YES
Isomap
Spectral Embedding
NOT WORKING
LLE
NO
kernel approximation
dimensionality reduction
NO
predicting structure
tough luck
NO
number of categories known
YES
<10K samples
YES
KMeans
NOT WORKING
Spectral Clustering
GMM
NO
<10K samples
NO
MeanShift
VBGMM
YES
MiniBatch KMeans
clustering
Back
scikit learn

Concept-Map

Components of a Concept Map

Links:

Identify the type of relationship

Types of Links:

Inclusion

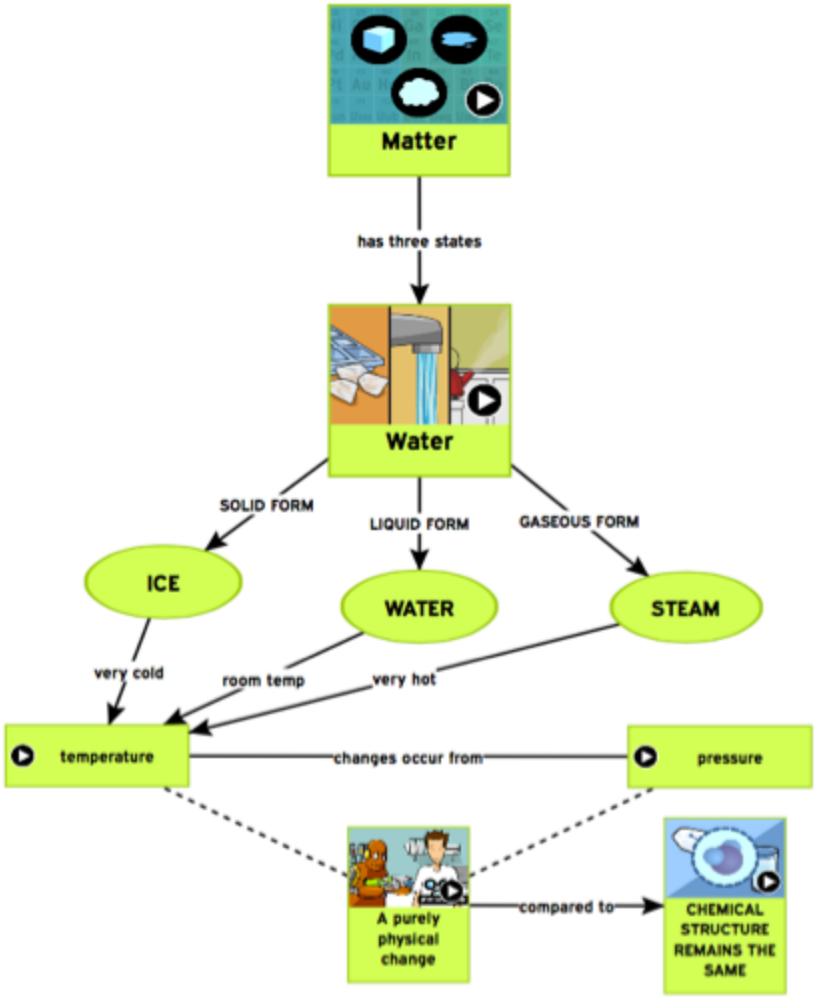
Characteristics

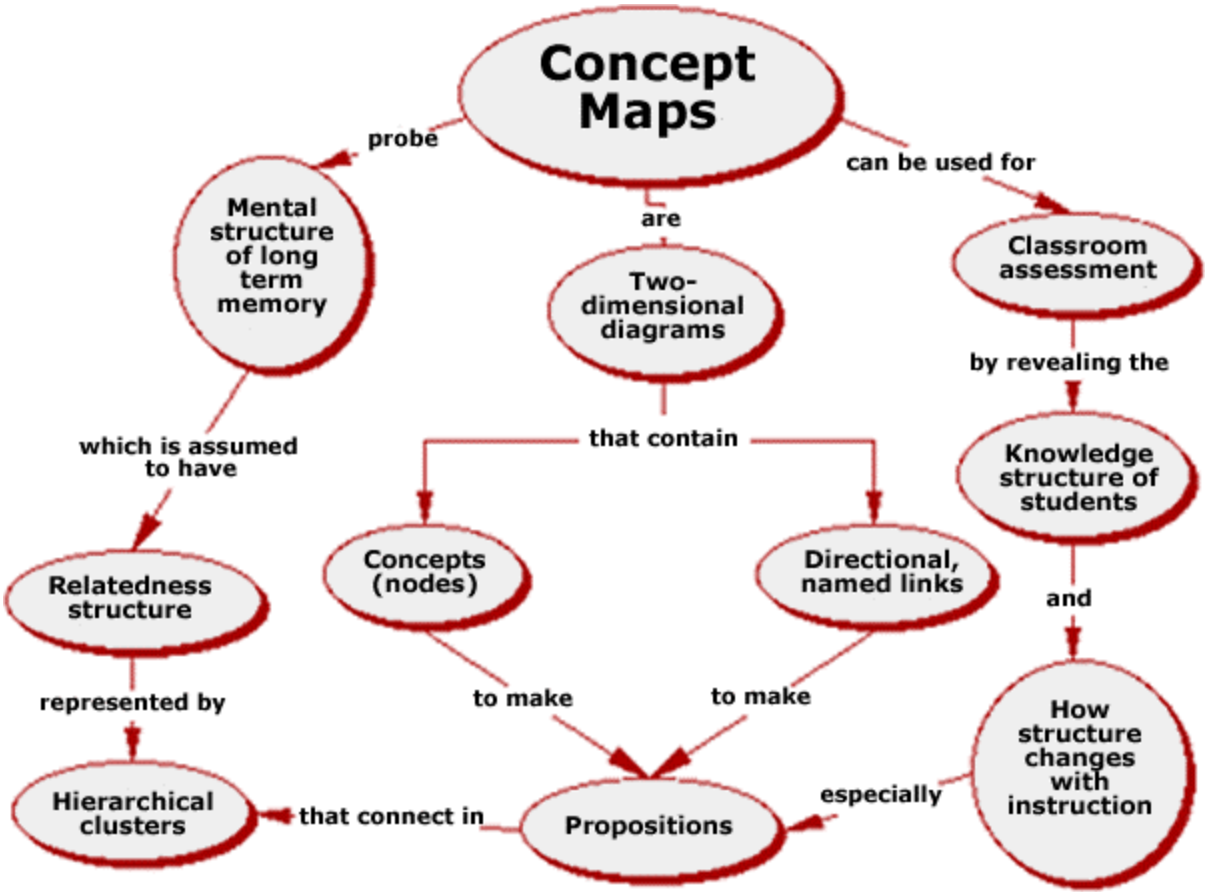
Actions

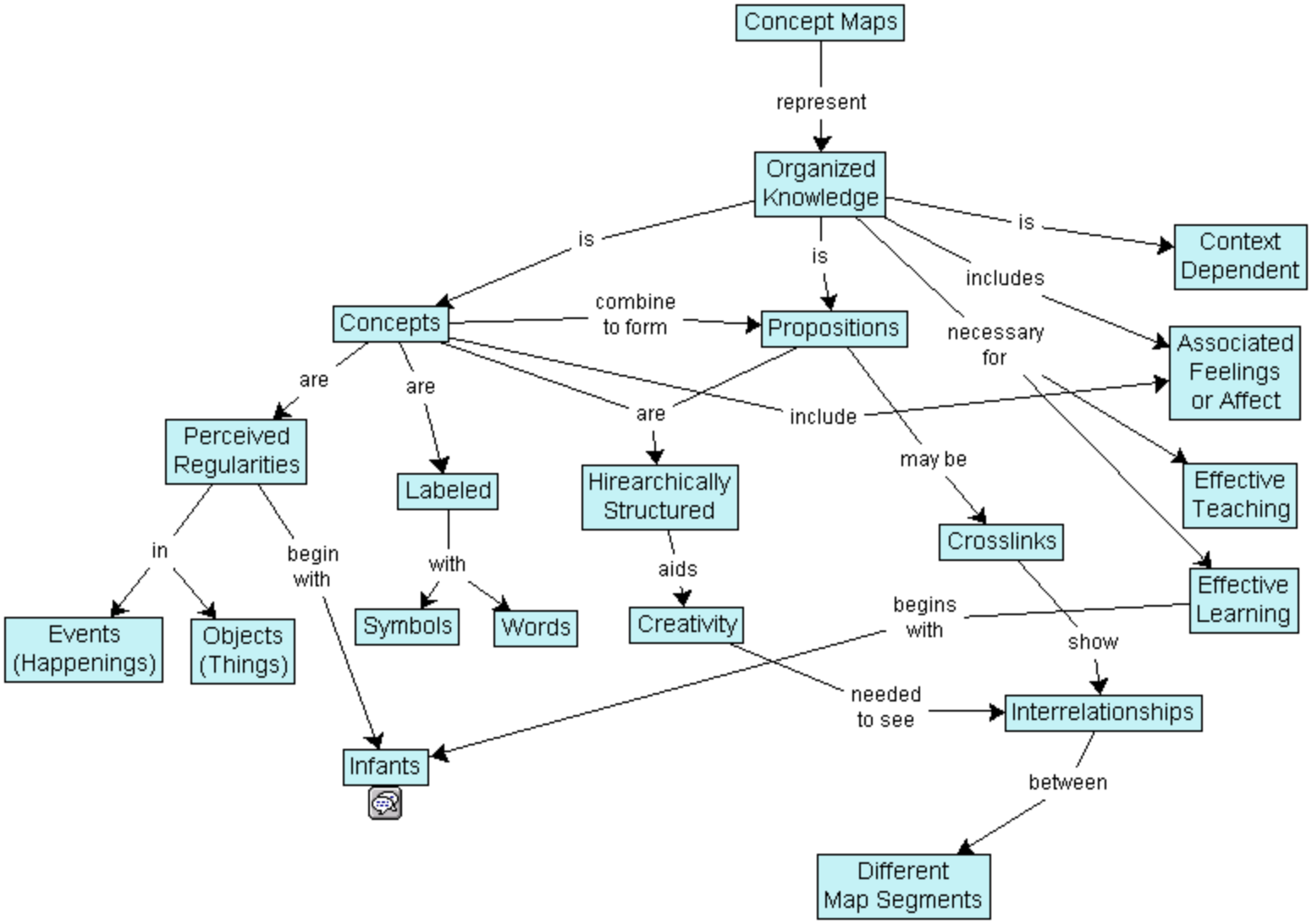
Process

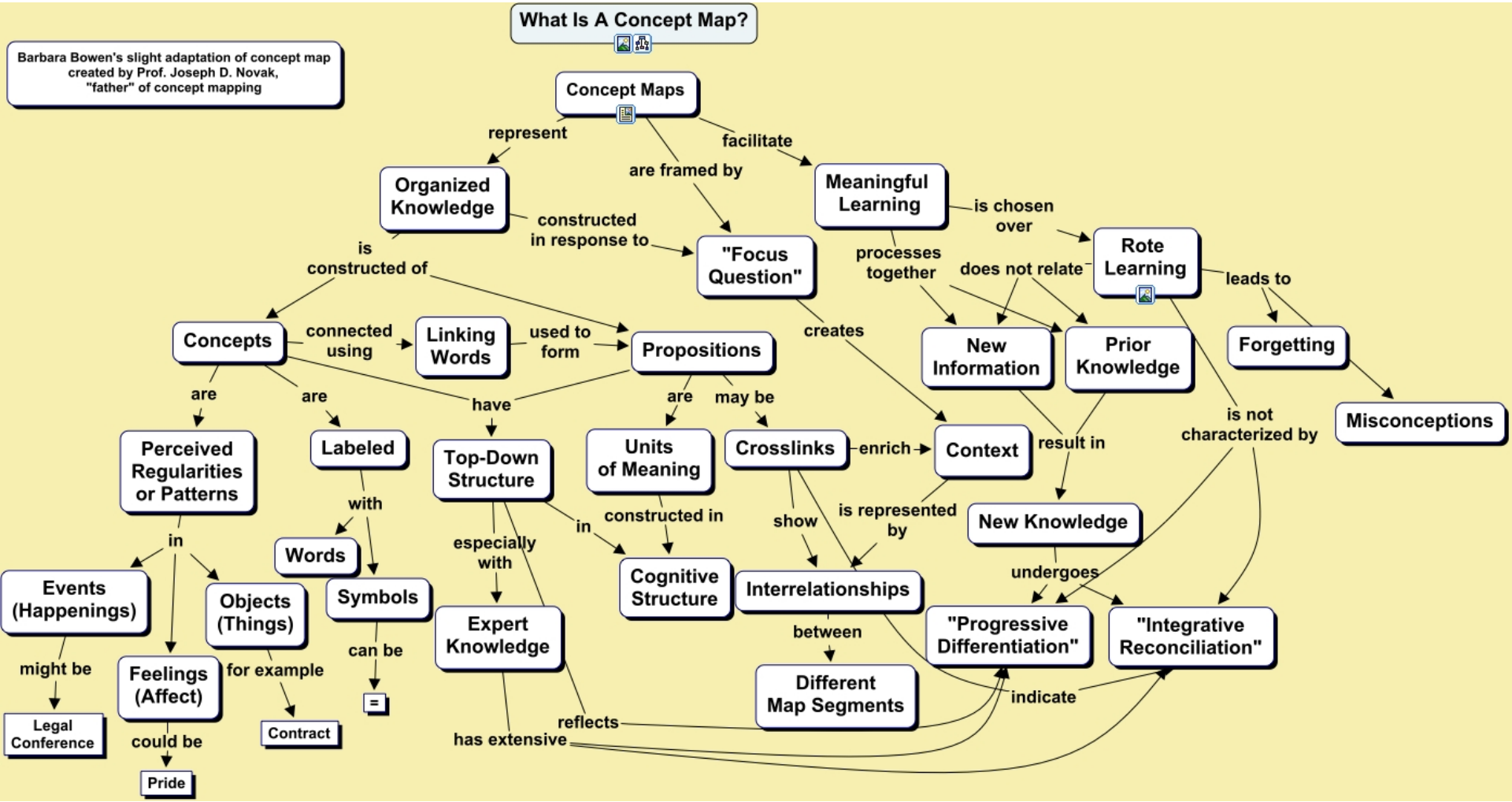
Temporal

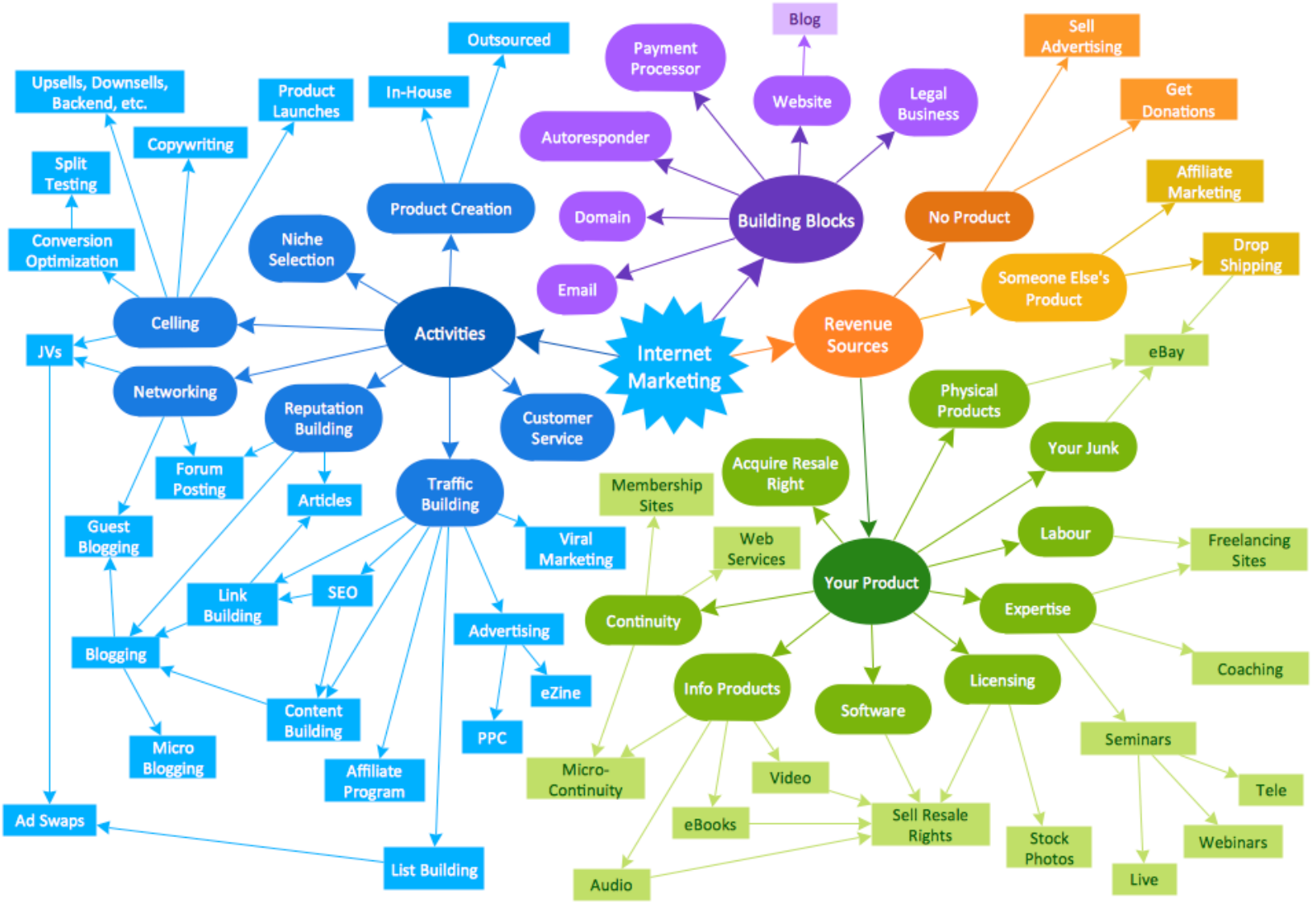
Similarity

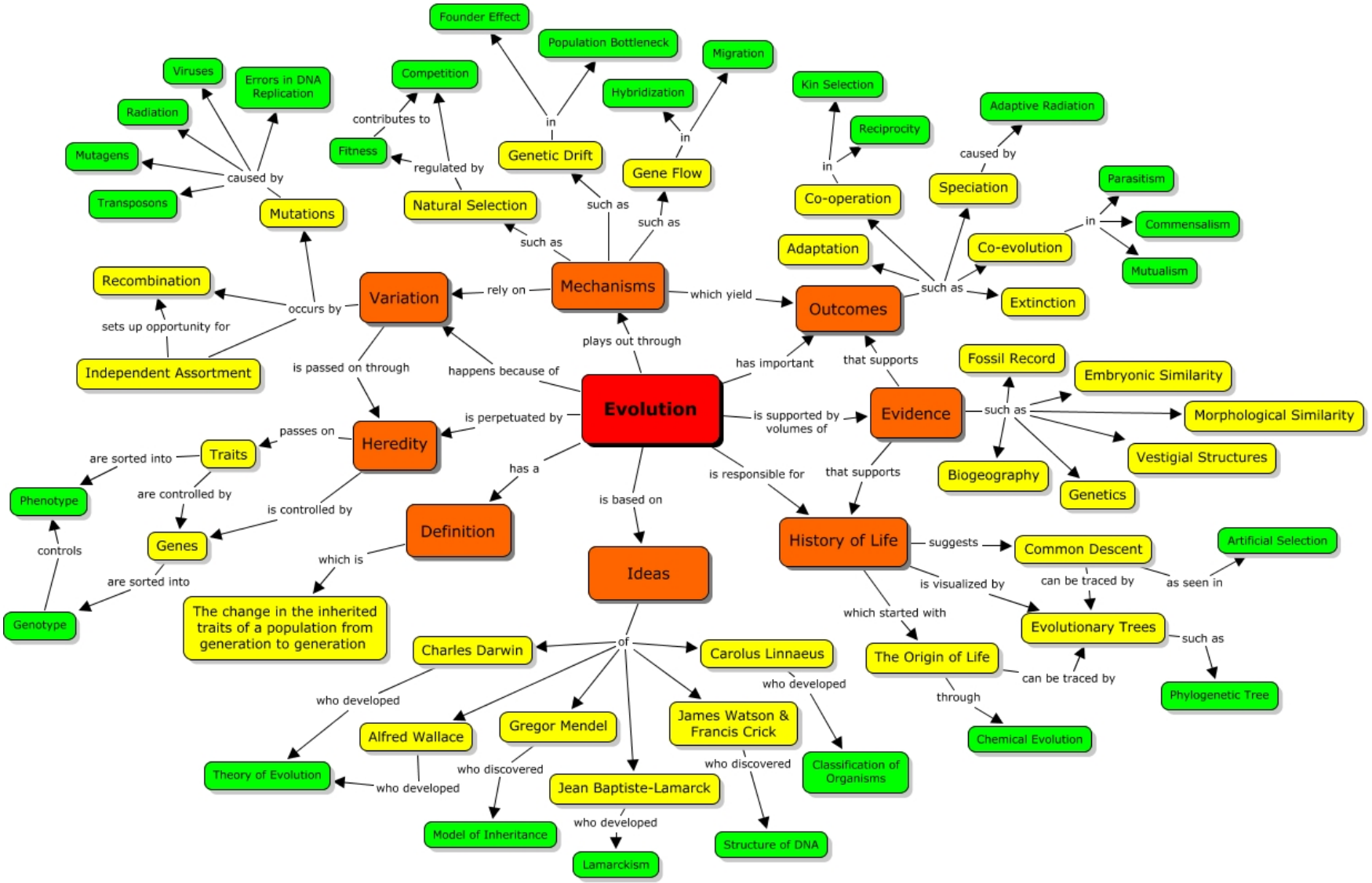


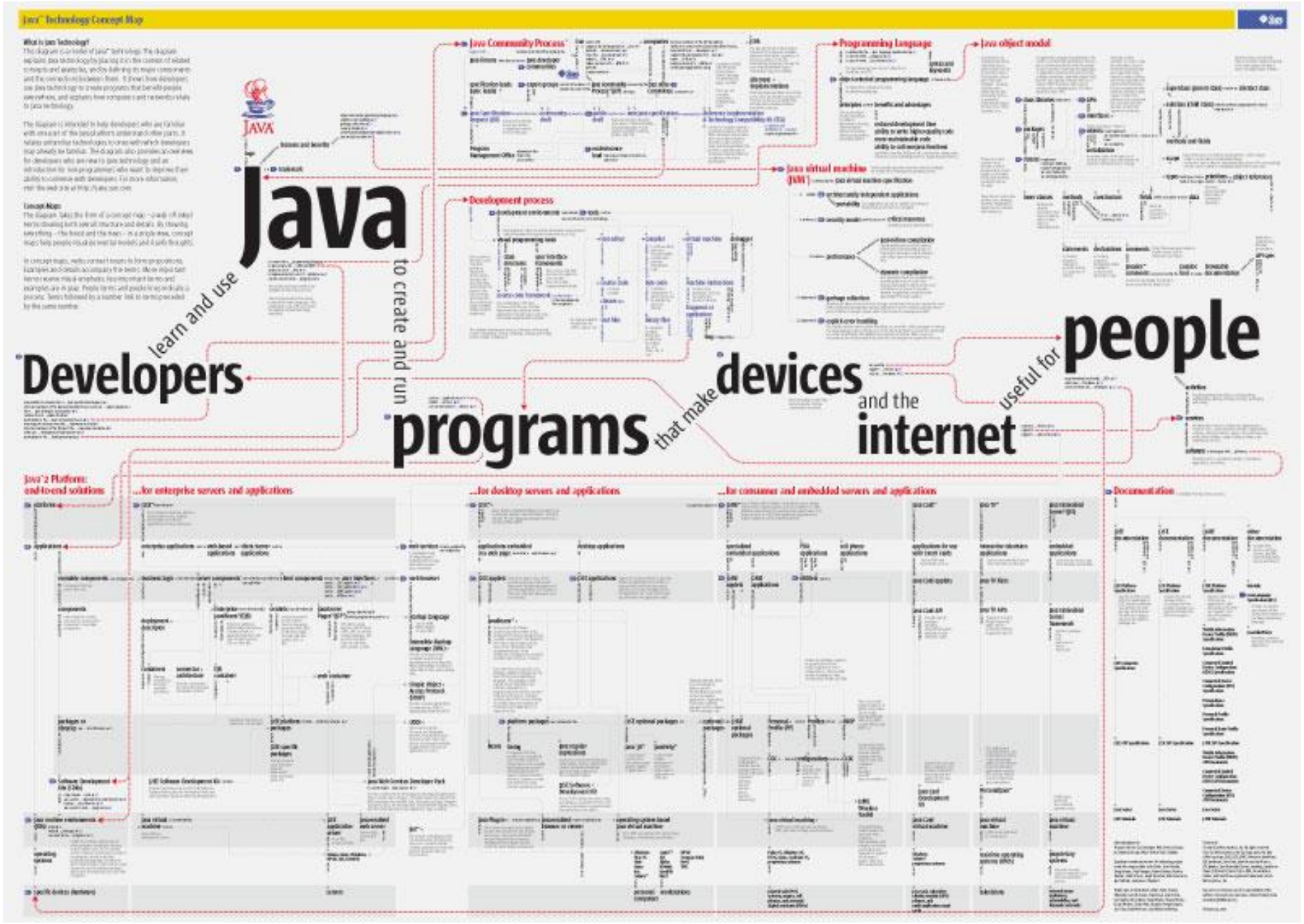

Concept Maps
probe
Mental structure of long term memory
are
Two-dimensional diagrams
can be used for
Classroom assessment
by revealing the
Knowledge structure of students
and
How structure changes with instruction
especially
which is assumed to have
Relatedness structure
represented by
Hierarchical clusters
that connect in
that contain
Concepts (nodes)
Directional, named links
to make
to make
Propositions

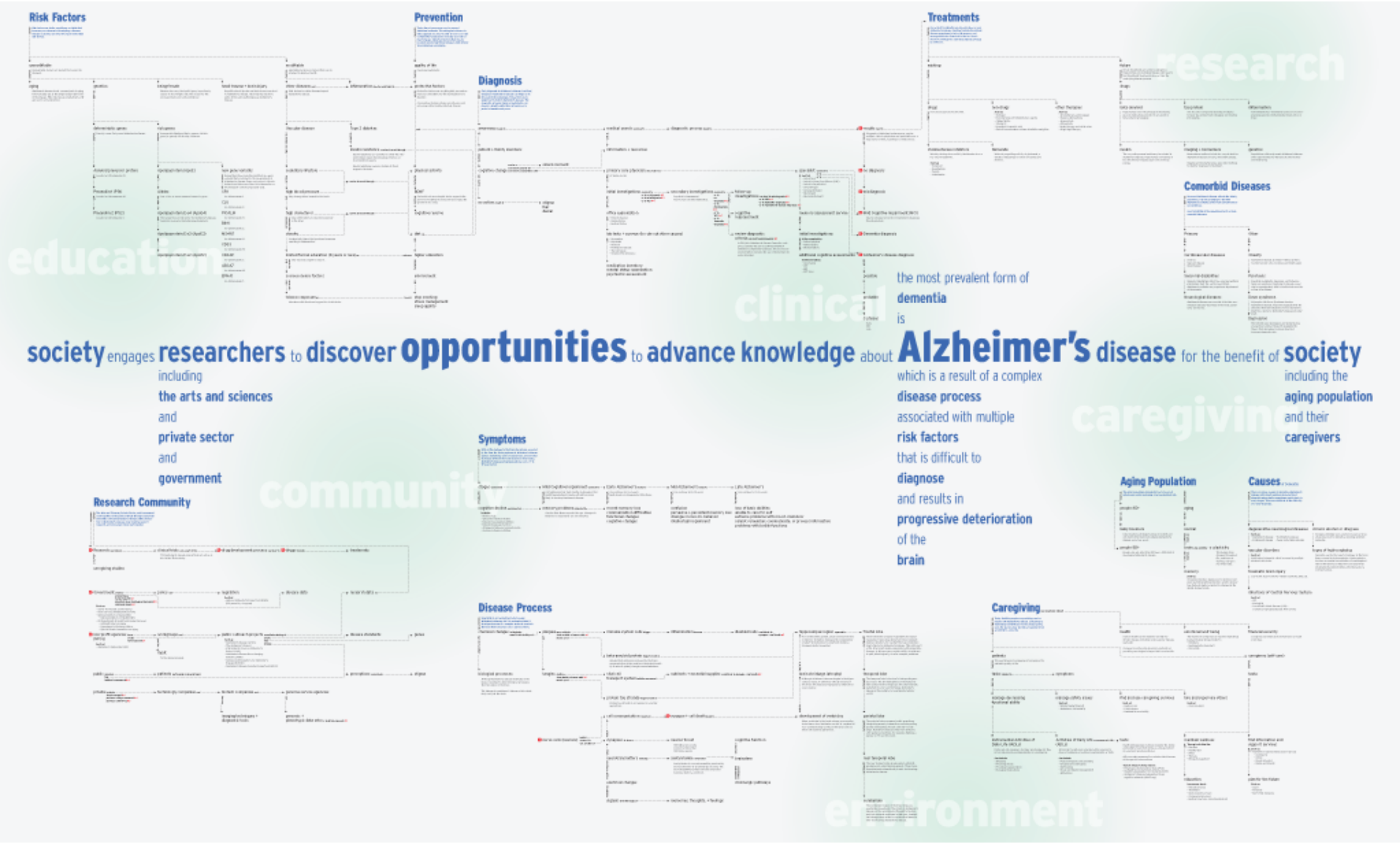

Concept Maps
represent
Organized Knowledge
is
is
is
Context Dependent
includes
Concepts
combine to form
Propositions
necessary for
Associated Feelings or Affect
are
are
are
include
Perceived Regularities
Labeled
Hirearchically Structured
may be
Effective Teaching
Crosslinks
in
begin with
with
aids
Effective Learning
Events (Happenings)
Objects (Things)
Symbols
Words
Creativity
begins with
show
needed to see
Interrelationships
Infants
between
Different Map Segments


What Is A Concept Map?
Barbara Bowen's slight adaptation of concept map created by Prof. Joseph D. Novak, "father" of concept mapping
Concept Maps
represent
facilitate
are framed by
Organized Knowledge
Meaningful Learning
is chosen over
constructed in response to
"Focus Question"
is constructed of
processes together
does not relate
Rote Learning
leads to
Concepts
connected using
Linking Words
used to form
Propositions
creates
New Information
Prior Knowledge
Forgetting
Misconceptions
are
are
have
are
may be
Perceived Regularities or Patterns
Labeled
Top-Down Structure
Units of Meaning
Crosslinks
enrich
Context
result in
is not characterized by
with
in
Words
Symbols
especially with
in
constructed in
show
is represented by
New Knowledge
Events (Happenings)
Objects (Things)
Expert Knowledge
Cognitive Structure
Interrelationships
undergoes
"Progressive Differentiation"
"Integrative Reconciliation"
might be
Feelings (Affect)
for example
can be
between
Different Map Segments
indicate
Legal Conference
could be
Contract
=
reflects
has extensive
Pride


Internet Marketing
Activities
Building Blocks
Revenue Sources
Product Creation
Celling
Networking
Reputation Building
Traffic Building
Customer Service
Niche Selection
Outsourced
In-House
Product Launches
Upsells, Downsells, Backend, etc.
Copywriting
Split Testing
Conversion Optimization
JVs
Forum Posting
Articles
Guest Blogging
Blogging
Link Building
SEO
Content Building
Micro Blogging
Affiliate Program
Ad Swaps
List Building
Advertising
eZine
PPC
Viral Marketing
Payment Processor
Blog
Website
Legal Business
Autoresponder
Domain
Email
Sell Advertising
Get Donations
Affiliate Marketing
Drop Shipping
No Product
Someone Else's Product
eBay
Physical Products
Your Junk
Acquire Resale Right
Membership Sites
Web Services
Continuity
Your Product
Labour
Freelancing Sites
Expertise
Coaching
Licensing
Software
Info Products
Micro-Continuity
Video
eBooks
Audio
Sell Resale Rights
Stock Photos
Seminars
Tele
Webinars
Live


Evolution
Mechanisms
Variation
Outcomes
Heredity
Evidence
Ideas
Definition
History of Life
Genetic Drift
Gene Flow
Natural Selection
Mutations
Founder Effect
Population Bottleneck
Migration
Hybridization
Competition
Fitness
Viruses
Errors in DNA Replication
Radiation
Mutagens
Transposons
Recombination
Independent Assortment
Kin Selection
Reciprocity
Co-operation
Adaptation
Adaptive Radiation
Speciation
Co-evolution
Parasitism
Commensalism
Mutualism
Extinction
Fossil Record
Embryonic Similarity
Morphological Similarity
Vestigial Structures
Biogeography
Genetics
Traits
Phenotype
Genes
Genotype
Common Descent
Artificial Selection
Evolutionary Trees
Phylogenetic Tree
The Origin of Life
Chemical Evolution
Charles Darwin
Alfred Wallace
Theory of Evolution
Gregor Mendel
Model of Inheritance
Carolus Linnaeus
Classification of Organisms
James Watson & Francis Crick
Structure of DNA
Jean Baptiste-Lamarck
Lamarckism
The change in the inherited traits of a population from generation to generation
plays out through
rely on
which yield
such as
in
caused by
occurs by
sets up opportunity for
contributes to
regulated by
happens because of
is passed on through
is perpetuated by
passes on
are sorted into
are controlled by
is controlled by
controls
has a
which is
are sorted into
is based on
of
who developed
who discovered
who developed
who developed
who discovered
who developed
has important
that supports
is supported by volumes of
that supports
is responsible for
suggests
is visualized by
which started with
can be traced by
as seen in
can be traced by
through
such as


Java™ Technology Concept Map
What is Java Technology?
Java Community Process
Programming Language
Java object model
Java virtual machine (JVM)
Development process
Java
learn and use
to create and run
that make
useful for
Developers
programs
devices
and the
internet
people
Java 2 Platform: end-to-end solutions
...for enterprise servers and applications
...for desktop servers and applications
...for consumer and embedded servers and applications
Documentation


Risk Factors
Prevention
Diagnosis
Treatments
Comorbid Diseases
Symptoms
Aging Population
Causes
Research Community
Disease Process
Caregiving
education
research
clinical
caregiving
community
environment
society engages researchers to discover opportunities to advance knowledge about Alzheimer's disease for the benefit of society
including
the arts and sciences
and
private sector
and
government
the most prevalent form of
dementia
is
which is a result of a complex
disease process
associated with multiple
risk factors
that is difficult to
diagnose
and results in
progressive deterioration
of the
brain
including the
aging population
and their
caregivers

Infography

INFOGRAPHIC 01

47

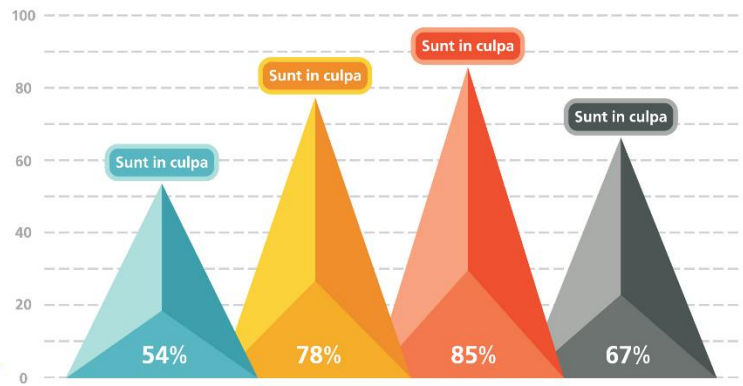
Aspernatur aut odit aut, sed quia consequuntur magni dolores eos, voluptatem sequi nesciunt

125 000

Sed quia non numquam eius modi tempora incidunt, ut labore et dolore

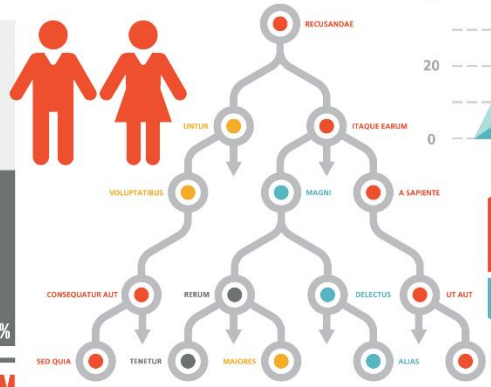
REPUDIANDAE NON RECUSANDAE QUIA VOLUPTAS SIT

Enim ipsam voluptatem, quia voluptas sit, asperna odit aut fugit, sed quia consequuntur magni dolores eos



ET HARUM QUIDEM

Rerum facilis est et expedita distinctio. Nam libero tempore, cum soluta nobis est eligendi optio.

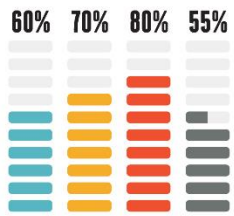


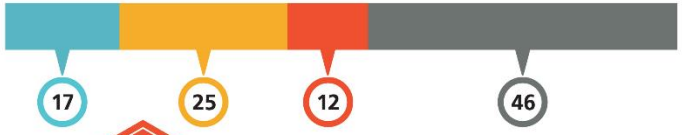
156 000

Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, ?

Nisi ut aliquid ex ea commodi consequatur

89 000





NEMO ENIM IPSAM

SED UT RESPICIATIS

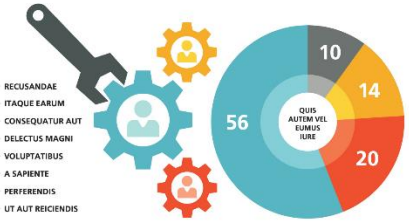
RATIO VOLUPTATEM

NEMO ENIM IPSAM

Sed ut perspiciatis, unde omnis iste natus error sit voluptatem accusanti doloremque laudantium, totam rem aperiam eaque ipsa.

QUAERAT VOLUPTA

Ut enim ad minima veniam, quis nostrum exercitationem ullam corporis suscipit laboriosam, nisi ut aliquid ex ea commodi consequatur?




INFOGRAPHIC
sample text
INFOGRAPHIC
sample text
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WHICH PROGRAMMING LANGUAGE

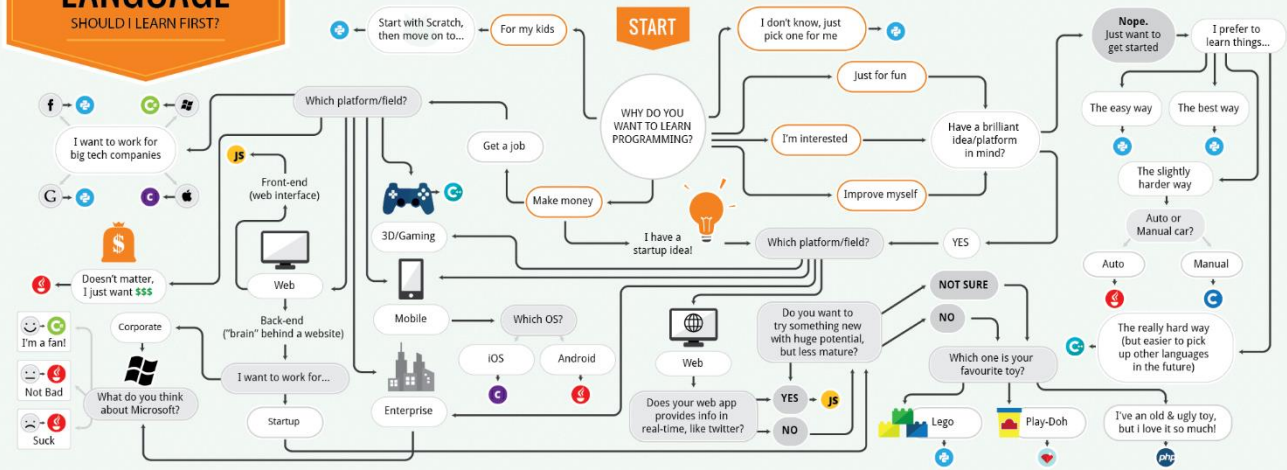
SHOULD I LEARN FIRST?

WHAT IS PROGRAMMING?

Writing very specific instructions to a very dumb, yet obedient machine.

LANGUAGES

PYTHON · JAVA · C · PHP · C++ · JAVASCRIPT · C# · RUBY · OBJECTIVE-C



THE LORD OF THE RINGS ANALOGY TO PROGRAMMING LANGUAGES

Python
The Ent

DIFFICULTY

Help little Hobbits (beginners) to understand programming concepts

Help Wizards (computer scientists) to conduct researches

Widely regarded as the best programming language for beginners

Easiest to learn

Widely used in scientific, technical & academic field, i.e. Artificial Intelligence

You can build website using Django, a popular Python web framework

POPULARITY: ★★★★½

USED TO BUILD: YouTube, Instagram, Spotify

AVG. SALARY: $107,000

Java
Gandalf

DIFFICULTY

Wants peace & works with everyone (portable)

Very popular on all platforms, OS, and devices due to its portability

One of the most in demand & highest paying programming languages

Slogan: write once, work everywhere

POPULARITY: ★★★★★

USED TO BUILD: Gmail, Minecraft, Most Android Apps, Enterprise applications

AVG. SALARY: $102,000

C
One Ring

DIFFICULTY

The power of C is known to them all

Everyone wants to get its Power

Lingua franca of programming language

One of the oldest and most widely used language in the world

Popular language for system and hardware programming

A subset of C++ except the little details

POPULARITY: ★★★★★

USED TO BUILD: Operating systems and hardware

AVG. SALARY: $102,000

C++
Saruman

DIFFICULTY

Everyone thinks that he is the good guy

But once you get to know him, you will realize he wants the power, not good deeds

Complex version of C with a lot more features

Widely used for developing games, industrial and performance-critical applications

Learning C++ is like learning how to manufacture, assemble, and drive a car

Recommended only if you have a mentor to guide you

POPULARITY: ★★★★½

USED TO BUILD: Operating systems, hardware, and browsers

AVG. SALARY: $104,000

JavaScript
Hobbit

DIFFICULTY

Frequently underestimated (powerful)

Well-known for the slow, gentle life of the Shire (web browsers)

"Java and Javascript are similar like Car and Carpet are similar" - Greg Hewgill

Most popular clients-side web scripting language

A must learn for front-end web developer (HTML and CSS as well)

One of the hottest programming language now, due to its increasing popularity as server-side language (node.js)

POPULARITY: ★★★½

USED TO BUILD: Paypal, front-end of majority websites

AVG. SALARY: $99,000

C#
Elf

DIFFICULTY

Beautiful creature (language), used to stay in their land, Rivendell (Microsoft Platform), but recently started to open up to their neighbours (open source)

A popular choice for enterprise to create websites and Windows application using .NET framework

Can be used to build website with ASP.NET, a web framework from Microsoft

Similar to Java in basic syntax and some features

POPULARITY: ★★★★½

USED TO BUILD: Enterprise and Windows applications

AVG. SALARY: $94,000

Ruby
Man (Middle Earth)

DIFFICULTY

Very emotional creature

They (some Ruby developers) feel they are superior & need to rule the Middle Earth

Mostly known for its popular web framework, Ruby on Rails

Focuses on getting things done

Designed for fun and productive coding

Best for fun and personal projects, startups, and rapid development

POPULARITY: ★★★½

USED TO BUILD: Hulu, Groupon, Slideshare

AVG. SALARY: $107,000

PHP
Orc

DIFFICULTY

Ugly guy (language) and doesn't respect the rules (inconsistent and unpredictable)

Big headache to those (developers) to manage them (code)

Yet still dominates the Middle-earth (most popular web scripting language)

Suitable for building small and simple sites within a short time frame

Supported by almost every web hosting services with lower price

POPULARITY: ★★★★

USED TO BUILD: Wordpress, Wikipedia, Flickr

AVG. SALARY: $89,000

Objective-C
Smaug

DIFFICULTY

Lonely and loves gold

Primary language used by Apple for Mac OS X & iOS

Choose this if you want to focus on developing iOS or OS X apps only

Consider to learn Swift (newly introduced by Apple in 2014) as your next language

POPULARITY: ★★★½

USED TO BUILD: Most iOS Apps and part of Mac OS X

AVG. SALARY: $107,000

ACTUALLY... IT DOESN'T REALLY MATTER HOW YOU START.

You need to know at least few languages to understand the underlying concepts. Just get your feet wet!

TO GET STARTED, CHECK OUT THE FULL LIST OF BEST TUTORIALS AND TOOLS FOR EACH PROGRAMMING LANGUAGE AT:

CARLCHEO.COM/STARTCODING

SPECIAL THANKS TO

Prabhuraj Udaya for his awesome The Lord of the Rings analogy on Quora http://www.quora.com/If-there-was-a-net-of-programming-languages-which-would-you-support-and-why

SOURCES

Salary data from Indeed.com | http://stackoverflow.com/questions/2460626/whats-the-difference-between-jvs-ecmscript-and-java | http://spectrum.ieee.org/static/interactive-the-top-programming-languages

http://caen.acm.org/blogs/blog-caen/176450-python-is-now-the-most-popular-introductory-teaching-language-at-top-us-universities/fulltext | http://www.tvworld.com/article/2033628/big-data/the-most-in-demand-and-valuable-programming-languages.html

IMAGES

http://nightcityvlive.com/media/2013/12/Smaug-fan-art-under-the-lonely-mountain.jpg | http://blog.ekope.com/five-things-you-should-know-about-the-one-ring/

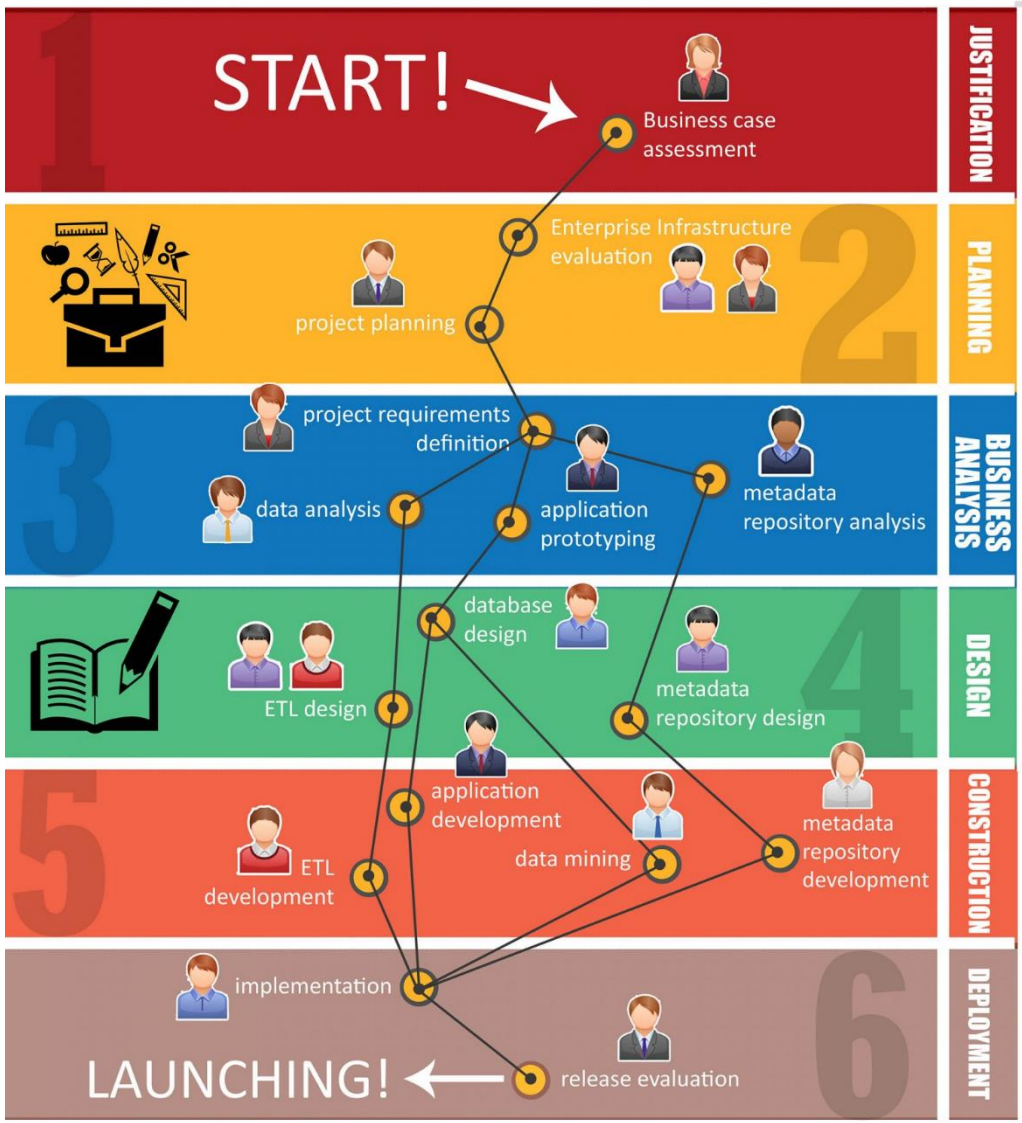
PRESENTED BY

CarlCheo.com

BUSINESS INTELLIGENCE LIFECYCLE

DEVELOPER PERSPECTIVE

Brilliant Oka S. 5211100067
Sebastianus Bara P. 5211100147



========== THE ACTORS ==========

Common Cyber Attacks:
Reducing The Impact

Most cyber attacks are composed of four stages: **Survey**, **Delivery**, **Breach** and **Affect**. The following **security controls**, applied at each stage of an attack, can reduce your organisation's exposure to a successful cyber attack.

Who might be attacking you?

Cyber Criminals interested in making money through fraud or from the sale of valuable information.

Industrial competitors and **foreign intelligence services** interested in gaining an economic advantage for their companies or countries.

Hackers who find interfering with computer systems an enjoyable challenge.

Hacktivists who wish to attack companies for political or ideological motives.

Employees, or those who have legitimate access, either by accidental or deliberate misuse.

81%
OF LARGE COMPANIES REPORTING BREACH

£600K - £1.15m
AVERAGE COST OF SECURITY BREACH

Source: 2014 Information Security Breaches Survey sponsored by the Department for Business, Innovation and Skills.

User Education
Train all users to consider what they include in publicly available documents and web content. Users should also be aware of the risks from discussing work-related topics on social media, and the potential of being targeted by phishing attacks.

Controls For The Affect Stage
Once an attacker has achieved full access, it's much harder to detect their actions and eradicate their presence. This is where a more in-depth, holistic approach to cyber security can help. 10 Steps To Cyber Security outlines many of the features of a complete cyber risk management regime.

Network Perimeter Defences
Can block insecure or unnecessary services, or only allow permitted websites to be accessed.

Malware Protection
Can block malicious emails and prevent malware being downloaded from websites

Password Policy
Can prevent users from selecting easily guessed passwords and locks accounts after a low number of failed attempts.

Secure Configuration
Restrict system functionality to the minimum needed for business operation, systematically apply to every device that is used to conduct business.

Patch Management
Apply patches at the earliest possibility to limit exposure to known software vulnerabilities.

Malware Protection
Malware protection within the internet gateway can detect malicious code in an imported item.

Monitoring
Monitor and analyse all network activity to identify any malicious or unusual activity.

Secure Configuration
Remove unnecessary software and default user accounts. Ensure default passwords are changed, and that automatic features that could activate malware are turned off.

User Access
Well maintained user access controls can restrict the applications, privileges and data that users can access.

User Training
User training is extremely valuable in reducing the likelihood of successful social engineering attacks.

Device Controls
Devices within the internal gateway should be used to prevent unauthorised access to critical services or inherently insecure services that may still be required internally.

CESG

CERT-UK

CONTENTION IN CYBERSPACE

Max K. | Majors: Political Science, International Studies, Anthropology
Prof. Dorothy Solinger | Department of Political Science

Abstract

My thesis focuses on the phenomena known as "online contention" in China and its past and potential influence on the Chinese government. The internet has served as a "political space" for the Chinese public. "Netizens," a term used to describe internet users active in online communities, have utilized this technology to voice their opinions or demands in various forms with varying results. I examine six cases, which together demonstrate that online contention in China has the potential to affect the policies of the Chinese government. I study the cause of each protest's inception, who or what online protestors were targeting, the methods by which protests were carried out and government responses.

My findings show that the government's response will greatly vary based on these factors: size of the protest, methods employed by the protestors and cause. Cases where netizens are not attacking the central government directly appear to be treated with ambivalence. Moreover, the Chinese central government will be more supportive of certain protests than others -- particularly those against other countries such as Japan. The central government may also be supportive of protests about contested issues on the local level to appease the populace and retain legitimacy. The central government may intervene if it feels that online contention may damage its own legitimacy or reputation. While complaints against the local government may sometimes be tolerated, complaints lodged against the central government will be retaliated against. Finally, I ask whether such contention might promote a stronger civil society.

Introduction

It was during the year 1987 that the Internet was introduced to China when ICA (Institute of Computer Applications) Beijing established an electronic connection to It was during the year 1987 that the Internet was introduced to China when ICA (Institute of Computer Applications) Beijing established an electronic connection to Karlsruhe University in Germany. Since its inception, the Chinese Internet community has grown to a staggering 500 million users. Internet cafes and the infrastructure accommodating this service have boomed throughout the country and the Internet is rapidly being integrated into the everyday lives of many Chinese citizens -- typically ranging from middle class to upper class people. However, it has also trickled down to those at a lower socio-economic level in recent years.

Figure (above), Internet growth in China

While utilization of the Internet mainly involves recreation and finance, it has proven itself as a revolutionary tool for citizen participation in China and around the globe. Not only does it function as a political space where aggravated people can discuss and vent their problems, its power to connect and communicate transforms it into a means to organize massive protests called "大型网民群体性事件" or, in English, "large scale mass-incident".

Methods

The case studies were selected based on what the goals of the protestors' were and the result of each situation. The five scenarios are analyzed on multiple variables which include the length of each protest, who the protestors' were targeting, the technology used in each protest, the amount of demonstrators, and whether or not violence was used by protestors or government respondents. I selected a diverse range of well-known case studies in order explain or gain insight on the nature of online contention and an explanation to the Chinese government's selectively clamps down, compromises or, more rarely, supports certain internet protests.

References

* China Internet Network Information Center (CINIC) [http://www.cnnic.net.cn]
* Guobin Yang. The Power of the Internet in China. New York: Columbia Press, 2009
* Zhang Junhua, Martin Woesler. China's Digital Dream. London: University Press, 2004
* Yongming Zhou. Historicizing Online Politics. Stanford: Stanford University Press, 2006
* Yongnian Zhang. Technological Empowerment. Stanford: Stanford University Press, 2009
* Yang Tong and Shaohua Lei. "Creating Public Opinion Pressure in China: Large-Scale Internet Protest. http://www.eai.nus.edu.sg/BB534.pdf

CASE STUDIES.

01 Xiamen Chemical Plant Case

In 2006, the Xiamen local government announced the construction of a chemical plant in the city that would produce 800,000 tons of paraxylene which had health and safety hazards.

- Demonstrators: 10,000 street demonstrators
- Length: Under twelve months (online)
- Length: Under twelve months (offline)
- Technology Used: BBS, Mobile, Blogs
- Target: Local authority
- Government Response: Government conceded to protestors' demands, the chemical plant was relocated to another city.

RESULT: The chemical plant was moved to another city.

02 Sun Zhigang Case

In 2003, Sun Zhigang, a recent university graduate, traveled to Southern China for work. He forgot his identification at home. Sun was interrogated on the streets by police. He had forgotten his identification at home, so they assumed he was a migrant worker. He died in custody from physical abuse.

- Demonstrators: Estimated 10,000+ web postings
- Length: Under five months (online)
- Length: N/A (offline)
- Technology Used: BBS, Blogs
- Target: Local authority
- Government Response: Local authorities tried to hush the story, but Central and Provincial-level authorities were supportive.

RESULT: The policemen and nurse who abused Sun Zhigang were incarcerated.

03 Deng Yujiao Case

Deng Yujiao was a pedicurist who was harassed by three officials who mistook her for a prostitute. Even after she explained to them that she wasn't, one man tried to rape her. She took a fruit knife and stabbed him four times and injured another assailant. She was committed to a psychiatric ward for insanity and was charged with murder.

- Demonstrators: Estimated 10,000+ web postings
- Length: Under 2 months (online)
- Length: Under 2 months (offline)
- Technology Used: BBS, Blogs, Mobile
- Target: Local authority
- Government Response: Local authorities closed down Deng Yujiao's hometown, tried to delete any headlines featuring Deng's story.

RESULT: Deng Yujiao was released on lesser chargers.

04 Milk Contamination Case

Zhao Lianhai, a former food safety worker, was a father whose son suffered from kidney stones as a result of tainted milk. In 2008, a major food-safety scandal erupted with the industrial chemical melamin was found in Chinese milk products. He created a website to organize parents of the young victims to sue the companies; however, he was sentenced to two and a half years in prison for promoting public disorder.

- Demonstrators: N/A
- Length: Under 2 years (online)
- Length: Under 2 years (offline)
- Technology Used: BBS, Blogs
- Target: 22 companies, Central government
- Government Response: Authorities harassed organizers, confiscated computers, shut down the website, imprisoned Zhao

RESULT: The movement was shut down. Zhao was sentenced to two and a half years in prison for promoting public disorder.

05 Anti-Japanese Demonstrations

In 2005, Chinese citizens were inflamed by the Japanese bid to a permanent seat in the UN Security Council. Many were also upset with the "white-washing" in Japanese history books regarding to World War II atrocities commited by the Imperial Japanese Army. The public posted inflaming comments online, created petitions and organized offline protests in front of Japanese embassies and businesses.

- Demonstrators: 19 million estimated (online), 20 thousand (offline)
- Length: Under 2 months (online)
- Length: Under 2 months (offline)
- Technology Used: BBS, Mobile, Blogs
- Target: Japan
- Government Response: Government initially sympathised and ignored demonstrations. Eventually shut down threads of communication.

RESULT: Demonstrations were carried out; however no visible result on foreign policy or Japan's bid.

OTHER CASES OF INTEREST

* Jasmine Revolution of 2011
* Zhou Jiugeng Case of 2008
* Yunnan "Peek-A-Boo" Case of 2009
* "Toughest Nail Household in Chongqing" Case of 2007
* Guizhou Weng'an Case of 2008
* Green Dam Youth Escourt Case of 2009
* Hubei Shishou Incident of 2009

FINDINGS

* The Chinese government is selective about cracking down protests
* Different levels of the Chinese government will behave differently to a situation.
* Chinese netizens use the internet as a means to monitor government misbehavior
* The Chinese government uses the Internet as a tool to monitor public opinion and it will adjust policies to appease depending on the variables

CONCLUSIONS

* The Central Government will respond more harshly to protestors that poses a fundamental challenge at a systemic level
* Internet may not have democratized China, but it provided many features a democracy has: accountability, a space for citizens to vent their frustrations and organize protests, and a means to check the government's power. In the case studies, citizens have been able to supervise government behavior, interfer with judicial process or influence institutional or policy adjustments
* The "civil society" established online lacks "civility." Due to the anarchic and anonymous nature of the internet, language of violence, rumors and incitement often occur. Many online demonstrators use cases as a means for venting personal frustrations than pursuing social justice. Many policy adjustments the Chinese government creates due to pressure from online protests are shallow and meant to placate the Internet mob, rather than a genuine desire for change or reform.

CHILDREN & FACEBOOK

AS TOLD BY PARENTS

AVERAGE AGE CHILDREN JOINED

11 YEARS OLD

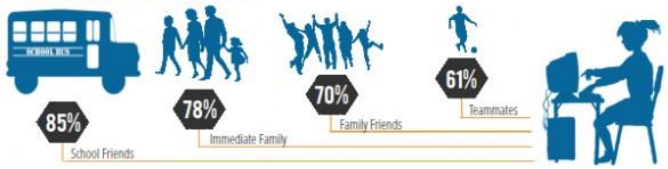
20% Under 10 years old

CHILD'S TIME SPENT ON FACEBOOK...

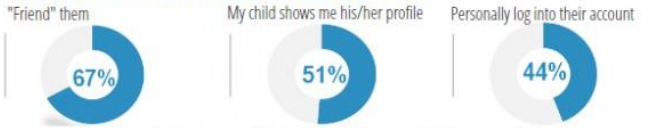
49% Spend less than 1 hour

40% Spend 1 - 2 hours

CHILDREN ARE TALKING TO...



IN ORDER TO MONITOR THEIR CHILD'S ACCOUNT...



Nearly 10% of parents with kids under age 15 do not monitor their accounts at all.

42% ARE WORRIED ABOUT THEIR CHILD'S SAFETY ON FACEBOOK

"I cannot control or monitor who my child may communicate with over the internet. Also, arguments can escalate as others chime in to pick sides of a typed argument. This leads to fights."

TOP SAFETY CONCERNS...

- STRANGERS CONTACTING THEM
- EXPOSING TOO MUCH INFORMATION
- SEXUAL PREDATORS
- COMPUTER VIRUSES

FEELINGS ABOUT THEIR CHILD HAVING AN ACCOUNT

POSITIVE	NEGATIVE	NEUTRAL
34%	13%	54%

Worry about their child becoming a victim of cyber bullying 36% VS. Worry about their child engaging in cyber bullying 25%

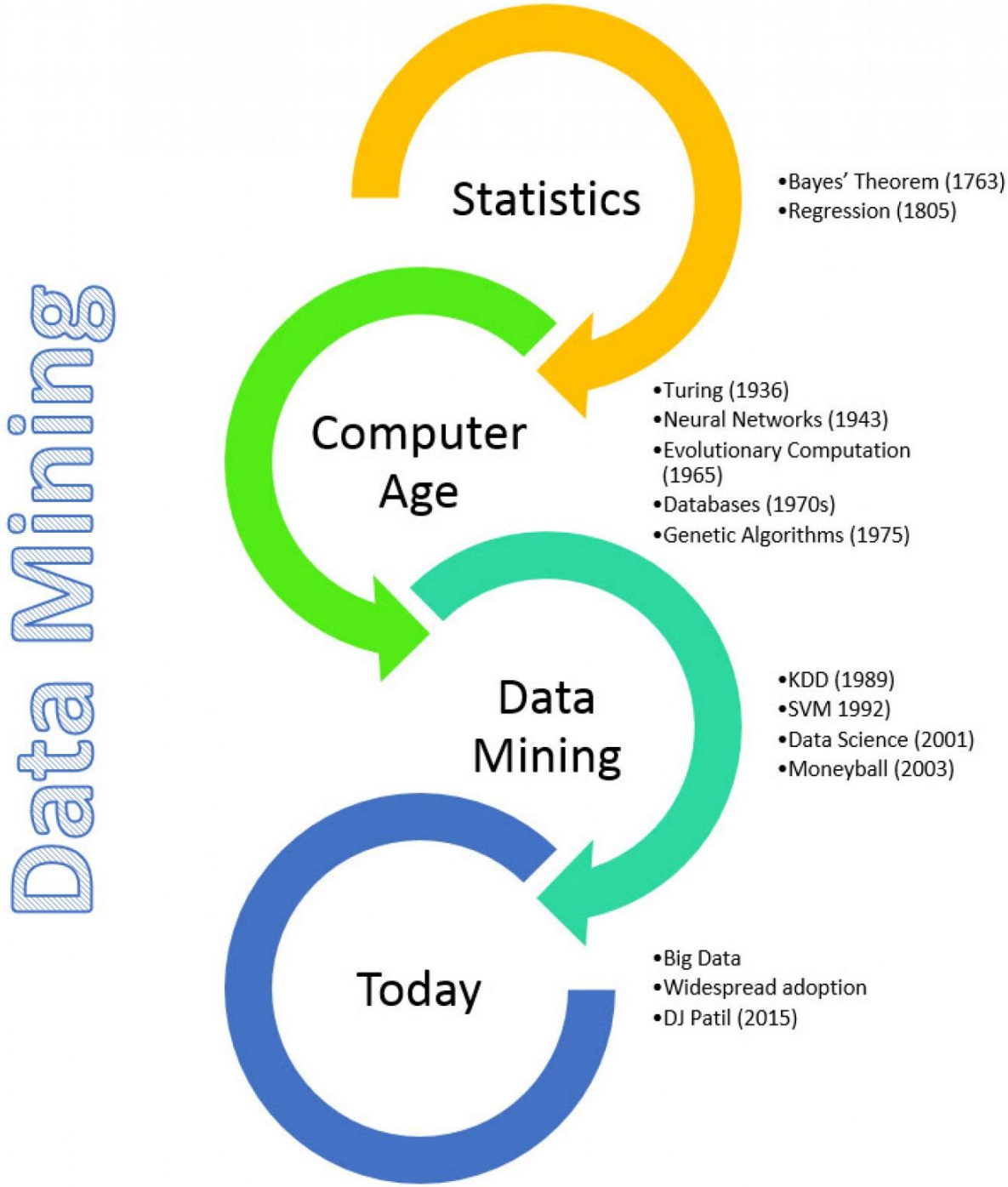
IF YOU FOUND OUT YOUR CHILD WAS MISBEHAVING ON FACEBOOK...

"I would ban him from facebook and take away his laptop use except in my presence. I would seek counselling and have him apologize to those he was offending or bullying."

Changes or improvements parents suggest to make Facebook a better environment for their children ...

Survey includes 240 US parents of Facebook users, age 17 and under

 For more info, email info@buzzback.com www.buzzback.com


Data Mining
Statistics
•Bayes' Theorem (1763)
•Regression (1805)
Computer Age
•Turing (1936)
•Neural Networks (1943)
•Evolutionary Computation (1965)
•Databases (1970s)
•Genetic Algorithms (1975)
Data Mining
•KDD (1989)
•SVM 1992)
•Data Science (2001)
•Moneyball (2003)
Today
•Big Data
•Widespread adoption
•DJ Patil (2015)

www.wipro.com

BIG DATA

Big Data is data that is too large, complex and dynamic for any conventional data tools to capture, store, manage and analyze.

The right use of Big Data allows analysts to spot trends and gives niche insights that help create value and innovation much faster than conventional methods.

The "three V's", i.e the Volume, Variety and Velocity of the data coming in is what creates the challenge.

VOLUME

Amount of Big Data stored across the world (in petabytes)

VARIETY

PEOPLE TO PEOPLE
NETIZENS, VIRTUAL COMMUNITIES, SOCIAL NETWORKS, WEB LOGS...

PEOPLE TO MACHINE
ARCHIVES, MEDICAL DEVICES, DIGITAL TV, E-COMMERCE, SMART CARDS, BANK CARDS, COMPUTERS, MOBILES...

MACHINE TO MACHINE
SENSORS, GPS DEVICES, BAR CODE SCANNERS, SURVEILLANCE CAMERAS, SCIENTIFIC RESEARCH...

VELOCITY

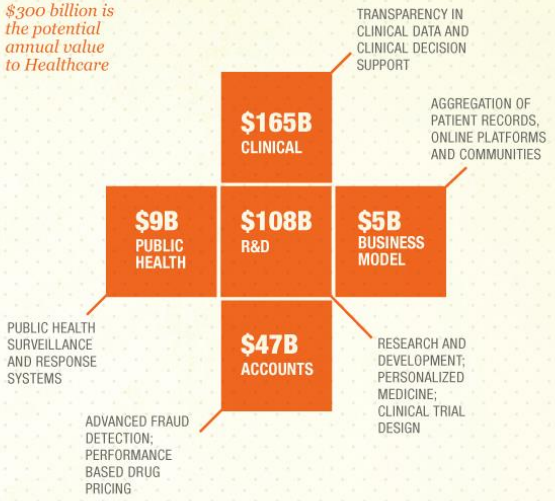
2.9 MILLION
EMAILS SENT EVERY SECOND

20 HOURS
OF VIDEO UPLOADED EVERY MIN

50 MILLION
TWEETS PER DAY

CASE STUDY - Healthcare

$300 billion is the potential annual value to Healthcare

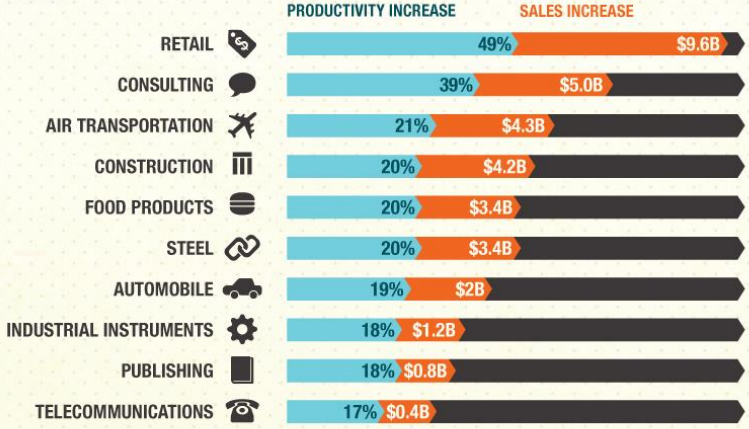


57.6% OF ORGANIZATIONS SURVEYED SAY THAT BIG DATA IS A CHALLENGE

72.7% CONSIDER DRIVING OPERATIONAL EFFICIENCIES TO BE THE BIGGEST BENEFIT OF A BIG DATA STRATEGY

50% SAY THAT BIG DATA HELPS IN BETTER MEETING CONSUMER DEMAND AND FACILITATING GROWTH

VALUE



40% PROJECTED GROWTH IN GLOBAL DATA CREATED PER YEAR

5% PROJECTED GROWTH IN GLOBAL IT SPENDING PER YEAR

The estimated size of the digital universe in 2011 was 1.8 zettabytes. It is predicted that between 2009 and 2020, this will grow 44 fold to 35 zettabytes per year. A well defined data management strategy is essential to successfully utilize Big Data.

Sources - 1 Reaping the Rewards of Big Data - Wipro Report 2 Big Data: The Next Frontier for Innovation, Competition and Productivity - McKinsey Global Institute Report 3 comScore, Radicati Group 4 Measuring the Business Impacts of Effective Data - study by University of Texas, Austin 5 US Department of Labour.

DO BUSINESS BETTER

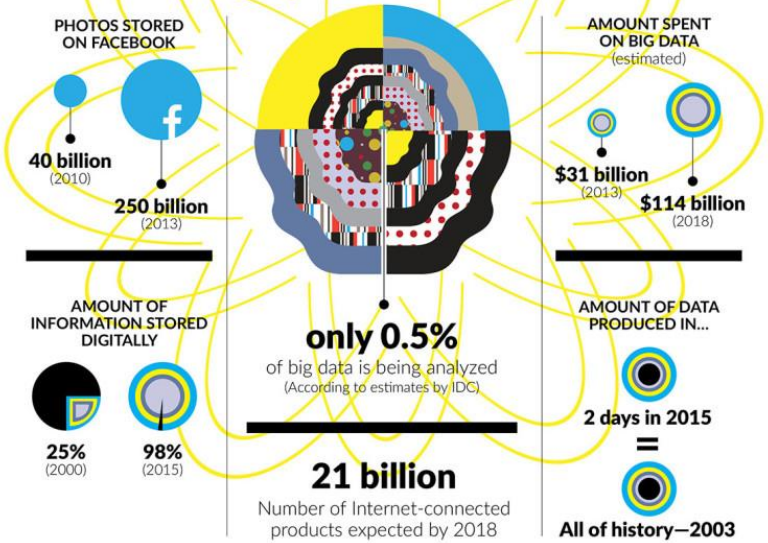
NYSE:WIT | OVER 130,000 EMPLOYEES | 54 COUNTRIES | CONSULTING | SYSTEM INTEGRATION | OUTSOURCING

WIPRO Applying Thought

Visualization: Seventhinc

THE BIG DATA CRISIS

The amount of data companies collect keeps growing. They urgently need a strategy to make sense of it all



THE BIG DATA FIX

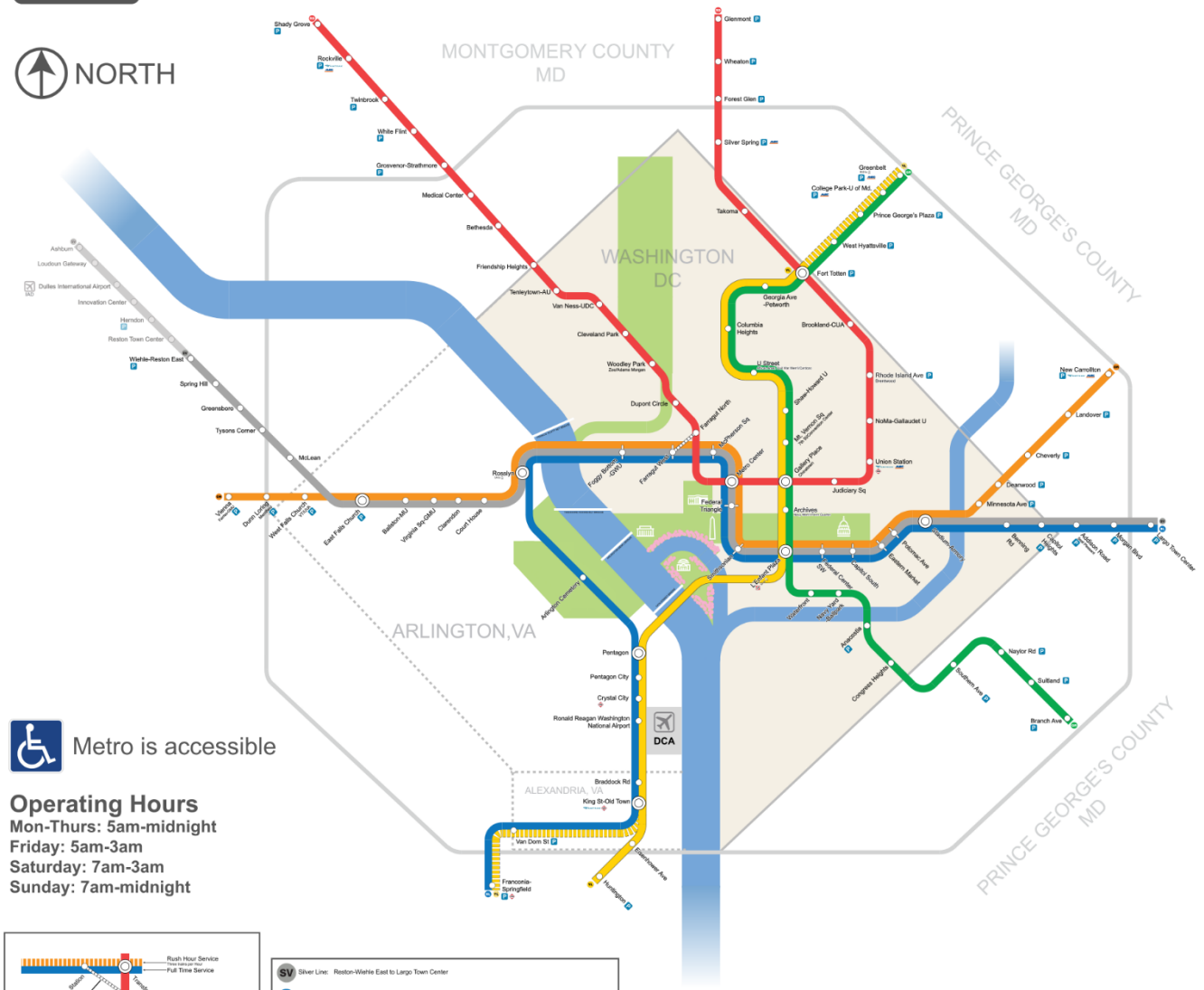
Smarter researchers aren't just collecting big data—they're viewing it as one tool in their toolbox, combining big data with customer engagement.

To learn more about how customer engagement can help you find true value in Big Data, download the new e-book. **Big Data and Beyond: How Companies Can Find Insight In Big Data**

VISIONCRITICAL ILLUSTRATIONS BY JACKKRIT ANANTAKUL visioncritical.com

Subway Map

Metrorail System Map,
Washington DC, MD, VA



Metro is accessible

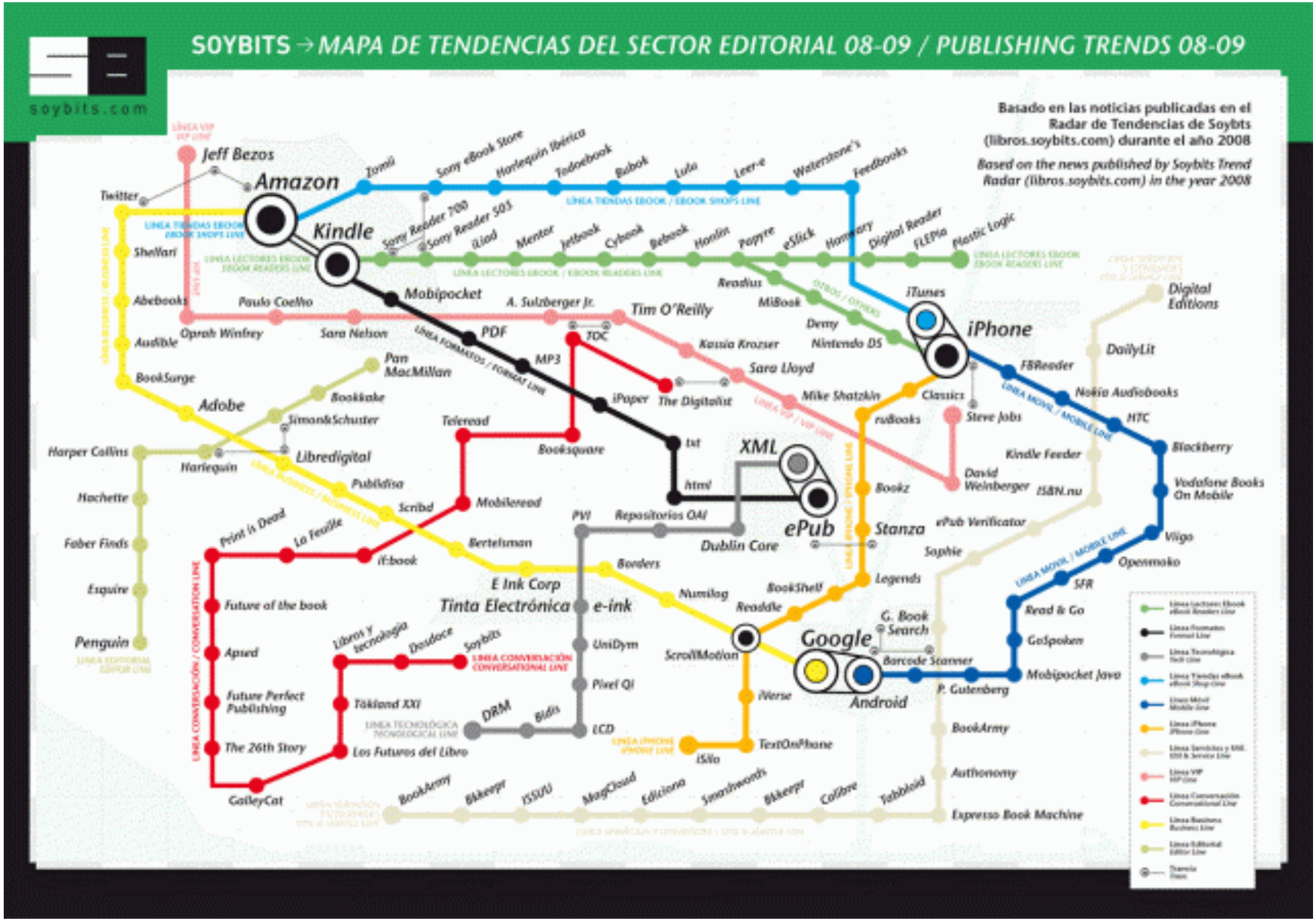
Operating Hours
Mon-Thurs: 5am-midnight
Friday: 5am-3am
Saturday: 7am-3am
Sunday: 7am-midnight

Rush Hour Service
Full Time Service
Station
Smartrip Transfer
Transfer Station
Parking is Available
Airport Transfer
MARC Commuter Rail Transfer
Virginia Railway Express Transfer

SV Silver Line: Reston-Wiehle East to Largo Town Center
BL Blue Line: Franconia-Springfield to Largo Town Center
GR Green Line: Greenbelt to Branch Ave
RD Red Line: Shady Grove to Glenmont
OR Orange Line: Vienna to New Carrollton
YL Yellow Line: Huntington to Fort Totten (to Mt. Vernon Sq during Rush Hours)

Metro Service Patterns
Rush Hours: 6:30am and 9:00am, Mon-Fri excl. holidays
3:30pm-7:00pm, Mon-Fri excl. holidays
Off peak-hours: All other times plus holidays

Service is subject to change. Check www.wmata.com for up-to-date service information


soybits.com
SOYBITS → MAPA DE TENDENCIAS DEL SECTOR EDITORIAL 08-09 / PUBLISHING TRENDS 08-09
Basado en las noticias publicadas en el Radar de Tendencias de Soybits (libros.soybits.com) durante el año 2008
Based on the news published by Soybits Trend Radar (libros.soybits.com) in the year 2008
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Kindle
Twitter
Tomi
Sony eBook Store
Harlequin Iberica
Todoebook
Bubok
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Sony Reader 700
Sony Reader 505
iLiad
Mentor
Jetbook
Cybook
Bebook
Hanlin
Papyre
eSlick
Hanvon
Digital Reader
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Sara Lloyd
Mike Shatzkin
iTunes
iPhone
Classics
Steve Jobs
ruBooks
David Weinberger
Digital Editions
DailyLit
FBReader
Nokia Audiobooks
HTC
Blackberry
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Teleread
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iPaper
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html
XML
ePub
Repositorios OAI
Dublin Core
Bookz
Stanza
ePub Verificator
Sophie
Legends
BookShelf
Readdle
Numilog
Borders
Bertelsman
Mobileread
E Ink Corp
Tinta Electrónica
e-ink
UniDym
Pixel Qi
LCD
DRM
Bids
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Future of the book
Apsed
Future Perfect Publishing
The 26th Story
GalleyCat
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Soybits
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G. Book Search
Barcode Scanner
Android
ScrollMotion
iVerse
iSilo
TextOnPhone
P. Gutenberg
Mobipocket Java
Read & Go
GoSpoken
SFR
BookArmy
Authonomy
Expresso Book Machine
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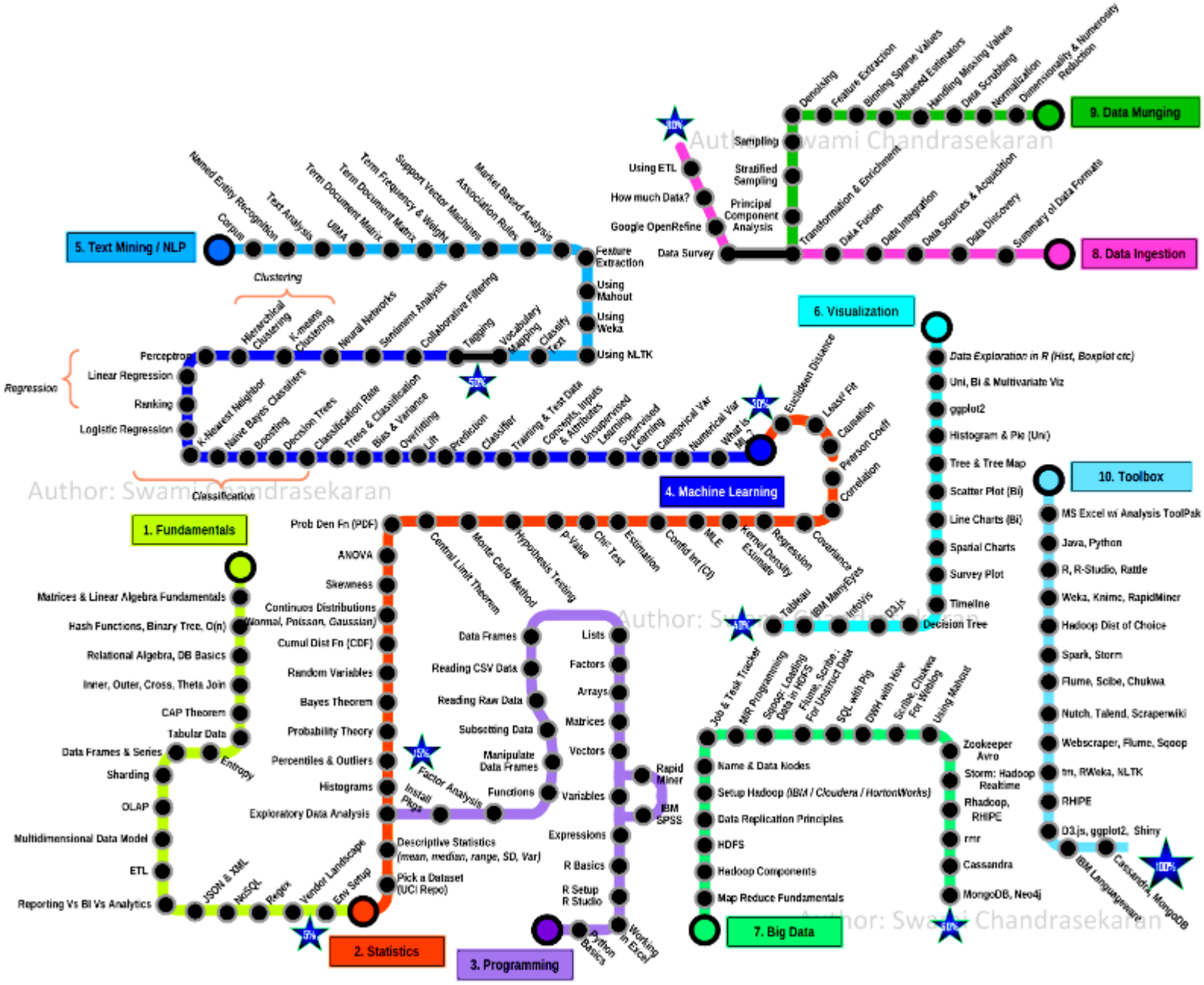
ISSUU
MagCloud
Edicions
Smashwords
Bikeepr
Calibre
Tabbloid

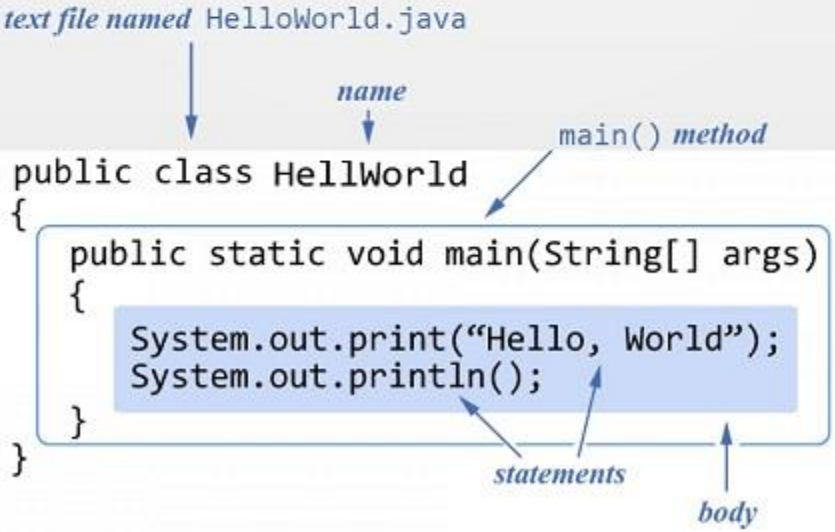

1. Fundamentals
Matrices & Linear Algebra Fundamentals
Hash Functions, Binary Tree, O(n)
Relational Algebra, DB Basics
Inner, Outer, Cross, Theta Join
CAP Theorem
Tabular Data
Data Frames & Series
Entropy
Sharding
OLAP
Multidimensional Data Model
ETL
Reporting Vs BI Vs Analytics
JSON & XML
NoSQL
Regex
Vendor Landscape
Env Setup
5%
2. Statistics
Prob Den Fn (PDF)
ANOVA
Skewness
Continuous Distributions (Normal, Poisson, Gaussian)
Cumul Dist Fn (CDF)
Random Variables
Bayes Theorem
Probability Theory
Percentiles & Outliers
Histograms
Exploratory Data Analysis
Descriptive Statistics (mean, median, range, SD, Var)
Pick a Dataset (UCI Repo)
Central Limit Theorem
Monte Carlo Method
Hypothesis Testing
p-Value
Chi² Test
Estimation
Confid Int (CI)
MLE
Kernel Density Estimate
Regression
Covariance
Install Pkgs
Factor Analysis
15%
3. Programming
Data Frames
Reading CSV Data
Reading Raw Data
Subsetting Data
Manipulate Data Frames
Functions
Lists
Factors
Arrays
Matrices
Vectors
Variables
Expressions
R Basics
R Setup R Studio
Python Basics
Working in Excel
Rapid Miner
IBM SPSS
4. Machine Learning
Perceptron
Linear Regression
Ranking
Logistic Regression
Regression
K-Nearest Neighbor
Naive Bayes Classifiers
Boosting
Decision Trees
Classification Rate
Trees & Classification
Bias & Variance
Overfitting
Lift
Prediction
Classifier
Training & Test Data
Concepts, Inputs & Attributes
Unsupervised Learning
Supervised Learning
Categorical Var
Numerical Var
What is ML?
50%
Classification
Hierarchical Clustering
K-means Clustering
Clustering
Neural Networks
Sentiment Analysis
Collaborative Filtering
Tagging
Vocabulary Mapping
Classify Text
Using NLTK
Using Weka
Using Mahout
Feature Extraction
5. Text Mining / NLP
Corpus
Named Entity Recognition
Text Analysis
UIMA
Term Document Matrix
Term Document Matrix
Term Frequency & Weight
Support Vector Machines
Association Rules
Market Based Analysis
6. Visualization
Euclidean Distance
Least Fit
Causation
Pearson Coeff
Correlation
30%
Data Exploration in R (Hist, Boxplot etc)
Uni, Bi & Multivariate Viz
ggplot2
Histogram & Pie (Uni)
Tree & Tree Map
Scatter Plot (Bi)
Line Charts (Bi)
Spatial Charts
Survey Plot
Timeline
Decision Tree
Tableau
IBM ManyEyes
InfoVis
D3.js
15%
7. Big Data
Job & Task Tracker
MR Programming
Sqoop: Loading Data in HDFS
Flume, Scribe : For Unstruct Data
SQL with Pig
DWH with Hive
Scribe, Chukwa For Weblogs
Using Mahout
Name & Data Nodes
Setup Hadoop (IBM / Cloudera / HortonWorks)
Data Replication Principles
HDFS
Hadoop Components
Map Reduce Fundamentals
Zookeeper Avro
Storm: Hadoop Realtime
Rhadoop, RHIPE
rmr
Cassandra
MongoDB, Neo4j
50%
8. Data Ingestion
Using ETL
How much Data?
Google OpenRefine
Data Survey
Sampling
Stratified Sampling
Principal Component Analysis
10%
Denoising
Feature Extraction
Binning Sparse Values
Unbiased Estimators
Handling Missing Values
Data Scrubbing
Normalization
Dimensionality & Numerosity Reduction
9. Data Munging
Transformation & Enrichment
Data Fusion
Data Integration
Data Sources & Acquisition
Data Discovery
Summary of Data Formats
10. Toolbox
MS Excel w/ Analysis ToolPak
Java, Python
R, R-Studio, Rattle
Weka, Knime, RapidMiner
Hadoop Dist of Choice
Spark, Storm
Flume, Scribe, Chukwa
Nutch, Talend, Scraperwiki
Webscraper, Flume, Sqoop
tm, RWeka, NLTK
RHIPE
D3.js, ggplot2, Shiny
IBM Languageware
Cassandra, MongoDB
100%
Author: Swami Chandrasekaran

Cheatsheets

JavaAssignmentHelp.net

Java CHEATSHEET

Basic code structure



JAVA SYNTAX CHEAT SHEET

Control Flow

Selection
If
Else
Switch
Case

Loop
While
Do
For

Exception
Throw
Try
Catch
Finally

Branch
Return
Break
Continue
Label

BASIC DEFINITIONS

Class	Describes a particular kind of object. It can contain related methods and variables.
Method	A function defined in a class. Methods implement the behavior for objects.
Object	The principal building blocks of Java. Objects consist of variables (data) and methods (functionality).

COMMENTS

HTML Comments

<!-- comment -->	Sent to the client in the viewable page source.

JSP Commens (Not Sent to Client)

<%-- comment --%>	Comments in JSP file.
// comment	Comment in scriplet part of JSP file.

ELEMENTS

Declaration	
<%! declaration %>	Creates a global variable or method.
Expression	
<%= expression %>	Statements evaluated on the server before the page is outputted to the client.
Page Directive	
<%@ directive %>	Attributes that apply to the entire page.
Scriplet	
<% code fragment of one or more lines %>	Contains a block of scripting code which is executed when the page is generated.
Taglib Directive	
<%@ taglib uri="URIToTagLibrary" prefix="tagPrefix" %>	Defines a tag library and prefix for tags used in a JSP page.

SEPARATORS

( )	Used to surround parameters
{ }	Defines a block of code for a class or method or to contain the values of automatically initialized arrays
[ ]	Declares arrays or references array values
;	Denotes the end of a statement
,	Separates variables
.	Separates package names from subpackages/ classes or a variable/method from a reference variable

PRIMITIVE DATA TYPES

Type	Description	Bits
	(Integers)	
byte	Byte-length integer	8
short	Short integer	16
int	Integer	32
long	Long integer	64
	(Real Numbers)	
float	Single-precision floating point	32
double	Double-precision floating point	64
	(Other)	
char	A single character	16
boolean	A boolean value (true or false)	1

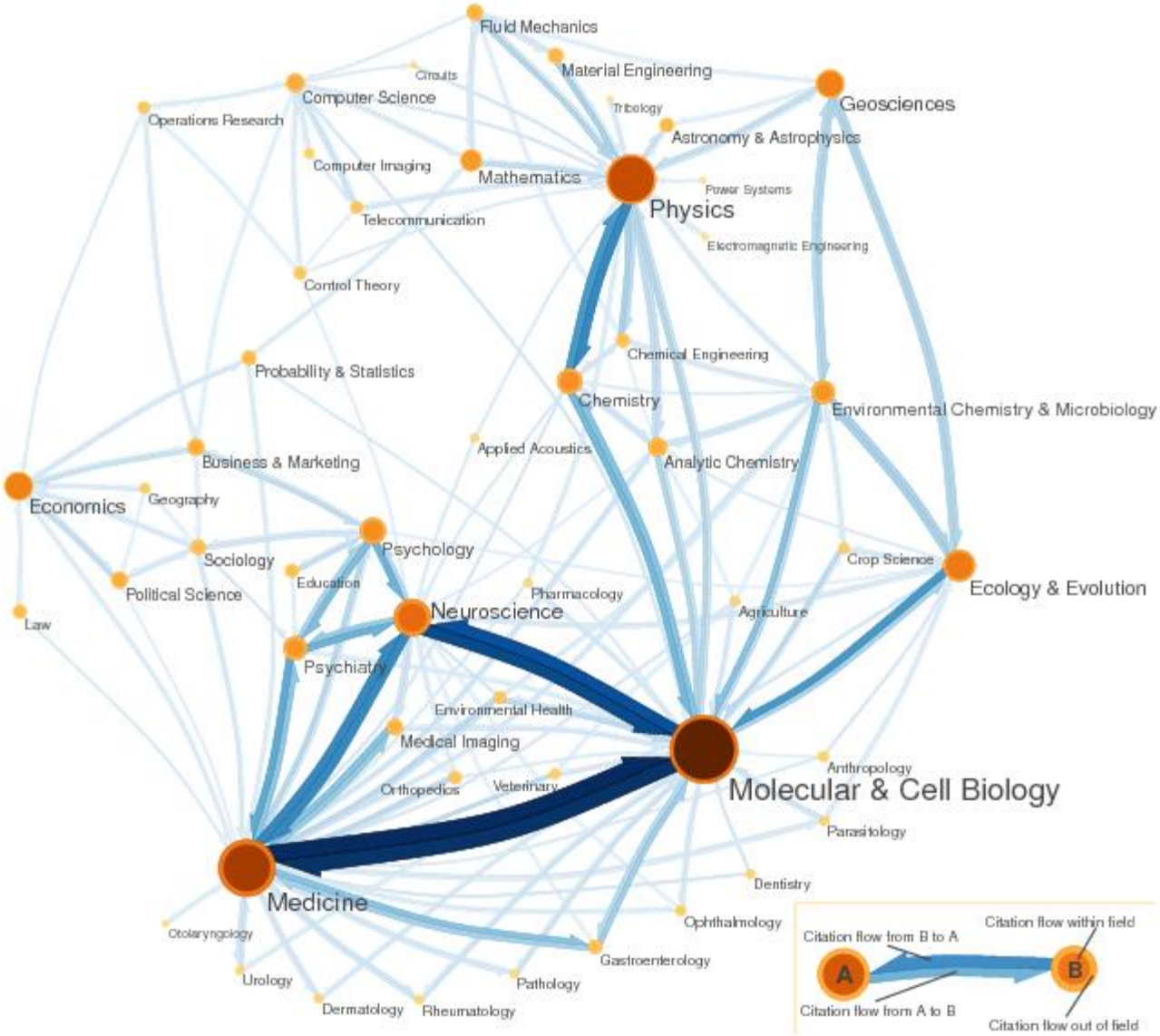
OPERATORS

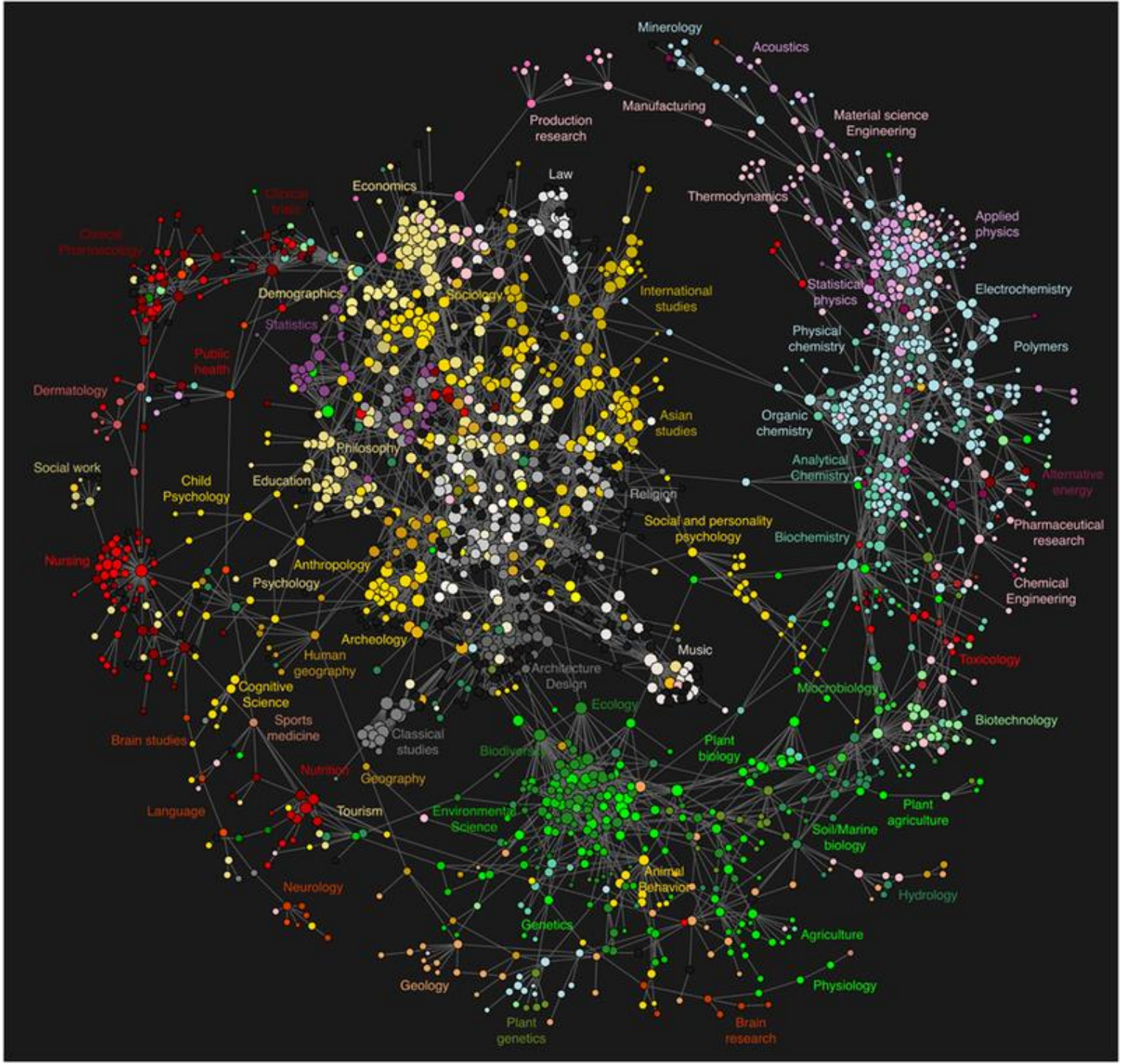
+	addition of numbers, concatenation of Strings
+=	add and assign numbers, concatenate and assign Strings
-	subtraction
-=	subtract and assign
*	multiplication
*=	multiply and assign
/	division
/=	divide and assign
%	take remainder
%=	take remainder and assign
++	increment by one
--	decrement by one
>	greater than
>=	greater than or equal to
<	less than
<=	less than or equal to
!	boolean NOT
!=	not equal to
&&	boolean AND
||	boolean OR
==	boolean equals
=	assignment

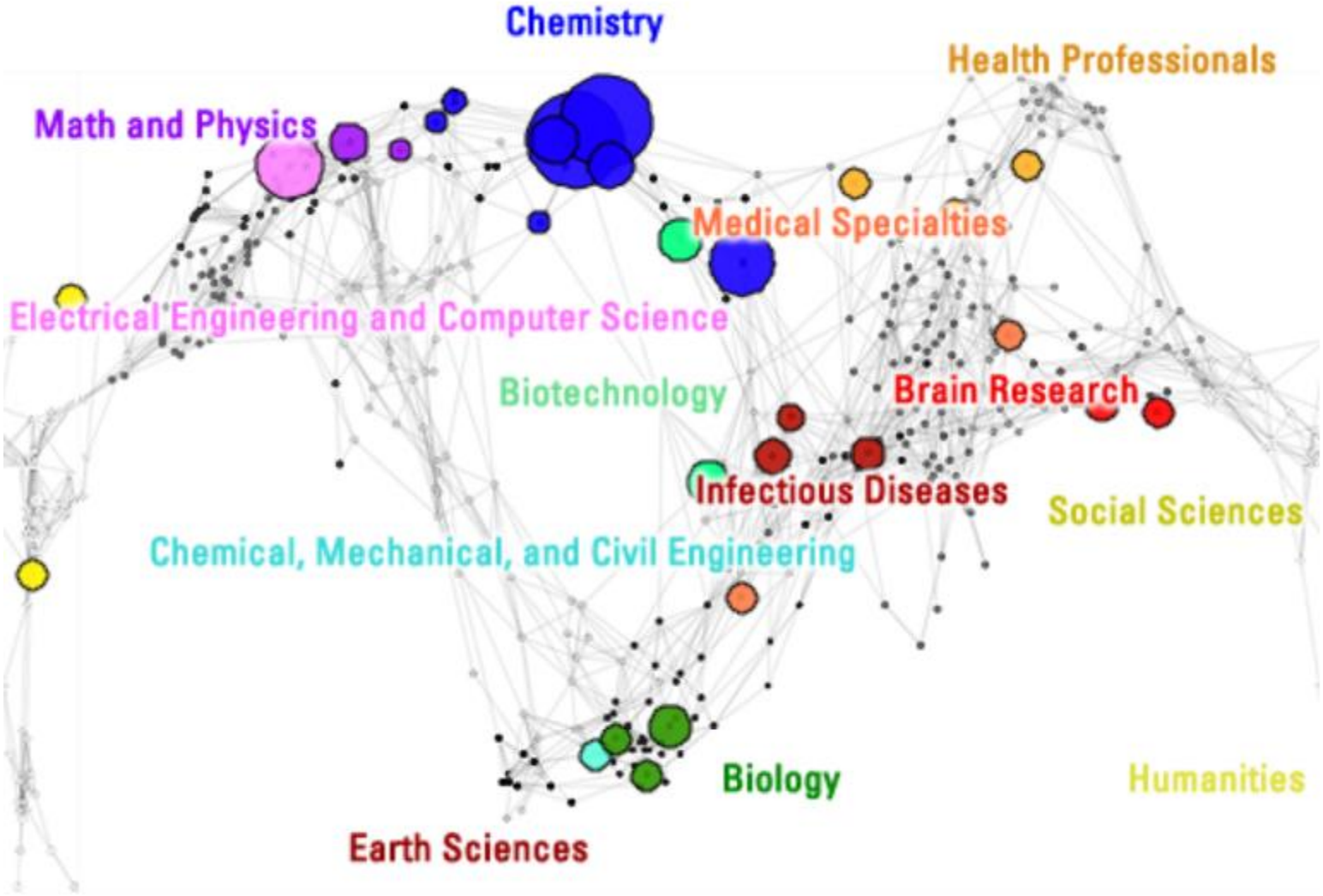
Key Words

abstract
assert
boolean
break
byte
case
catch
char
class
const
continue
default
do
double
else
enum
extends
false
final
finally
float
for
goto
if
implements
import
instanceof
int
interface
long
native
new
null
package
private
protected
public
return
short
static
strictfp
super
switch
synchronized
this
throw
throws
transient
true
try
void
volatile
while

Map of Sciences

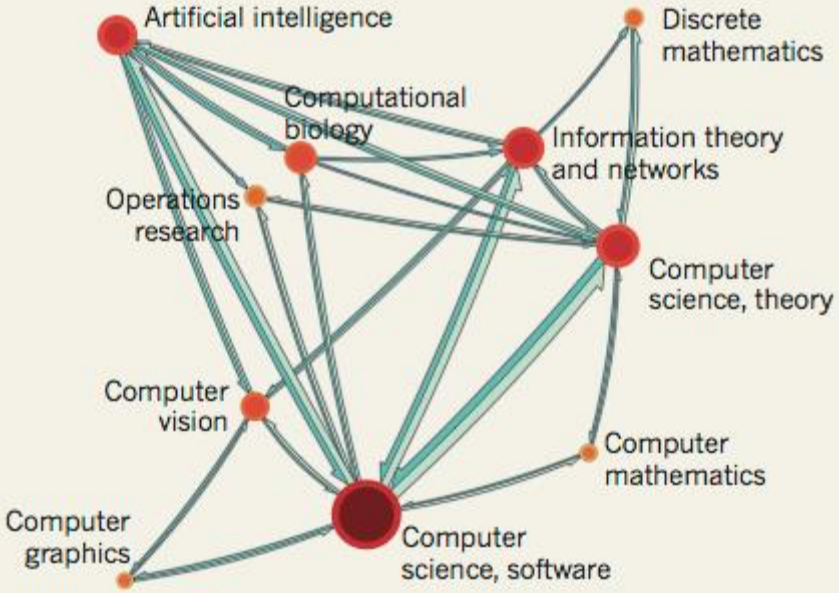

Fluid Mechanics
Material Engineering
Circuits
Computer Science
Geosciences
Operations Research
Tribology
Astronomy & Astrophysics
Computer Imaging
Mathematics
Power Systems
Physics
Telecommunication
Electromagnetic Engineering
Control Theory
Chemical Engineering
Probability & Statistics
Chemistry
Environmental Chemistry & Microbiology
Applied Acoustics
Analytic Chemistry
Business & Marketing
Economics
Geography
Psychology
Crop Science
Sociology
Education
Ecology & Evolution
Political Science
Pharmacology
Neuroscience
Agriculture
Law
Psychiatry
Environmental Health
Medical Imaging
Anthropology
Orthopedics
Veterinary
Molecular & Cell Biology
Parasitology
Dentistry
Medicine
Ophthalmology
Otolaryngology
Gastroenterology
Urology
Pathology
Dermatology
Rheumatology
Citation flow within field
Citation flow from B to A
A
B
Citation flow from A to B
Citation flow out of field

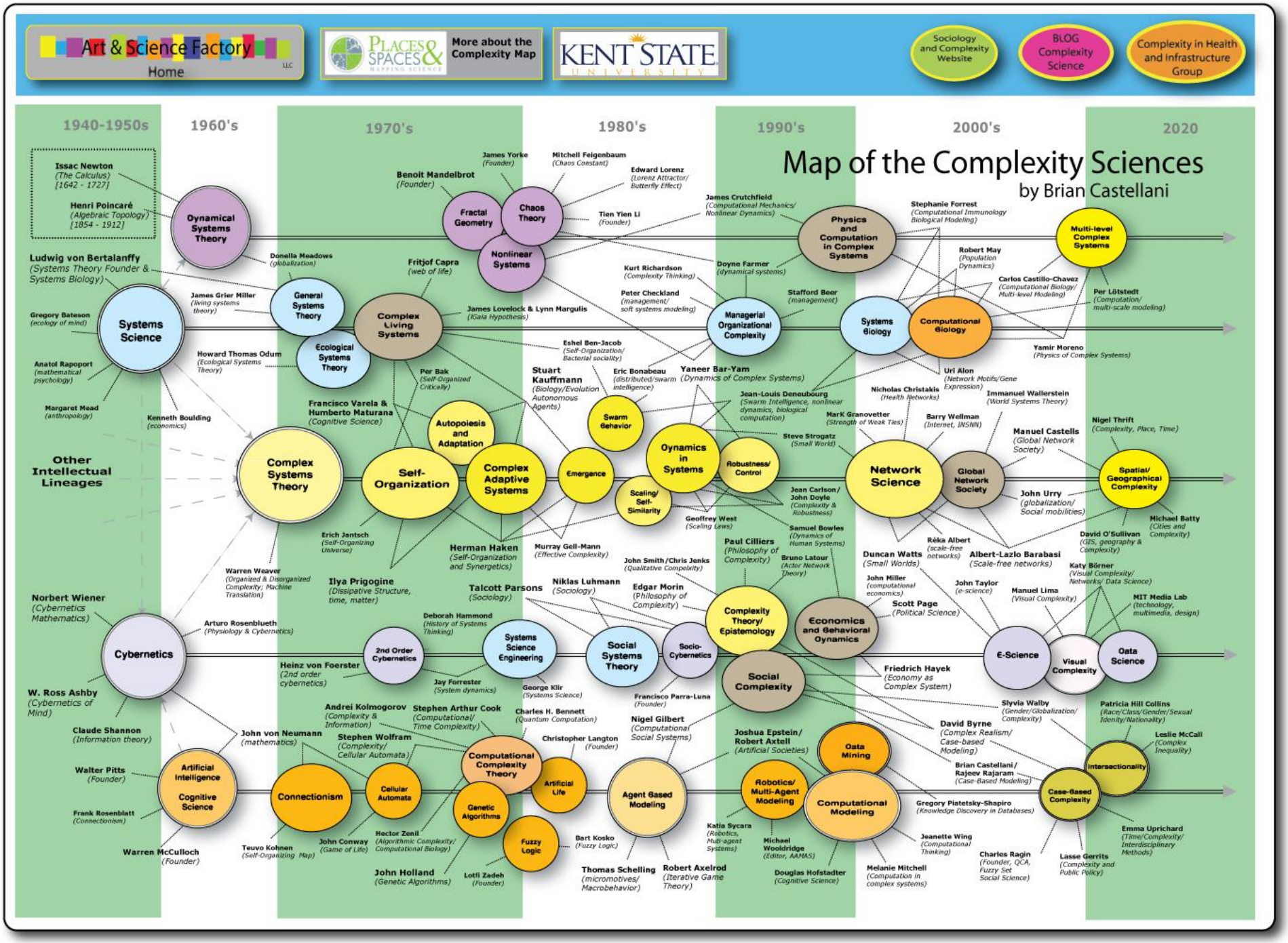

Minerology
Acoustics
Manufacturing
Production research
Material science Engineering
Economics
Law
Thermodynamics
Applied physics
Clinical trials
Clinical Pharmacology
Demographics
Sociology
International studies
Statistical physics
Electrochemistry
Statistics
Physical chemistry
Polymers
Public health
Dermatology
Asian studies
Organic chemistry
Philosophy
Analytical Chemistry
Alternative energy
Social work
Child Psychology
Education
Religion
Social and personality psychology
Biochemistry
Pharmaceutical research
Nursing
Anthropology
Psychology
Chemical Engineering
Archeology
Music
Human geography
Toxicology
Architecture
Design
Cognitive Science
Microbiology
Ecology
Biotechnology
Sports medicine
Brain studies
Classical studies
Plant biology
Biodiversity
Nutrition
Geography
Plant agriculture
Language
Tourism
Environmental Science
Soil/Marine biology
Animal Behavior
Neurology
Hydrology
Genetics
Agriculture
Geology
Physiology
Plant genetics
Brain research


Chemistry
Health Professionals
Math and Physics
Medical Specialties
Electrical Engineering and Computer Science
Biotechnology
Brain Research
Infectious Diseases
Social Sciences
Chemical, Mechanical, and Civil Engineering
Biology
Humanities
Earth Sciences

MAPPING THE STRUCTURE OF SCIENCE

Analysis of citations from 1.7 million computer-science publications in Microsoft Academic Search data reveals the relative importance of research fields, and the flow of citations between them.




Art & Science Factory
LLC
Home
Places & Spaces: Mapping Science
More about the Complexity Map
Kent State University
Sociology and Complexity Website
BLOG Complexity Science
Complexity in Health and Infrastructure Group
1940-1950s
1960's
1970's
1980's
1990's
2000's
2020
Map of the Complexity Sciences
by Brian Castellani
Issac Newton (The Calculus) [1642 - 1727]
Henri Poincaré (Algebraic Topology) [1854 - 1912]
Dynamical Systems Theory
Benoit Mandelbrot (Founder)
James Yorke (Founder)
Mitchell Feigenbaum (Chaos Constant)
Edward Lorenz (Lorenz Attractor/ Butterfly Effect)
Fractal Geometry
Chaos Theory
Nonlinear Systems
Tien Yien Li (Founder)
James Crutchfield (Computational Mechanics/ Nonlinear Dynamics)
Physics and Computation in Complex Systems
Stephanie Forrest (Computational Immunology Biological Modeling)
Multi-level Complex Systems
Ludwig von Bertalanffy (Systems Theory Founder & Systems Biology)
Donella Meadows (globalization)
Fritjof Capra (web of life)
Kurt Richardson (Complexity Thinking)
Doyne Farmer (dynamical systems)
Robert May (Population Dynamics)
Carlos Castillo-Chavez (Computational Biology/ Multi-level Modeling)
Per Lötstedt (Computation/ multi-scale modeling)
Gregory Bateson (ecology of mind)
Systems Science
James Grier Miller (living systems theory)
General Systems Theory
Complex Living Systems
James Lovelock & Lynn Margulis (Gaia Hypothesis)
Peter Checkland (management/ soft systems modeling)
Managerial Organizational Complexity
Stafford Beer (management)
Systems Biology
Computational Biology
Yamir Moreno (Physics of Complex Systems)
Anatol Rapoport (mathematical psychology)
Howard Thomas Odum (Ecological Systems Theory)
Ecological Systems Theory
Eshel Ben-Jacob (Self-Organization/ Bacterial sociality)
Per Bak (Self-Organized Criticality)
Stuart Kauffmann (Biology/Evolution Autonomous Agents)
Eric Bonabeau (distributed/swarm intelligence)
Yaneer Bar-Yam (Dynamics of Complex Systems)
Uri Alon (Network Motifs/Gene Expression)
Margaret Mead (anthropology)
Kenneth Boulding (economics)
Francisco Varela & Humberto Maturana (Cognitive Science)
Autopoiesis and Adaptation
Swarm Behavior
Jean-Louis Deneubourg (Swarm Intelligence, nonlinear dynamics, biological computation)
Nicholas Christakis (Health Networks)
Immanuel Wallerstein (World Systems Theory)
Other Intellectual Lineages
Complex Systems Theory
Self-Organization
Complex Adaptive Systems
Emergence
Oynamics in Systems
Robustness/ Control
Steve Strogatz (Small World)
MarK Granovetter (Strength of Weak Ties)
Barry Wellman (Internet, INSNN)
Network Science
Global Network Society
Manuel Castells (Global Network Society)
Nigel Thrift (Complexity, Place, Time)
Spatial/ Geographical Complexity
Scaling/ Self-Similarity
Jean Carlson/ John Doyle (Complexity & Robustness)
John Urry (globalization/ Social mobilities)
Michael Batty (Cities and Complexity)
Erich Jantsch (Self-Organizing Universe)
Herman Haken (Self-Organization and Synergetics)
Murray Gell-Mann (Effective Complexity)
Geoffrey West (Scaling Laws)
Samuel Bowles (Dynamics of Human Systems)
David O'Sullivan (GIS, geography & Complexity)
Paul Cilliers (Philosophy of Complexity)
Réka Albert (scale-free networks)
Duncan Watts (Small Worlds)
Albert-Lazlo Barabasi (Scale-free networks)
Bruno Latour (Actor Network Theory)
Katy Börner (Visual Complexity/ Networks/ Data Science)
Warren Weaver (Organized & Disorganized Complexity; Machine Translation)
Ilya Prigogine (Dissipative Structure, time, matter)
Talcott Parsons (Sociology)
Niklas Luhmann (Sociology)
John Smith/Chris Jenks (Qualitative Compelxity)
Edgar Morin (Philosophy of Complexity)
John Miller (computational economics)
John Taylor (e-science)
Manuel Lima (Visual Complexity)
MIT Media Lab (technology, multimedia, design)
Scott Page (Political Science)
Norbert Wiener (Cybernetics Mathematics)
Cybernetics
Arturo Rosenblueth (Physiology & Cybernetics)
Deborah Hammond (History of Systems Thinking)
2nd Order Cybernetics
Systems Science Engineering
Social Systems Theory
Socio-Cybernetics
Complexity Theory/ Epistemology
Economics and Behavioral Dynamics
E-Science
Visual Complexity
Data Science
Heinz von Foerster (2nd order cybernetics)
Jay Forrester (System dynamics)
George Klir (Systems Science)
Francisco Parra-Luna (Founder)
Social Complexity
Friedrich Hayek (Economy as Complex System)
W. Ross Ashby (Cybernetics of Mind)
Andrei Kolmogorov (Complexity & Information)
Stephen Arthur Cook (Computational/ Time Complexity)
Charles H. Bennett (Quantum Computation)
Nigel Gilbert (Computational Social Systems)
Slyvia Walby (Gender/Globalization/ Complexity)
Patricia Hill Collins (Race/Class/Gender/Sexual Identity/Nationality)
Claude Shannon (Information theory)
John von Neumann (mathematics)
Stephen Wolfram (Complexity/ Cellular Automata)
Computational Complexity Theory
Christopher Langton (Founder)
Joshua Epstein/ Robert Axtell (Artificial Societies)
Data Mining
David Byrne (Complex Realism/ Case-based Modeling)
Leslie McCall (Complex Inequality)
Walter Pitts (Founder)
Artificial Intelligence
Cognitive Science
Connectionism
Cellular Automata
Genetic Algorithms
Artificial Life
Agent Based Modeling
Robotics/ Multi-Agent Modeling
Computational Modeling
Brian Castellani/ Rajeev Rajaram (Case-Based Modeling)
Intersectionality
Case-Based Complexity
Frank Rosenblatt (Connectionism)
Warren McCulloch (Founder)
Teuvo Kohnen (Self-Organizing Map)
John Conway (Game of Life)
Hector Zenil (Algorithmic Complexity/ Computational Biology)
John Holland (Genetic Algorithms)
Lotfi Zadeh (Founder)
Fuzzy Logic
Bart Kosko (Fuzzy Logic)
Thomas Schelling (micromotives/ Macrobehavior)
Robert Axelrod (Iterative Game Theory)
Katia Sycara (Robotics, Multi-agent Systems)
Michael Wooldridge (Editor, AAMAS)
Douglas Hofstadter (Cognitive Science)
Gregory Piatetsky-Shapiro (Knowledge Discovery in Databases)
Jeanette Wing (Computational Thinking)
Melanie Mitchell (Computation in complex systems)
Charles Ragin (Founder, QCA, Fuzzy Set Social Science)
Lasse Gerrits (Complexity and Public Policy)
Emma Uprichard (Time/Complexity/ Interdisciplinary Methods)