Taggin‘ Tallinn. Piloting Meaning-Building with Locative Content

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1. Introduction

The rapid growth of mobile devices, positioning technologies and reasonably priced mobile data transfer rates makes it reasonable to anticipate the emergence of numerous kinds of virtual community activities based on locative content, and motivates the critical study of designing such activities.

We introduce a pilot study for the *Taggin‘ Tallinn* framework of virtual community concepts of meaning-building, based on *locative*[1] [1] content. The latter refers to concepts in which individuals *tag* locations with their own content, such as images, comments, audio, and video clips or game contents. This association is implemented in terms of a database, accessible for upload and download via the web. For an individual, an action of tagging is a kind of multimedial blog post, or an entry of a web guestbook. The focal issue is how locative content fuels *meaning building* in virtual communities.

As a simple example of locative content contribution, *Wikimapia*[2] lets anyone choose a location (or an area) from a map and describe it with free text, keywords and links. Then anyone without registration is free to control the accuracy and usefulness of the contribution by means green and red buttons, corresponding to approval for vs. disapproval with the entry. We regard this setup as a prototypical example of a virtual community, reminiscent of a game or a play, designed so as to invite contributions, to maintain a sense of joint effort, and to manage its quality in an inherent manner. Our mission is to explore more profound ways of joint elaboration of meaning in different *knowledge environments*[3], constituted by various interaction designs.

1.1 Virtual communities as knowledge environments

Successful knowledge environments tend to grow in popularity and coverage of different domains. Our issue here is how to design successful knowledge environments constrained to locative meaning, and to a broader geographical context, say a city.

Communities emerge around *shared activities* performed in common places, and rely on the ownership of joint meanings and artifacts within the groups and negotiating them [2]. Engeström has developed a framework for modelling the components involved in community activities [3]. According to him, communities consist of subjects (individuals) who have intentions to do something, Activity can be triggered by many sources: surrounding environment with material or virtual artifacts, immaterial ideas, impressions, meanings propagated by other individuals, new toolsets (e.g. mobiles and social software) that enable to test new activities, or new cultures that emerge in relation with those tools and artifacts. Communities of multiple members emerge on the basis of shared intentions.

Wenger [2] has suggested that our identities are formed by the tension between our investment in various forms of belonging and our ability to negotiate the meanings that matter in those contexts. Accordingly, community "membership" is based on the identification through: a) engagement in common activities,; b) affinity to certain imaginations, and c) alignment, control and coordination within the community. Within communities the "ownership of meanings" is created by negotiating. Negotiability is the community ability, facility, and legitimacy to contribute to, take responsibility for, and shape the meanings that matter within a social configuration.

Our hypothesis, leaning to Wenger [2], is that virtual community activities can be usefully structured with a ontological model that bridges Cartesian dimensions with their meaning-based identities.

1.2 A model of hybrid space

Our proposition is to model identity by means of assigning a virtual *meaning dimension* for each community activity, e.g. seeking of shelter from weather. This means that community actions are reflected as *meaning coordinates* given to city locations by, for example, counting the number of tag-blog posts, ratings (as in the case of Wikimapia), or other kinds of arrangements elaborated by the community, such as narratives, collages or montages.

With *hybrid space* (HS) we refer to the space defined by both *geographical dimensions* (GD) of places andtheir *meaning dimensions* (MD). In this conceptualization a place is characterized not only by its geographical coordinates but also by a number of meaning coordinates. We treat such hybrid space as a multi-dimensional ontological model of a city, applicable as a device of structuring community activity. Each meaning coordinate may characterize *a location* in the city, just as latitude, longitude or altitude. The dimensionality of such a space is not fixed, but new dimensions can be added as new communities of meaning appear, or dimensions can be ignored or eliminated when found irrelevant or redundant by communities. This flexibility, referred to as soft ontology by Aviles et. al. [4] idsparticularly suited for people-driven media, such as the present one.

[1] http://en.wikipedia.org/wiki/Locative_media

[2] http://wikimapia.org/

[3] http://en.wikipedia.org/wiki/Knowledge_environment

1.3 Pilot case: Non-verbal meanings with images

A simple scheme of meaning building activity for locative media was piloted in the workshop *Modelling Urban Space and Process,* Estonian Academy of Arts in January 2007. The objective was to explore how meaning dimensions emerge as a result of distributed community activity in hybrid space. Activities of the experiment took place in two stages.

The goal of the first stage was to figure out what kinds of meaning dimensions would be feasible in general, and to establish some to start with. Teams of 2-5 participants were formed, and they were asked to explore the city by taking mobile phone images and record the coordinates at which they were taken. They would also mutually agree on a theme, interpreted as a meaning dimension. When back from the field work, the teams were asked to upload their photos to a database, to be associated with their appropriate locations, as well as, the agreed meaning theme, interpreted as a dimension. The participants developed several meaning dimensions (e.g. *Disturbing, Shelter,* or *Traces of activism*) that could quite meaningfully be considered as defining dimensions of the city and as coordinates of places. In some cases, however, the locative binding was not obvious, such as *Blueness*. It appeared likely that an immediate access to the database *in situ* by means of mobile Internet access might strengthen this aspect. It also became clear that all meanings cannot be expected to be locative in the first place.

The second step was a low-tech simulation of meaning building activity of a virtual community. The images, in total over 300, were printed out an laid on a large table in a random order, regardless of the first phase dimensions. One image to start with was laid separately on a table, and the participants were asked to find another that would have something in common with the first one, to be followed by a more images which would share the meaning dimension established by the previous ones. This game-like activity appeared very catching, partly inspired by the richness and quantity of the visual material. The range of image paradigms resulted, bound together by intelligent, humorous, esthetic and moral aspects[4]. The paradigms were again meaningfully conceivable as coherent meaning dimensions. However, the locative connection was now weaker, due to the fact that participants other than the original takers of the image would not necessarily know the location of images being taken.

Finally all of the material was collected to a database, organized as a hybrid space of geographical and meaning dimensions. This representation allowed a database table view7[5] and a plotting of the tags on a geographical map8. In addition, an interactive tool for exploration of possible projections of the items in the multi dimensional hybrid space to a two-dimensional plane9[6], developed by Kaipainen et al. [5].

[4]http://calibrate.htk.tlu.ee/~TT/proov/0701/teemapildinumbriloetelu.php

[5]http://calibrate.htk.tlu.ee/~TT/proov/0701/teemapildiloetelu.php

[6]http://calibrate.htk.tlu.ee/~TT/proov/0701/teadeteloetelu.php

2. Conclusions and discussion

The Taggin‘ Tallin pilot workshop generally suggested that binding of image contents with locations is quite natural, and this association may provide a useful starting point for designing virtual community activities and knowledge environments. It also become obvious that not all meanings can be expected to have a relation to a location. A technology that supports immediate association to locations (positioning, mobile internet) may strengthen this binding. It also demonstrated, at least with respect to the play-like concept used, the feasibility of community activity such that results in meaning dimensions defining positions of hybrid city space. It showed that this kind of activity is meaningful and involves people in a catching and entertaining manner. It is a challenge of further development to implement such play-like activities in a virtual knowledge environment. It may be too early to evaluate the role of the hybrid space model as a conceptual structure of community activities, but at least in the pilot this seemed to work.

The further issues to study include: What kinds of relations between content and location best encourage meaning building activity? How can negotiability of meaning be encouraged in the hybrid space? How would locative content in hybrid space change the community activities in physical locations? What are the schemes of annotation and automated derivation of ontological dimensions, such

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