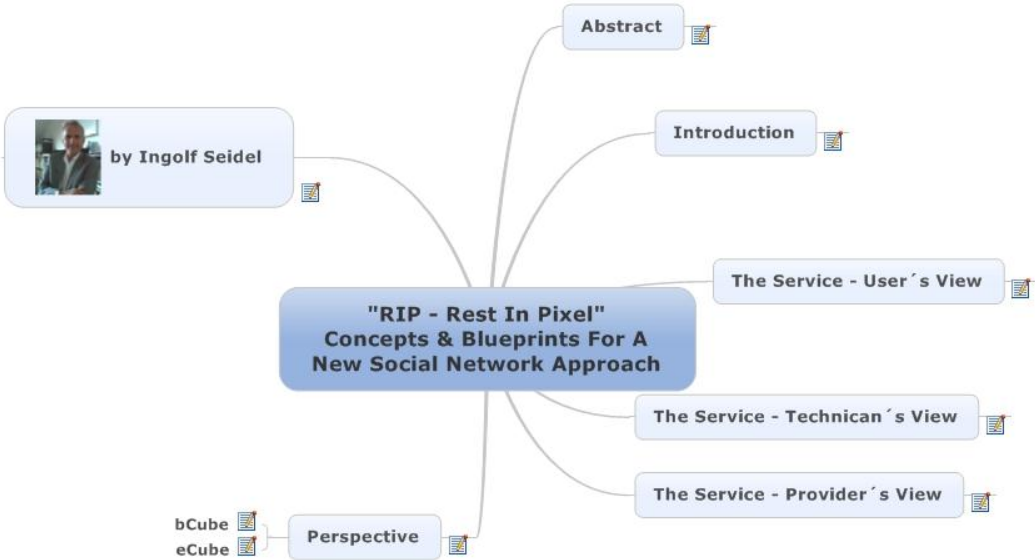


“RIP - Rest In Pixel” Concepts & Blueprints For A New Social Network Approach



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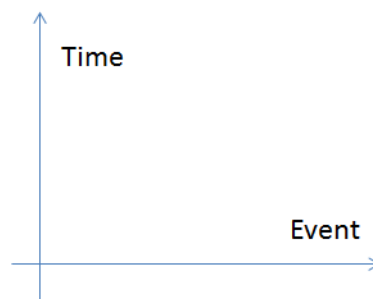
1 Abstract

Social networks and services supporting social networks are still growing and driving the market will offer values that can hardly be estimated. Taking a look at today's situation we will find two big competitors & services:

- Google services and the new Google+ service
- Facebook services and the new Facebook Timeline service

These products and services will be more and more a part of an individual's life. People are mapping their life into digital pixels - they rest in pixels.

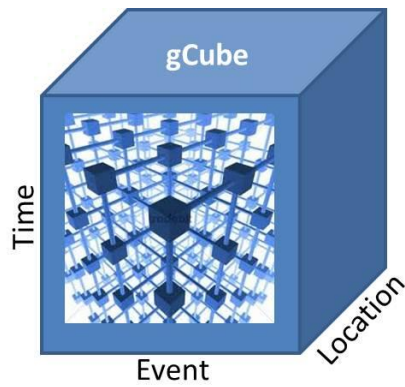
When we analyze how social networks are working we can abstract the functionality as a two-dimensional system built by "TIME" and "EVENT".



- TIME: A time-based snapshot when a certain EVENT has taken place. It might be abstracted as a timestamp linked to an EVENT.
- EVENT: A general object able to represent a real-life artifact. This might be e.g.
 - Person
 - Multimedia data
 - Business
 - ...

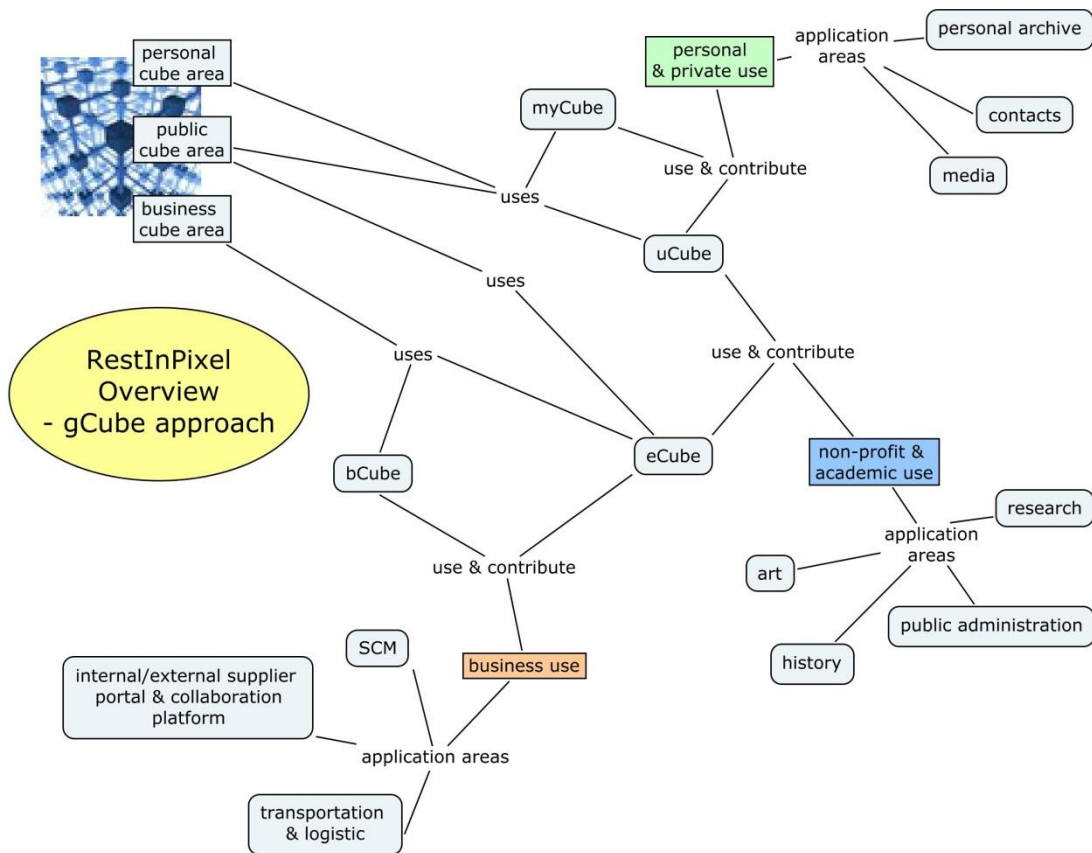
But the system described above is still missing ... another dimension. What about an approach to expand the model by a third dimension?

The model described will add a third dimension to the given social network models by introducing the LOCATION object. So finally we get the gCube (googleCube).



In the future we will move our digital life within a 3D-model that could be illustrated by a cube and we get a variety of new products and services e.g.

- theCube
- youCube (or: uCube)
- myCube
- bCube
- eCube
- ...



2 Introduction

New technologies are changing the way people communicate, work, live and are organizing their behavior. Digital snippets and media are replacing analogue culture. We no longer need to move to a library browsing in big catalogues as we can "google" a certain topic and will be presented thousands of documents and digital footprints. But we don't even have to play an active role as we can use push technologies and mobile devices to be on time at any time, at any place. EBooks, MP3, streaming audio and video, pictures as digital objects - but stop - it might lead to a big digital soup.

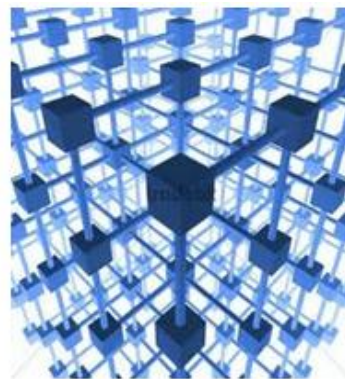
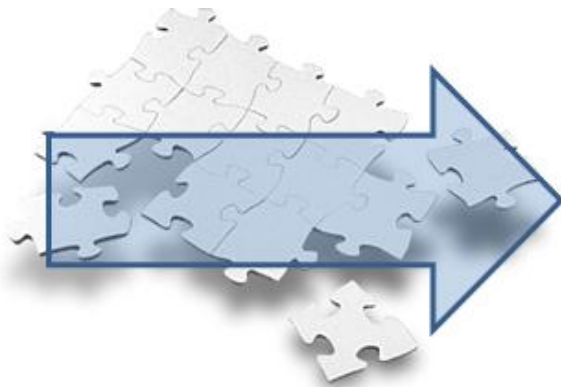
What about a system or service that helps us to "survive" the digital challenge? A new way to make our "**Rest In Pixel**" more comfortable.

Google impresses with experience and solutions for handling big and different data sources in a user-friendly front-end.

Lots of us are using Google's technology for

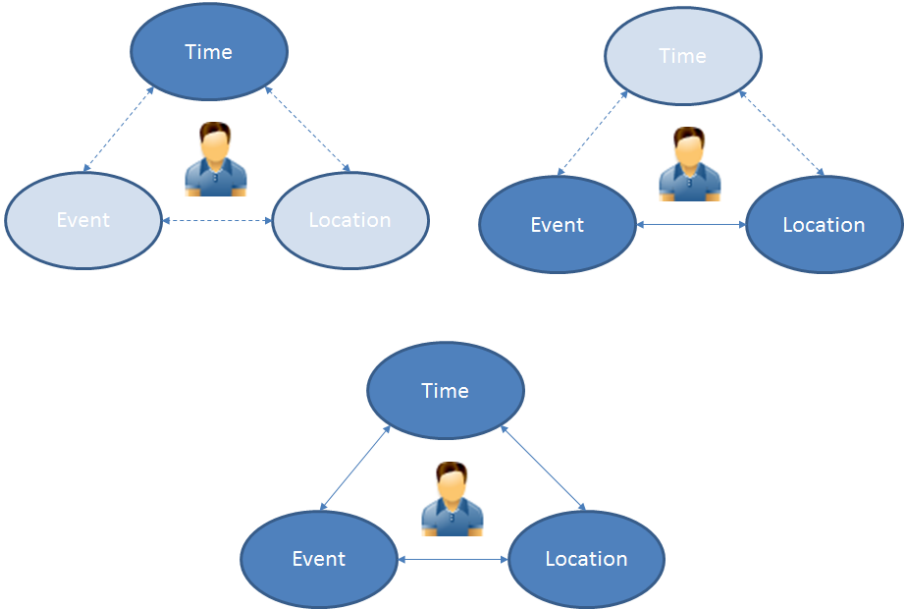
- Extracting documents and media (search-engine)
- Planning routes and travelling (Google Maps)
- Taking a closer look on locations and countries (Google Earth)
- Interacting with other users and sharing documents or media (Google+)
- ...

Let us take the pieces or puzzles of technology to put them together to form the cube approach as a multidimensional social network and information system.



3 The Service - User's View

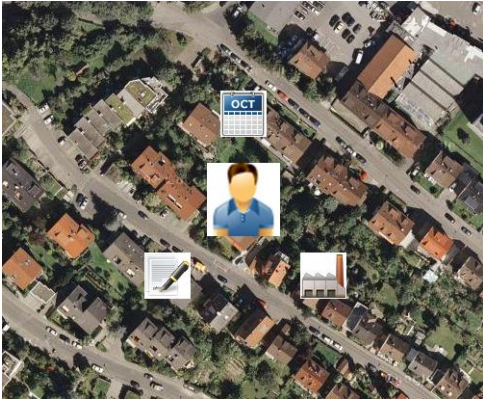
A typical user will be moving within relations of time, locations and events. All three objects are linked together in a shape of a triangle. A user may map his personal situation by using links to all or only parts of the objects. When the user is using more than one object then the used objects will be also be linked.



Note: The role "user" is not restricted on a real person. The role "user" can also be extended to subjects like buildings, vehicles and other subjects that are moving within the triangle. And when we do a more abstract view on the triangle objects then we can use the objects as coordinates forming the cube.

A Real World Example

Writing this paper I am doing this by using an instance of location (my office), time (today) and event (writing the paper).



Now I am interested what is currently happening in my surrounding area.

The surrounding area is set up of

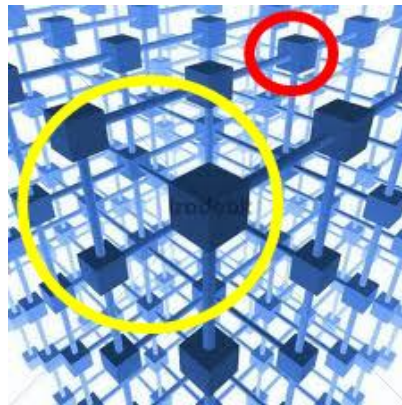
- Locations
- Time (as I don't want to see ALL events)
- Events (that are contributed by other users or other members of role "user")



Using slider-controls I will be able to define the triangle-objects of the cube and the granularity of the information that will be presented to me.

Depending on my definition I will get a result set consisting of

- Exactly one result spot (red circle)
- More than one result spot (yellow circle)



The gCube-approach can also be seen as an aggregation of smaller community entities:

- the smallest entity will be formed by a **gCell**. A gCell is set created by several criteria, e.g. location, topics of interest, ...
- gCells will be aggregated to a larger object – the **gCircle**
- gCircles finally will be aggregated to the overall object – the **gCube**

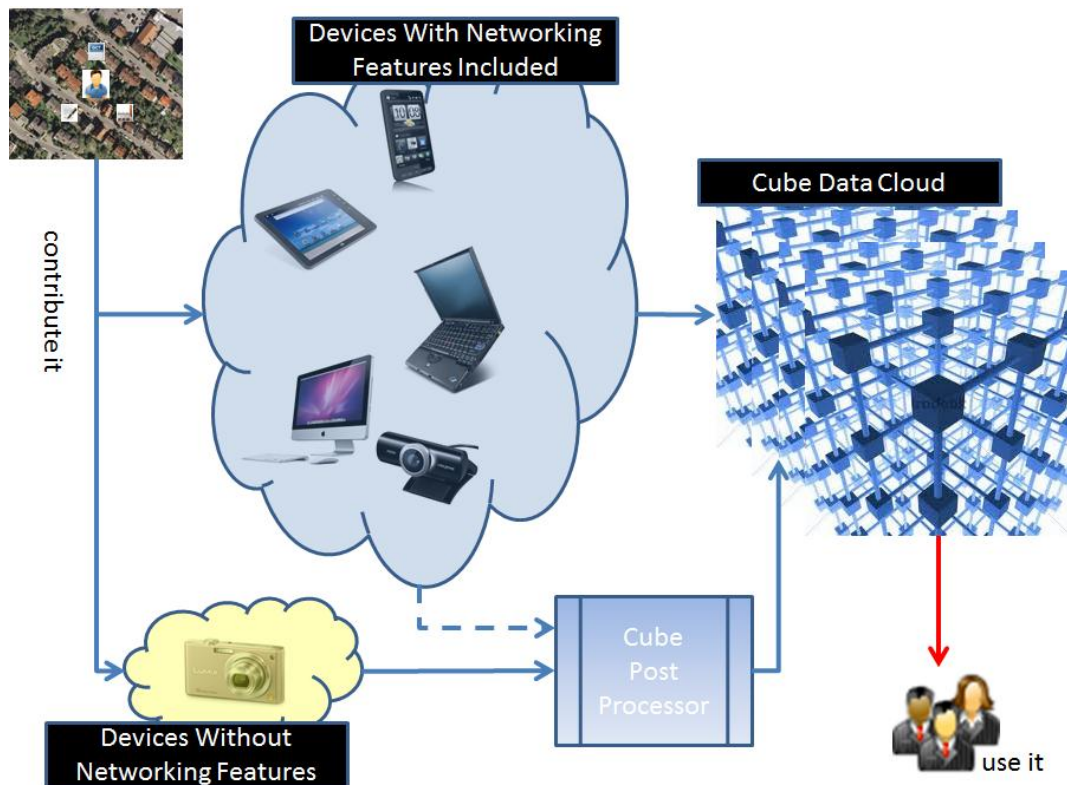
The advantage of using smaller community entities is that the user might move in smaller areas whenever he wants to use services that fits his dedicated needs. But he has the choice to extend the area to a gCircle or even a gCube based on his communication needs.

Other Application Areas

Depending on what kind of cube technology will be used there we might think about other application areas that are interested in analyzing "changes over time":

- Public administrations
- Schools and universities
- Historians and architects
- Social research
- ...

4 The Service – Technician's View



Platform & (Highly) Device Independent

The cube technology will be offered as a platform independent framework. Of course the user of the technology is not interacting with the cube technology itself but with applications that are built onto the platform.

The framework may use a virtual machine technology (like in Smalltalk or Java) to ensure a simple port onto several target systems. Another approach might be to offer the framework as web-supporting technology using common web browsers as front-end.

Device independent also includes that the technology must be scalable to be used by variety of devices (from simple to complex):

- Personal computers and notebooks
- Smartphones and tablets
- Digital cameras and web-cams
- Infotainment systems for vehicles
- ...

Devices

A lot of devices are already equipped with features that are supporting the cube technology:

- TIME: timer to create a timestamp
- LOCATION: GPS or other techniques to detect the current location
- EVENT: features to capture the event

... and of course networking features to transfer the data into the cube data cloud.

If we want to link devices that misses some of needed features (e.g. networking capabilities) and the devices are using a scaled subset of the cube technology then we will use a small "Cube Post Processor" that converts the data into a full-featured cube data set. The post-processor may also be used for a manual change of a full-featured cube data set.

Data Structure

The cube technology will be the base of the the service. The data-structure is a triple being formed by the objects TIME-LOCATION-EVENT.

When one of the objects will not be used by a cube-record then the objects entry will be set to NULL.

The data will be stored in a cube data cloud. This database will support queries within the cube structure:

- SELECT ...
 - TIME based data
 - LOCATION based data
 - EVENT based data
 - ... and combinations of the above
- SELECT CUBE ENTRIES FOR USER
- SELECT CUBE ENTRIES FOR LOCATION <x;y>
- SELECT CUBE ENTRIES FOR LOCATION <x;y> TIME <from;to>
- SELECT CUBE ENTRIES FOR LOCATION <x;y> TIME <from;to> EVENT <list of eventtypes>

5 The Service - Provider's View

To provide a service like RIP we need a powerful infrastructure with

- Storage farms
- Highly available computing centers
- Security technology
- Reliable communication networks
- ...

The provider may establish business models for different audiences:

- Basic functionality as free services
- Paid full services for
 - Private use
 - Non-profit or academic use
 - Business use
- Cube technology API and licenses for third-party developers

6 Perspective

The cube approach may be useful for extending or integrating existing services to make them more useful and powerful.

6.1 bCube

bCube is short for "businessCube".

Business Networks

Although we still find services like "LinkedIn" or "Xing" but these services are flat information & contact networks. Using the cube approach might push the value of those networks.

B2B Networks

Using cube technology SCM and supplier-relationship-systems can be created. Location-based information can also be useful to improve transportation and logistic systems.

6.2 eCube

eCube is short for "eventCube".

eCube will work as an aggregation of events and can be seen as a "calender of events".

Nowadays we have to use several information sources to get an overview about events like

- Musical concerts
- Theatre
- Exhibitions
- Lectures
- ...

eCube will work as an aggregated collection of events and can be seen as a "calender of events".

7 Author & Final Note



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