

Figure 1:

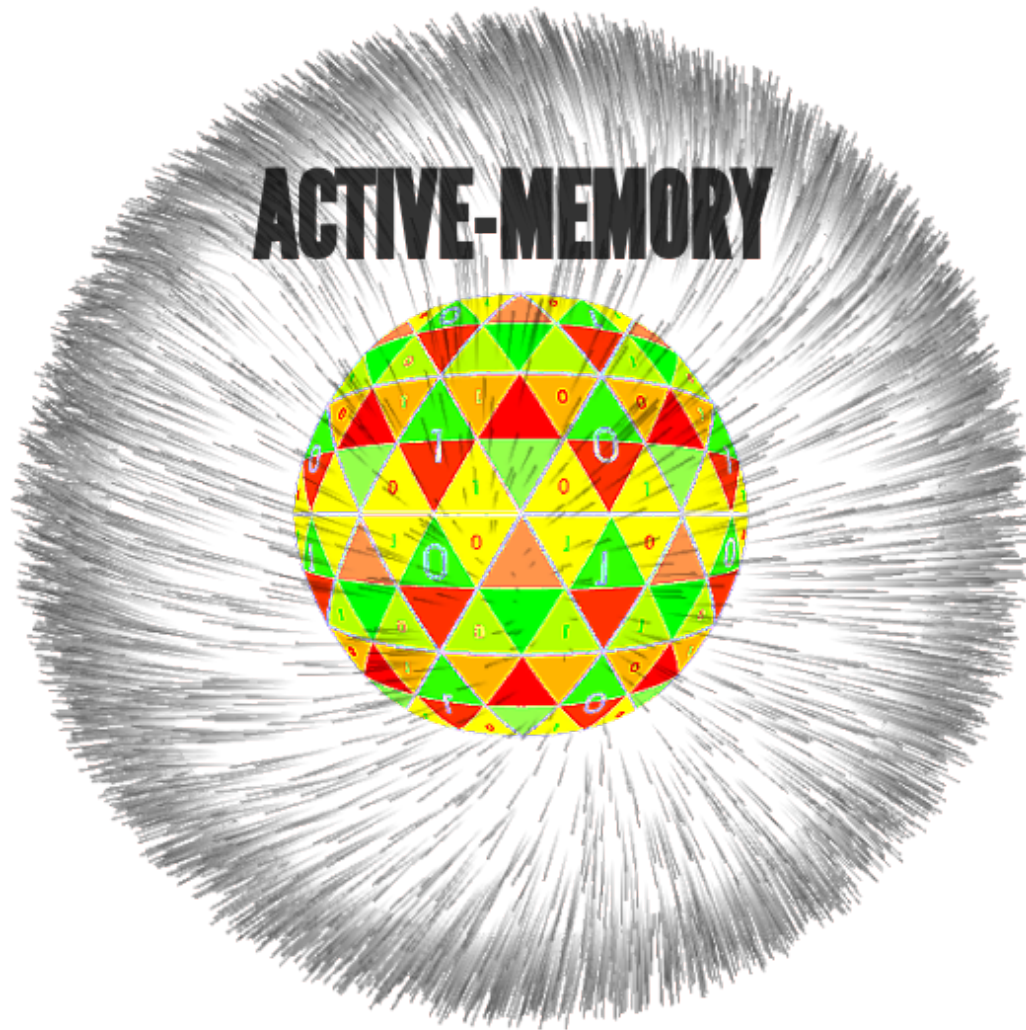


Figure 2: data-nodes around a context domain space (mind's eye)

ACTIVE-MEMORY

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C3D2

2012

→ <https://github.com/santex/active-memory-paper>

Short Description

Procreating data, under fitness consideration, in form of **semantic** micro-structures within a conceptual domain. controlled by a human users request.

The projects goal is to establish a way to compound information quality , quantity in a genetic fashion.

To organise knowledge like a biological organism. within a data population.
on data-nodes which are organisation, in a context domain space. Goal is to facilitate procreation in a genetic fashion. in essence to make better information from information.
Desired result of all efforts is to make better data from data by default.
It also has very interesting organisational properties, each structure is bound on a concept or more.
Side effect of the genetic fitness evaluation is that all root nodes and end nodes are known upfront reducing query distance as each end-node is same distance. It enables us to work kind of parallel.

New Terms

micro-structure

a micro-structure is a abstract entity describing **any concept**
the information is obtained via **WORD-NET**

key-stone

a key-stone is the root of a micro-structure

example:

a micro-structure with the key-stone existence

```
<existence>
- Cosmos
- Unit
- Universe
- Physical_entity
- Object
- Physical_object
```

- Nature
- Macrocosm
- Natural_order
- World
- Whole
- Natural_object
- Closed_universe
- Existence
- Creation
- Entity

0.1 combining to a complex entity

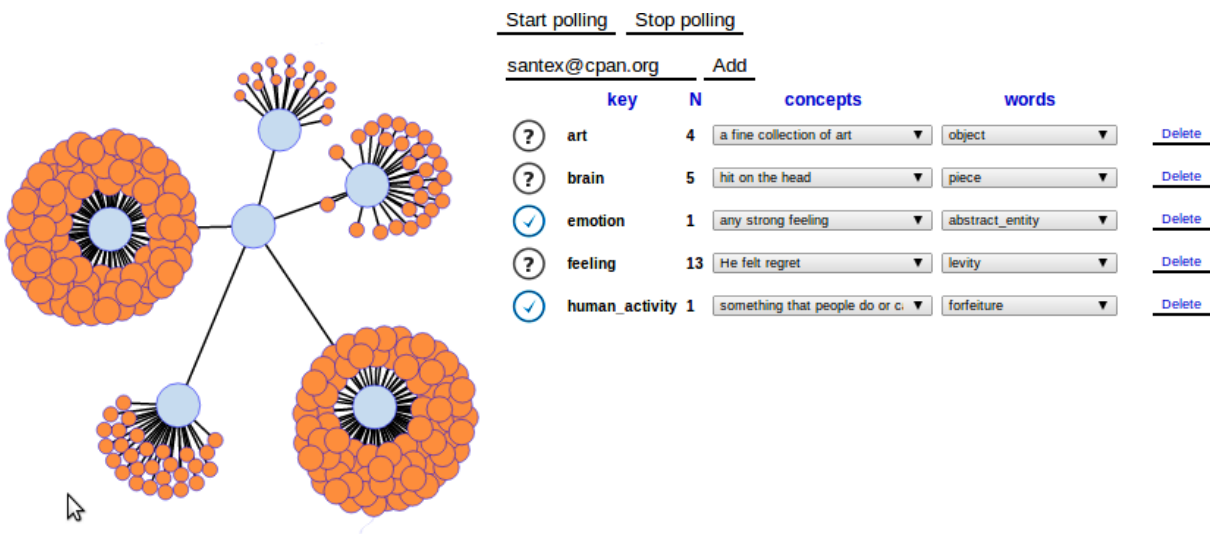


Figure 3: making micro-structures

concept art	4 sub-concepts	27 key-words
concept brain	5 sub-concepts	16 key-words
concept emotion	1 sub-concept	28 key-words
concept feeling	13 sub-concepts	76 key-words
concept human-activity	1 sub-concepts	83 key-words

The core node is my user-name

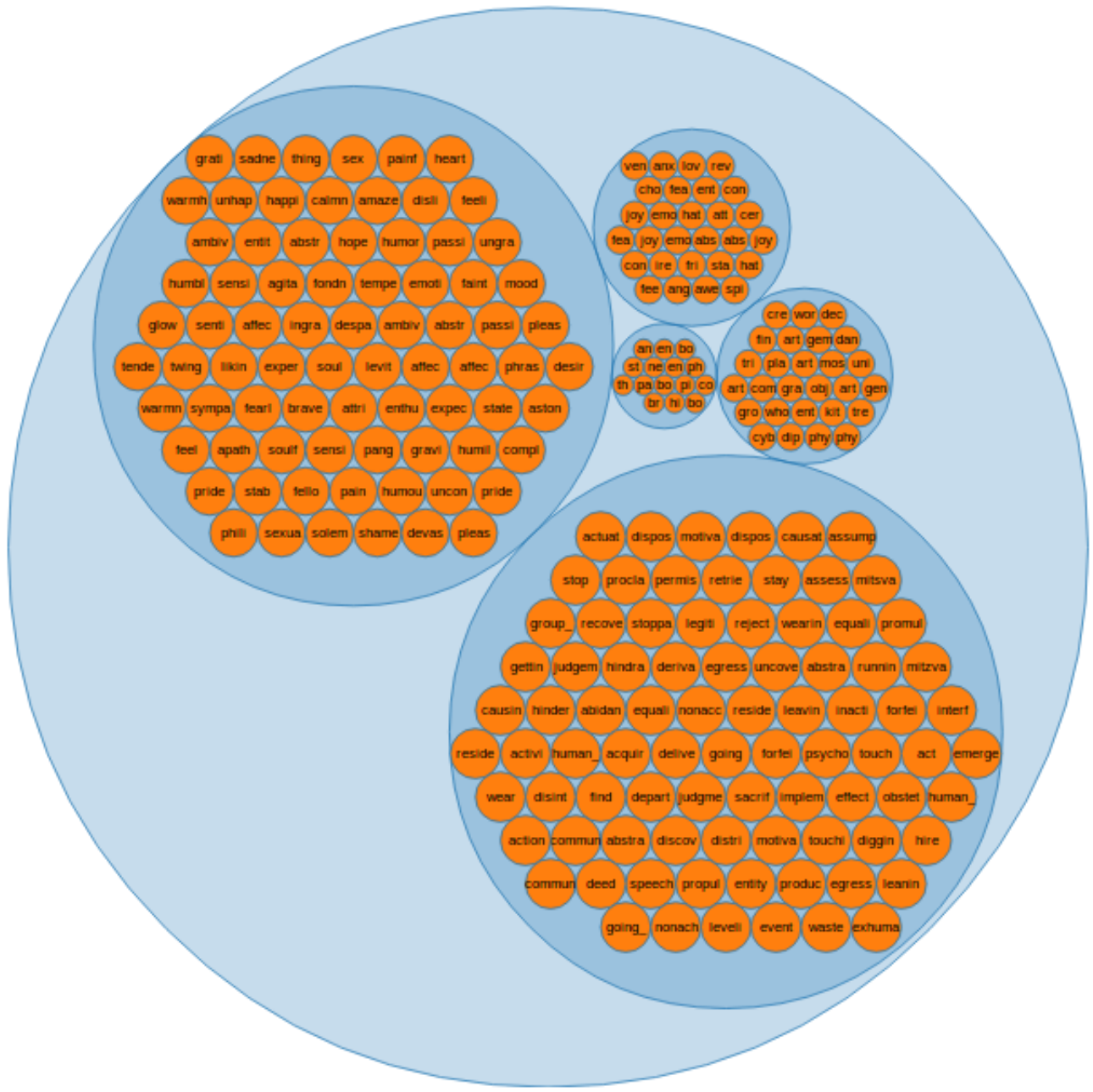


Figure 4: pack of concepts

0.2 micro-structure properties

- a micro-structure lives as a perl module (\$micro new existence)
- most human concepts available
- combine modular
- access via terminal
- micro-structure have access to the data-plug-in's (wiki, google, torrent)
- the micro-structure is used as permanent query to scan for data.

0.3 active-memory plug-ins

- plug-ins are like feeds to just compatible to micro-structure's
- currently in use wiki plug-in (google planed)

1 Fitness

Variables →

- C-total Word-net concept sum
- C-established used concept sum
- generation
- spawning links sum **in individual**
- tag-number sum **in individual**
- tag-ratios across total data population in micro-structure
- tag-density across total data population in micro-structure
- media items ratio (**links/amount media items**) (ogg, image, pdf)
- special items ratio (**links/amount special items**) (category, list)
- amount non linking/spawning individuals/

2 continuum of concepts within a micro-structure

- → **object**
- natural object—physical object—celestial body—heavenly body
- planet
- outer planet
- jovian planet
- superior planet
- major planet
- gas giant
- jupiter
- Iapetus
- moon
- satellite
- heavenly body—celestial body—physical object—natural object
- → **object**;

3 dealing with sub concepts of a higher order

my personal implementation please note,
there is a chance that things are broken at the time you looking on it.
try bit later or send a mail

http://algorithmservice.com:5984/wikilist/_design/base/micro.html

and

http://algorithmservice.com:5984/wikilist/_design/base/micro-wiki.html

this is a representation of,
ca 200.000 result-nodes across a large number of (micro-structure ontologies)

the page still changes very frequently
but normally
it will provide a, on the fly semantic within the end nodes.

Navigation by next-neighbor approximation,
as demonstrated in the right panel on the page

wait until web socket is connected

(http://algoservice.com:5984/wikilist/_design/base/micro.html)
then search biology

next neighbor's of "biology" and the density of crossovers

(biology) = 4382 Article/end-nodes in population
(biology, anatomy) = 161 Article/end-nodes in population

next neighbour's
biology: 4382
anatomy: 161
genetics: 155
zoology: 123
ecology: 86
botany: 63
chemistry: 63
medicine: 48
medical: 47
unit: 42
genus: 41
wine: 40
animal: 39
mollusc: 39
evolution: 37
mycology: 37
journal: 36
epidemiology: 35

this way we are able to create a ontology over huge amount of data,
as we interpolate over knowledge.
its similar to a tetra-eder network.
or a Voronoi_diagram.

<http://quantup.com/lib/3d/examples/voroboids/voroboids.html>
<http://upload.wikimedia.org/wikipedia/commons/8/89/2Ddim-L2norm-10site.png>

the group,
of most dense nodes (swanning & categories),
build the point of convergence, like in the Voronoi_diagram.

Please note that these 200.000 nodes come from my space micros-structure ,
its de-central

normally,
you would have your own structure and end-nodes,

(4): one who works hard at boring tasks

Type: the number you choose 1..4
#my choice of sub-concept
\$. 3
returns

hacker
programmer
computer_programmer
coder
software_engineer
engineer
applied_scientist
technologist
person
individual
someone
somebody
mortal
soul
organism
being
living_thing
animate_thing
whole
unit
object
physical_object
physical_entity
entity
causal_agent
cause
causal_agency
physical_entity
entity
computer_user
person
individual
someone
somebody
mortal
soul
organism
being
living_thing
animate_thing
whole

unit
object
physical_object
physical_entity
entity
causal_agent
cause
causal_agency
physical_entity
entity
hacker
programmer
computer_programmer
coder
software_engineer

4 Project code structure

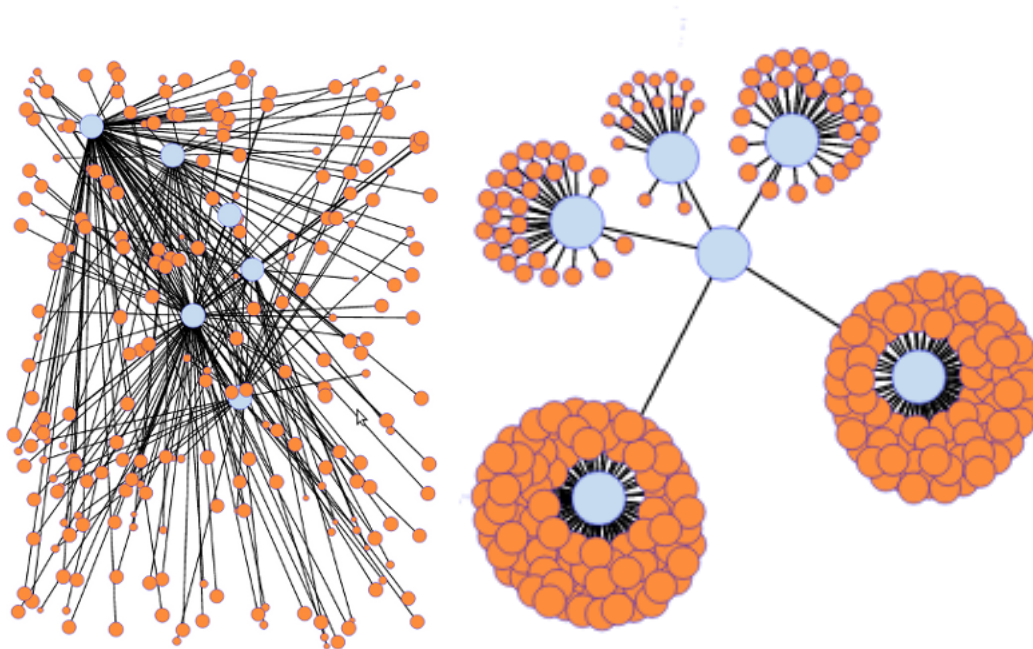
- → perl module
- → memcache
- → couchdb
- → wordnet

5 experimental Implementation

- → ui: <http://www.quantup.com>
- → data-base: <http://algoservice.com:5984/wikilist/>
- → git: <https://github.com/santex/active-memory>

6 Network

Data in disorganised data network The same network as micro-structure



Data in disorganised data network — The same network as micro-structure

7 A sample

```

~$ micro hacker
computer_user

~$ micro hacker
programmer

now use > $ micro hacker 20
animate_thing
programmer
object
coder
computer_programmer
physical_object
living_thing
entity
software_engineer
physical_entity
engineer
cause

```

individual
applied_scientist
being
hacker
somebody
technologist
causal_agent
whole

8 A sample with data

```
$ micro new constallation;  
$ micro constallation 103;
```

andromeda
antlia
apus
aquarius
aquila
ara
argo
aries
auriga
bootes
caelum
cancer
canis_major
canis_minor
capricorn
capricornus
carina
cassiopeia
centaur
centaurus
cepheus
cetus
chamaeleon
chameleon

charioteer
circinus
columba
coma_berenices
constellation
corona_borealis
corvus
crane
crater
crow
crux
crux_australis
cygnus
delphinus
dorado
dove
draco
dragon
entity
eridanus
fornax
gemini
great_bear
great_dog
grus
hercules
hunter
hydra
hydrus
indus
leo
lepus
libra
little_bear
little_dog
lupus
lyra
mensa
microscopium
musca
natural_object
norma
object
octans
ophiuchus
orion
pavo
pegasus

perseus
phoenix
physical_entity
physical_object
pictor
pisces
puppis
pyxis
reticulum
sagitta
sagittarius
scorpio
scorpius
sculptor
serpens
snake
southern_cross
southern_triangle
taurus
telescopium
triangle
triangulum
triangulum_australe
tucana
unit
ursa_major
ursa_minor
vela
virgo
volans
vulpecula

get data this shell script only to balance load regular command
(micro-wiki virgo)

```
#!/bin/bash
IFS_BAK=$IFS;
IFS=$'\n';
array=( $(micro constellation 105) );
n=0;
for item in ${array[@]}
do
var=$(ps aux | grep -c perl);
if [ 80 -lt $var ];
then
```

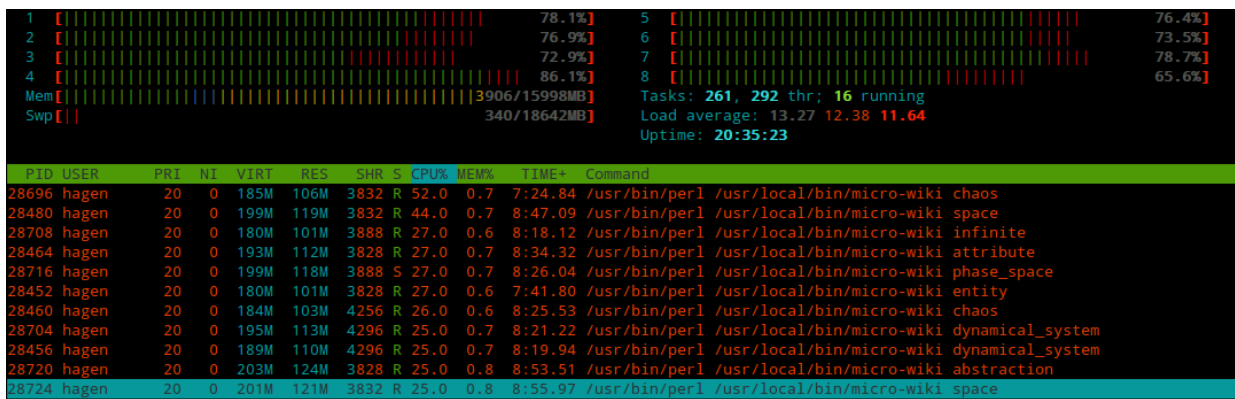
```

    echo $n;
    sleep 10;
else
    micro-wiki $item &
fi
    let n+=1
done;
echo $n;
IFS=$IFS_BAK;

```

downloading

.....



sample out images (actually the image results are times 5)

.....

- NGC
- Album #1 (0)
- Album #2 (0)
- Album #3 (0)
- Album #4 (0)

NGC

Search

- [NGC 1](#)
- [NGC-104](#)
- [NGC 1042](#)
- [NGC 1093](#)
- [NGC 1137](#)
- [NGC 1248](#)
- [NGC 1463](#)
- [NGC 1472](#)
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- [NGC 1309](#)
- [NGC 1313](#)
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- [NGC 185](#)
- [NGC 1854](#)
- [NGC 188](#)
- [NGC 1831](#)
- [NGC 1995](#)
- [NGC 1973, NGC 1975 and NGC 1977](#)
- [NGC 1978](#)
- [NGC 1977](#)
- [NGC 1852](#)
- [NGC 1999](#)
- [NGC 1999](#)
- [NGC 2093](#)
- [NGC 2092](#)
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- [NGC 2070](#)
- [NGC 2029 and IC 2163](#)
- [NGC 221](#)
- [NGC 224](#)
- [NGC 2261](#)
- [NGC 23](#)
- [NGC 2449](#)
- [NGC 2359](#)
- [NGC 2363](#)
- [NGC 2382](#)
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- [NGC 2371-2](#)
- [NGC 2382](#)
- [NGC 2392](#)
- [NGC 2463](#)
- [NGC 2472](#)

