Aigents - adaptive personal agents for social intelligence

Find and Share
Your self   with Peer
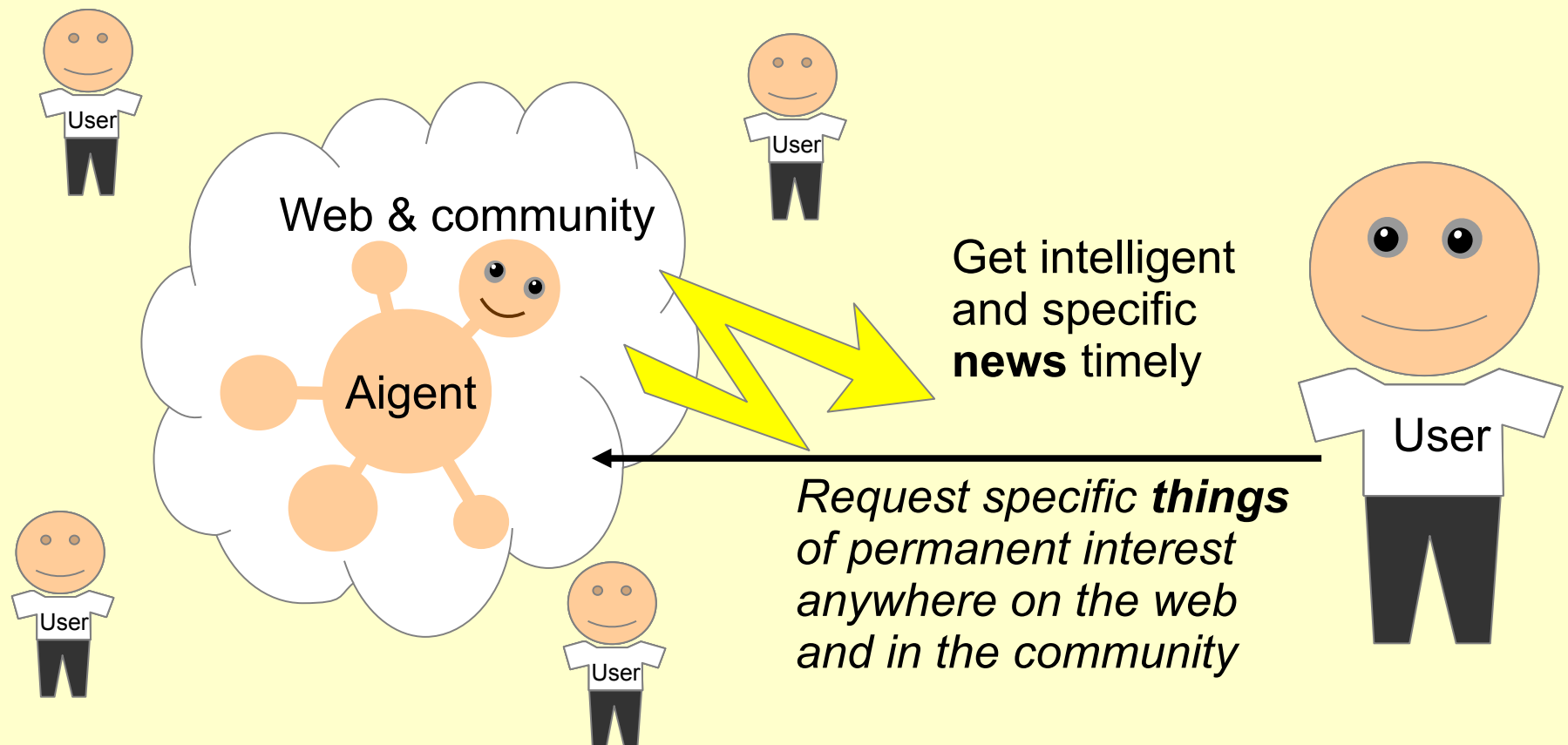
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Aigents : Agents for social Intelligence in the Internet
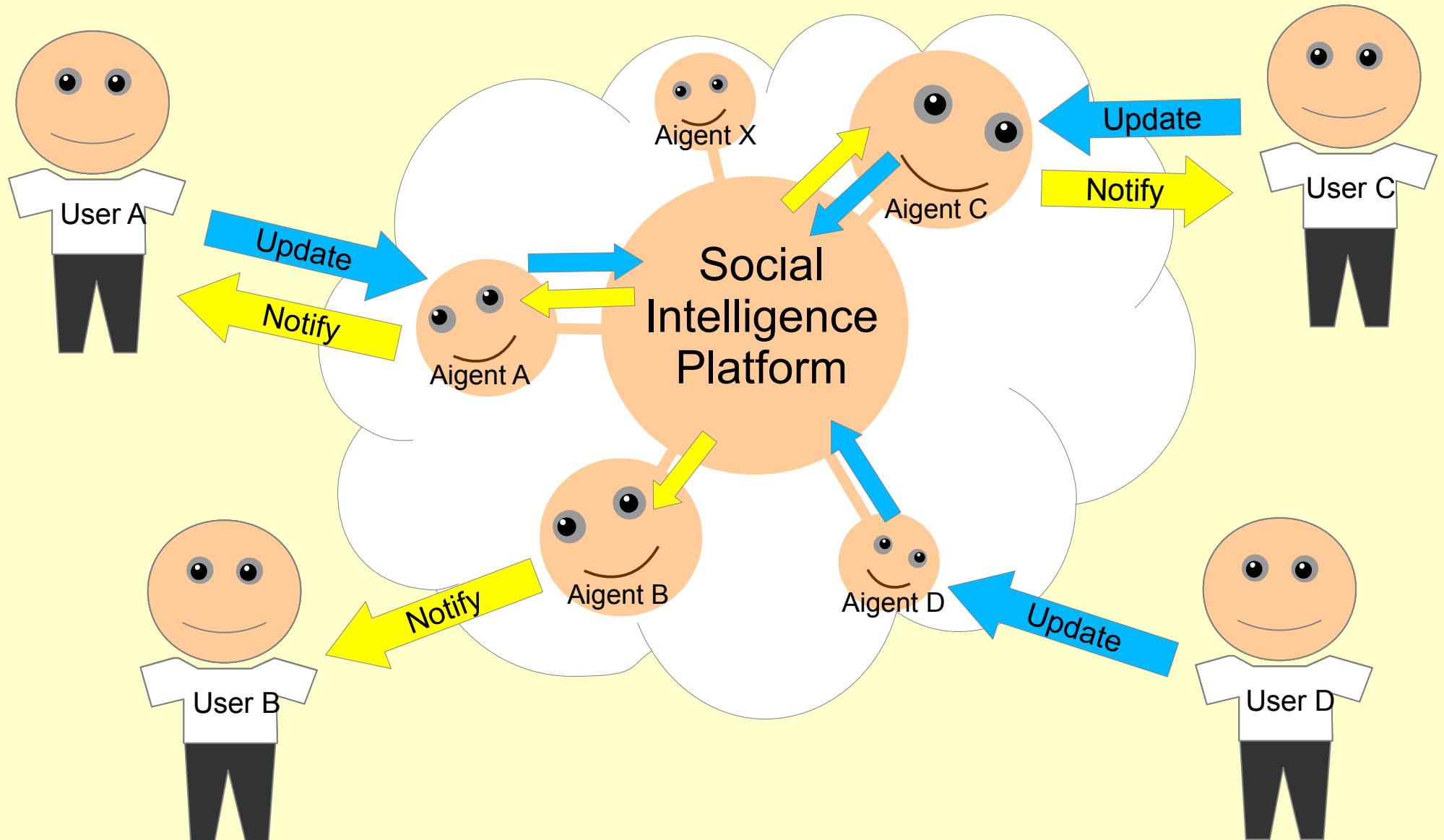
Aigents : Use case #1 – collect personalized news

The **Aigents** platform
enables users to get information from internet timely,
with respect to personal preferences and social connections,
using distributed semantic search technology acquiring
user's intent and context automatically.
Available *as free or premium software packages and service subscriptions.*

Web & community

Aigent

User

Get intelligent
and specific
news timely

User

*Request specific **things**
of permanent interest
anywhere on the web
and in the community*

Aigents : Collecting news and extracting data, given feedback

Ability to reach complex goals in complex environments, using limited resources

(B.Goertzel, 1999)
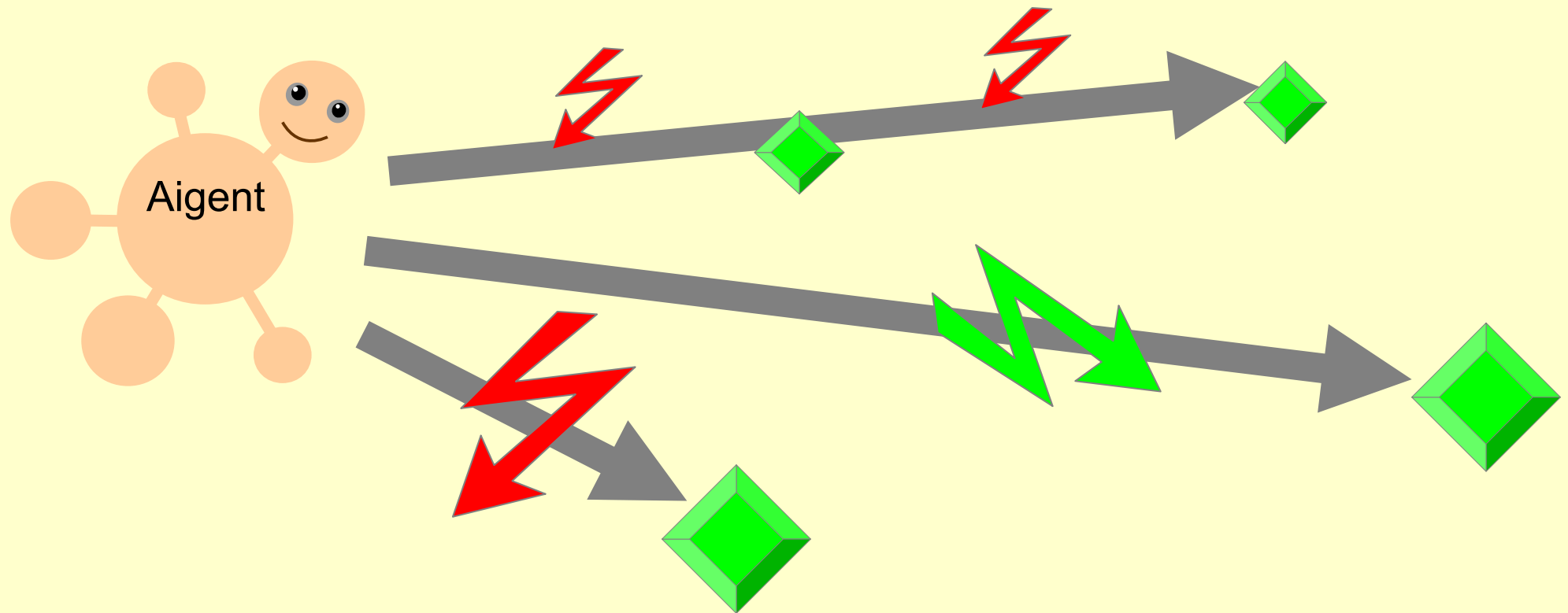
Aigents : Environment of an Agent for experiential learning
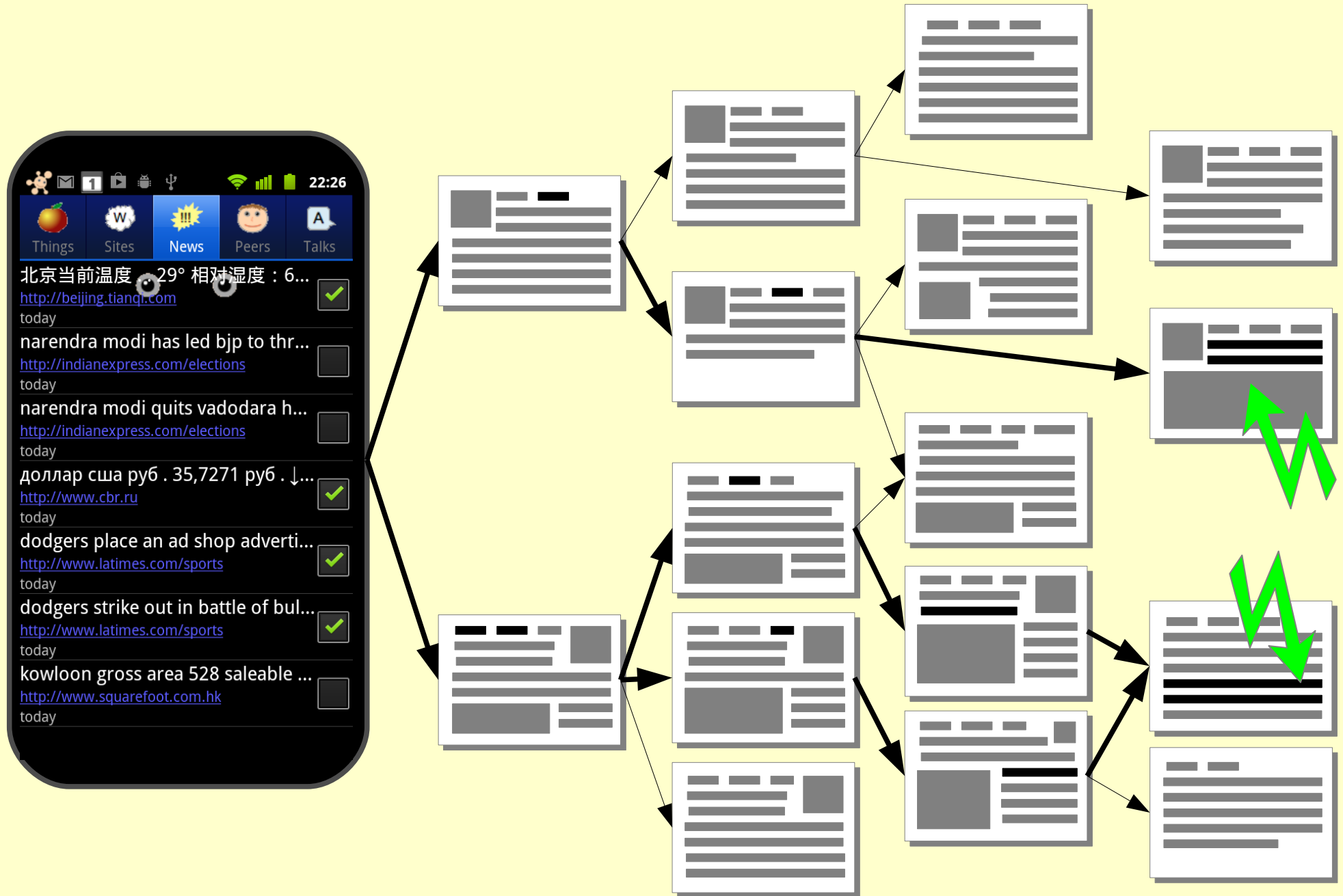
Aigents : Examples of semantics extraction

Aigent Generic

Weather today 32 °F, rainy
Solar flare class M at 5 AM

weather today $temperature °F, $details
solar flare class {M, C, X} at $time

Aigent Business Domain

Google acquires Jetpac
Apple recently acquired Swell

$acquirer acquires $acquiree
$acquirer acquired $acquiree

Aigent Real Estate

Lease - Ridge View 15, $2400, 1/12/2013"
Rent, address Way 24, $2100, 15/12/2013"

{lease, rent} $address, $price, $date

User

Aigents : Learning patterns with "deep learning"

Aigents : Learning patterns

<pattern> := <token> | <regexp> | <variable> | <set>
<set> := <conjunctive-set> | <N-gram> | <syn-set>
<conjunctive-set> := (<pattern> *)
<N-gram> := [<pattern> *]
<syn-set> := { <pattern> * }

Examples

{[$description catheter] [$coating coating] [$inner-diameter
     {diameter inner-diameter}] [$tip tip] [$pattern pattern]}
X

Convey Guiding Catheter. Unique hydrophilic coating.
     Small atraumatic soft tip. Ultra-thin 1 × 2 flat wire braid pattern
=

{ coating : 'hydrophillic', description : 'convey guiding',
     pattern : 'ultra-thin 1 × 2 flat wire braid', tip : soft }

Aigents : Overall multi-agent architecture

Chat

```
SAY:My email doe@john.org.
GET:What your pet name?
SAY:My pet name Toby.
GET:Ok. Hello John Doe!
My Aigents 1.1.0 Copyright © 2015 Anton Kolonin, Aigents Group.
SAY:What my keeping days, sensitivity threshold, update time, chec
k cycle?
GET:Your check cycle day, keeping days 10, sensitivity threshold 8
0, update time 9:00.
SAY:No there is storm, times today.
GET:Ok.
SAY:My knows no storm.
GET:Ok.
SAY:What my knows?
GET:Your knows temperature.
SAY:My knows no temperature.
GET:Ok.
SAY:What my knows?
GET:Your not.
SAY:No name temperature, name storm.
GET:Ok.
SAY:No name scale, name value, name region.
GET:Ok.
```

Mobile UI

Web UI

Desktop UI

User

AL

AL

AL

AL

AL

Aigents Core

Other Aigents
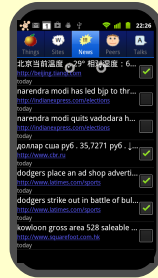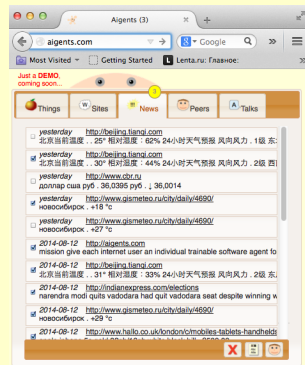
Aigents : Language (AL) – interlingua for humans and agents

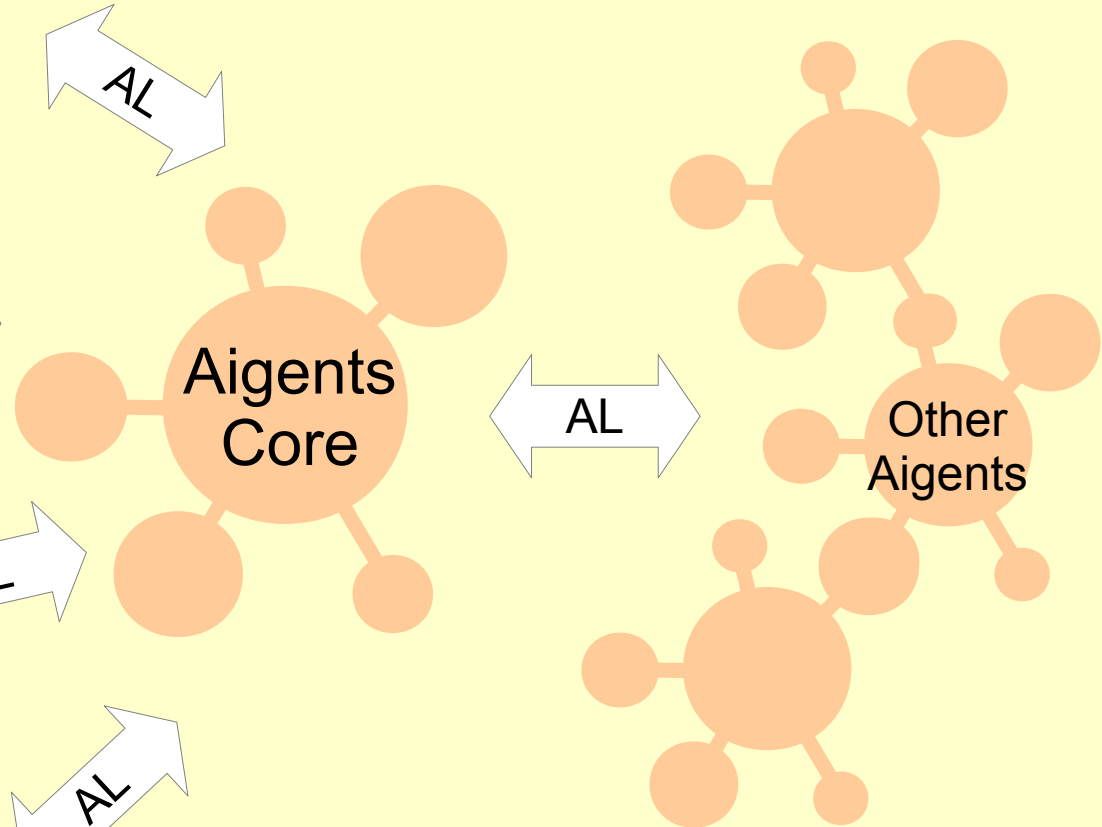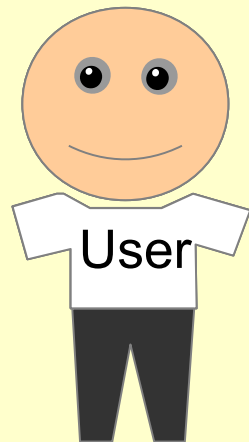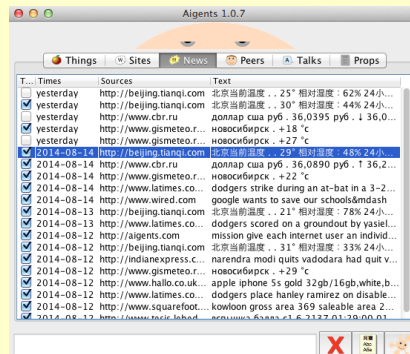| English	AL (no "clues")	Russian (with tonal modulation)
What is your feeling?	Your feeling?	Твое <u>ощущение</u>? (tone up)
If your feeling is good?	Your feeling good?	Твое ощущение <u>хорошее</u>? (tone up)
Your feeling is good.	Your feeling good.	Твое ощущение хорошее. (tone neutral)
Have your feeling good!	Your feeling good!	Твое ощущение <u>хорошее</u>! (tone down)

AL – written (with "clues")   **AL – spoken (with no "clues")**

AL – written (with "clues")		AL – spoken (with no "clues")
I (can (eat, sleep), want (dance, sing)).	<=>	I can eat and sleep and want dance and sing.
I {can (eat, sleep), want (dance, sing)}.	<=>	I can eat and sleep or want dance and sing.
I (can {eat, sleep}, want {dance, sing}).	<=>	I can eat or sleep and want dance or sing.
You [eat {rice, meat}, drink {juice, water}]!	<=>	You eat rice or meat next drink juice or water!

AL	Term logic		Turtle
A C (D,E).	<=> A C D. A C E.	<=>	A C D,E.
A (C D, F G).	<=> A C D. A F G.	<=>	A C D; F G.
A (C (D,E), F (G,H)).	<=> A C D. A C E. A F G. A F H.	<=>	A C D,E; F G,H.
(A,B) C D.	<=> A C D. B C D.		
(A,B) (C (D,E), F (G,H)).	<=> A C D. A C E. B C D. B C E. A F G. A F H. B F G. B F H.		

Aigents : Ontologies

Domain/user ontology:
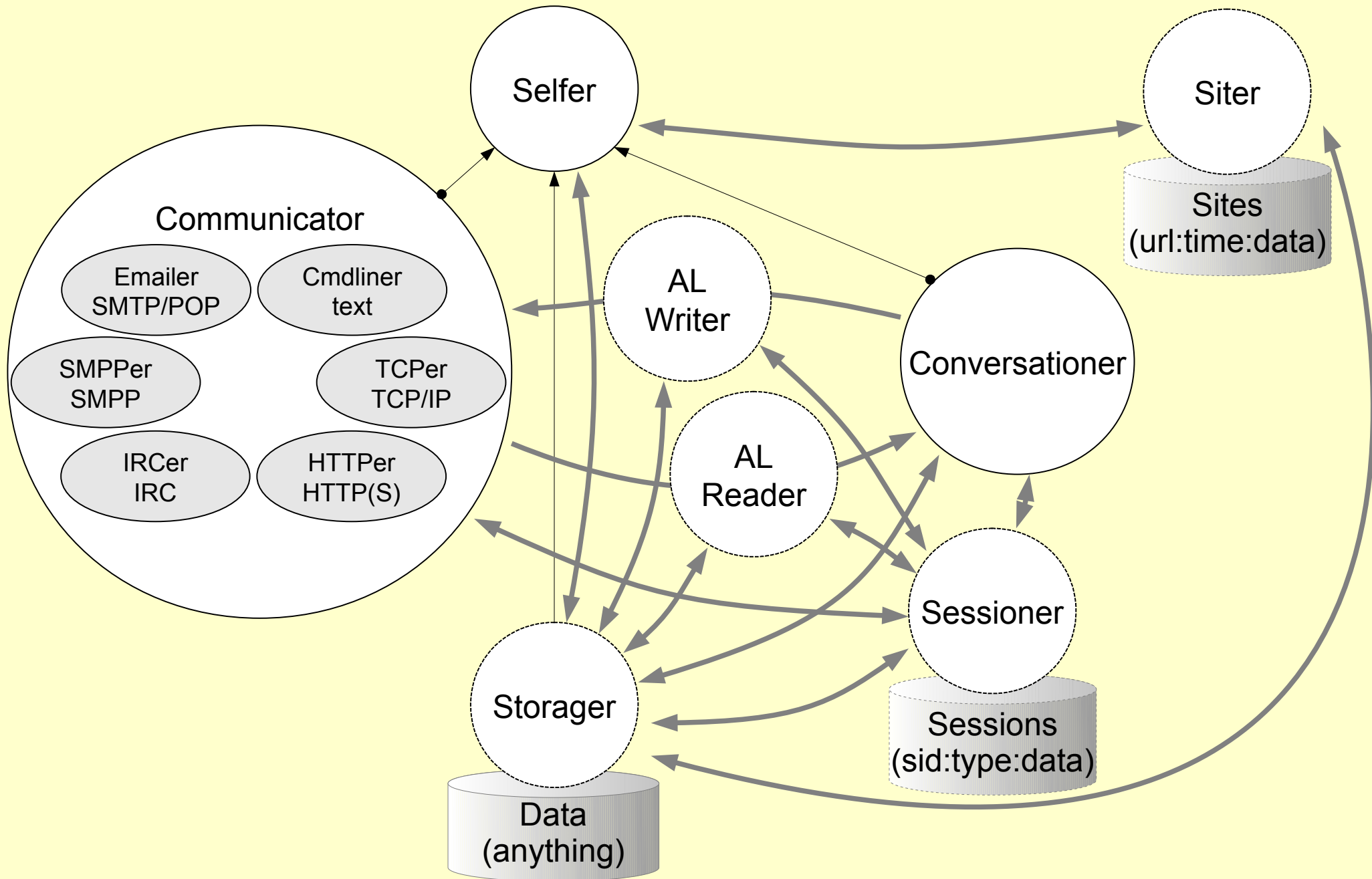Person, company, temperature, event, etc...

Upper ontology:
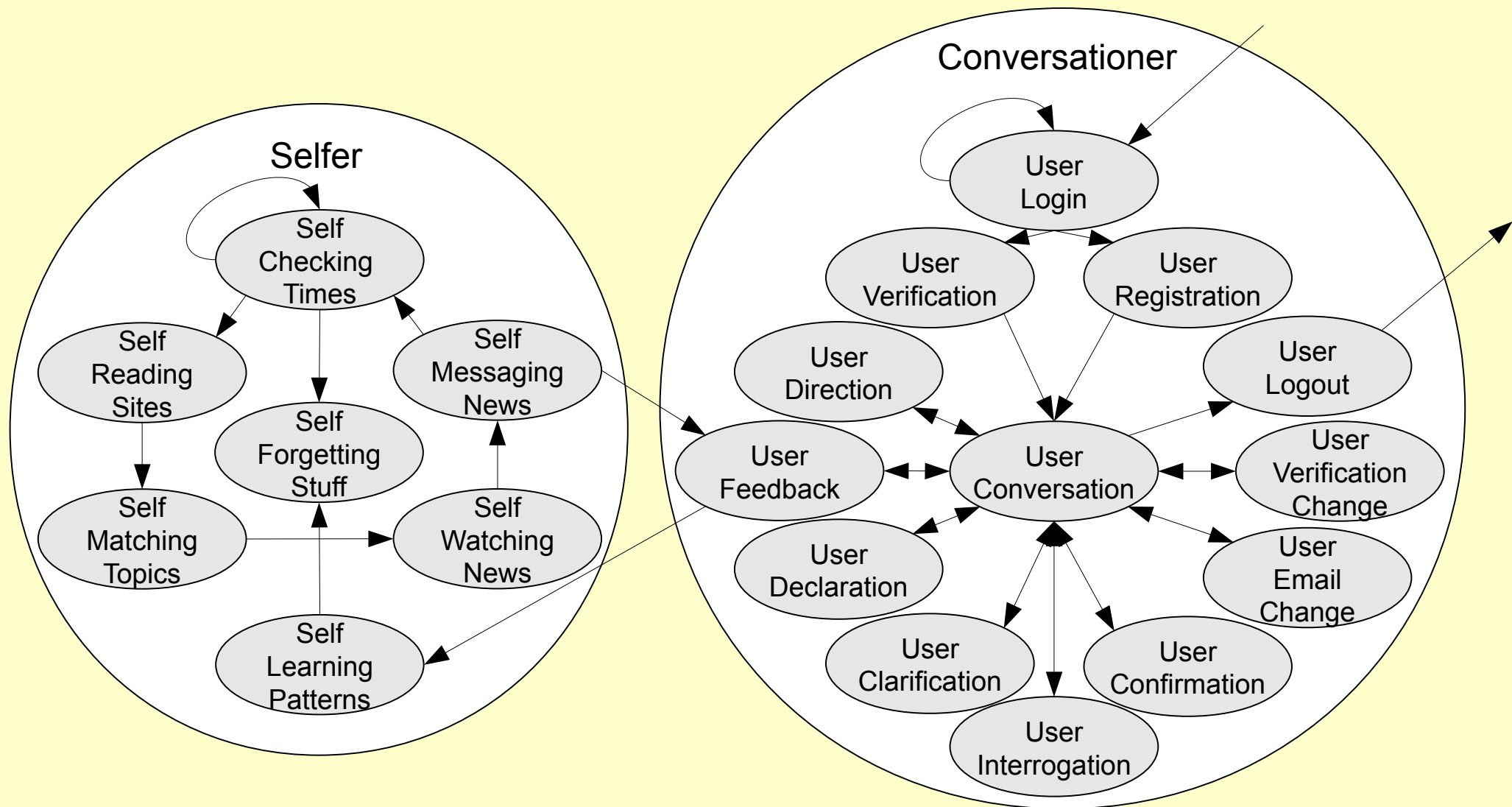Site, Self, Peer, Source, Text, Trust

Basic ontology:
Thing, Time, Property, Name, Is, Has

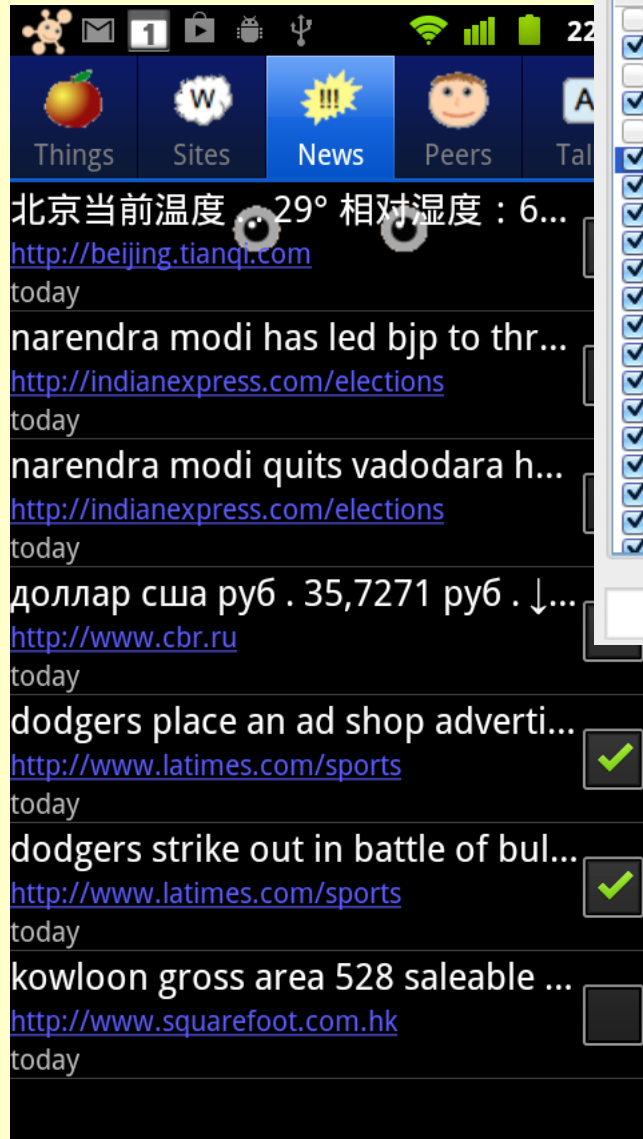# Aigents : Overall architecture of Aigents core

Aigents : Internal cognitive architecture of Aigents core

Aigents : Available across most OS platforms (with Java)

Android (released)

Web (beta)
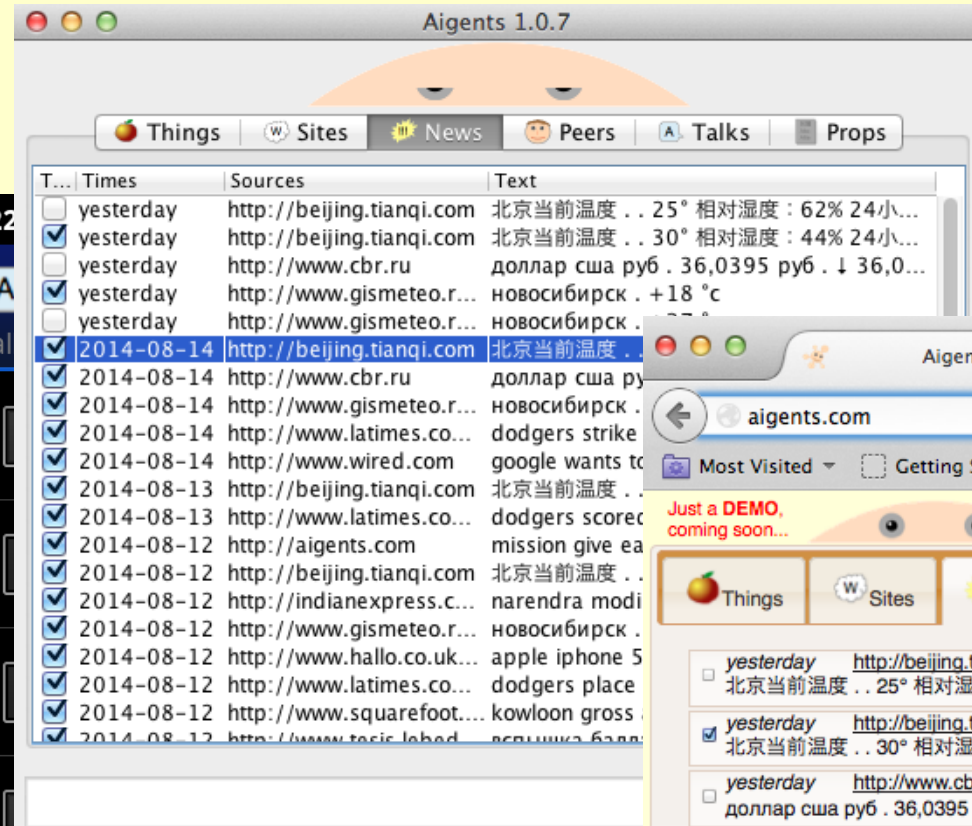
Windows/Mac/Linux (alpha)
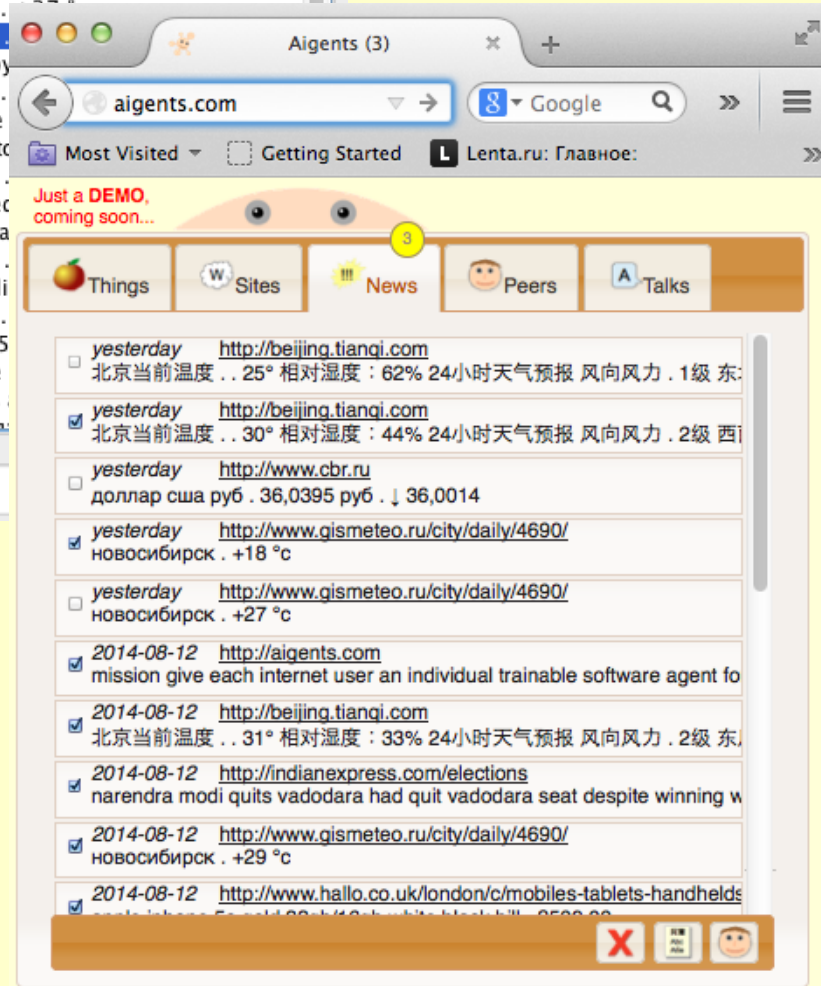
Aigents : Summary – what it does and for what reason?

What are the problems?
- Repetitive internet searches consume resources and miss timing.
- Keyword searches omit intent and contextual relationships.
- Search engines (ad based) do not have user's best interests in mind.
- Often, you need news and time to deal with them but you have no Internet.
- Sometimes, you need to make sense of news, not just get the text to read.

Why our solution solves the problems?
- Personal web-crawler detects new information immediately.
- Semantics is extracted from texts based on your personal ontology.
- The ranking is controlled by user – not by search engines.
- News get into your mobile agent when Internet is available and you deal with them when you have time.
- Semantic entities and relationships are extracted from raw text behind the scene.

Thank you for attention!

Find and Share
Your self   with Peer

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Aigents : Behavioral phenomenology
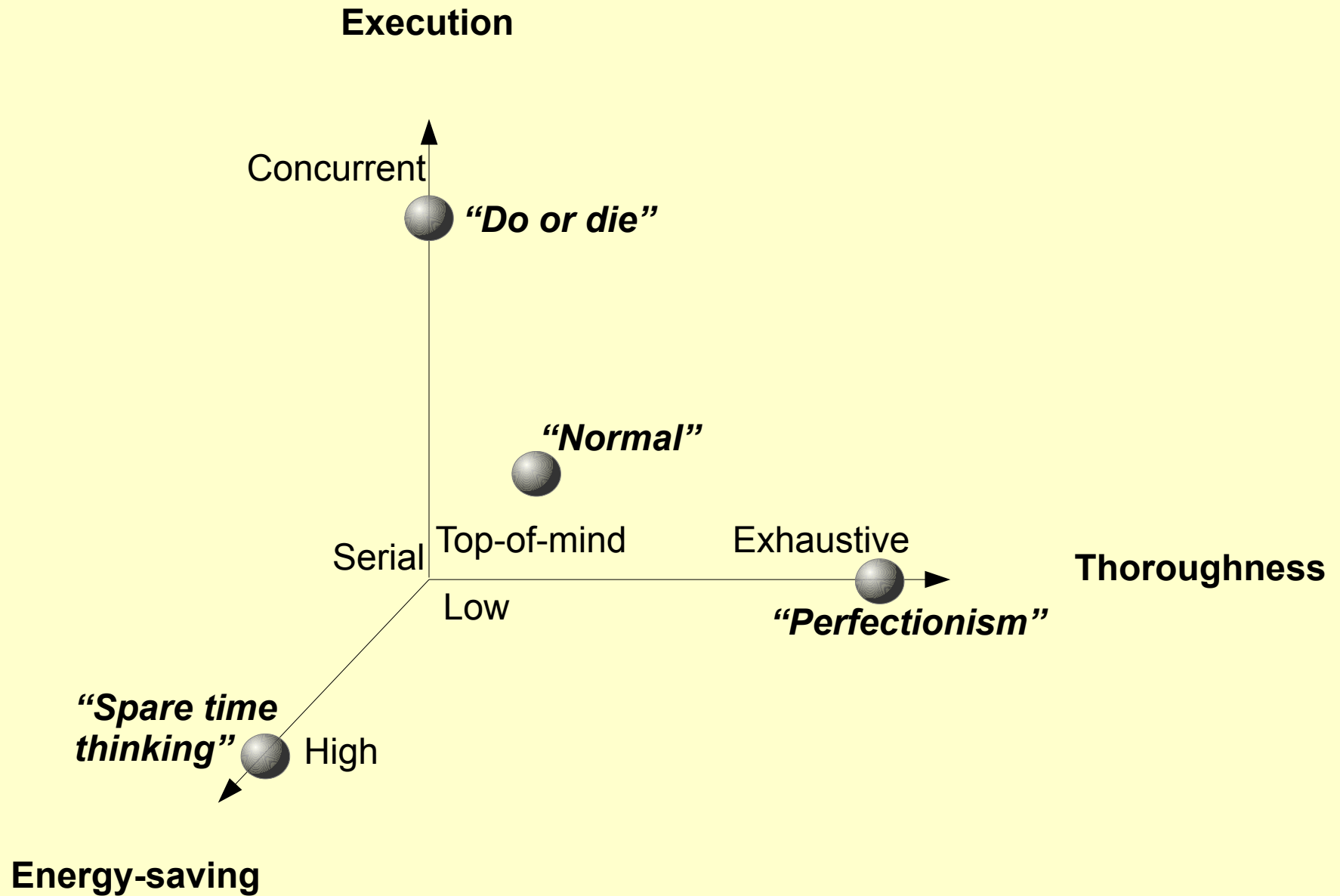
Aigents : Upper ontology (for Internet News)

Social Graph – person-to-person trust/confidence relationships (type-subject-subject):
- Followers/Takes
- Sharers/Gives

Personal Graph - person-to object relationships map (type-subject-object):
- Knows (in Things)
- Shares
- Likes

- owners/properties
- classes/instances
- parents/childs

Web Graph – linked web pages and things on them (type-uri-uri, type-uri-object):
- References
- Subdomains
- Snapshots
- Sources

Objective Graph of interconnected classes, objects, attributes and values
- Properties (type-object-object)

Temporal Graph – time-to-object experiences (type-object-time):
-timestamps
-beginnings
-endings

Linguistic/ Symbolic Graph – language-bound network of hierarchical tokens/symbols linked to sites and things (type-symbol-symbol, type-uri-symbol, type-object-sybbol)

Boxes and labels in diagram:
- User
- Followers Sharers
- Things Users Shares Likes
- References Subdomains Snapshots
- Site
- Topics Origins
- Thing (Entity)
- Properties (Relationships)
- Times Things
- Patterns (Templates)
- Timetime - Subinterval - Equivalence
- Time
- Pattern
- Language
- Target/Value/Child
- Source/Owner/Parent
- Isa
- Root - id - type
- Fork - source - order
- Link - target