

Designing Stories within Mappings for Enhancing Real World Experience

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1. Human knowledge transmit and acquisition - map and story

Humans gain experience and knowledge from the real world as well as from each other. People use various vehicles for conveying information to others, such as stories, maps, slideshows, interactive visualizations, and so on. People gain new knowledge from these media, at the base of connecting to their existing knowledge, experience and current circumstance. The new knowledge will enhance their behaviors and relationships with the society and natural world.

Story is made of a sequence of events. The events in one story are usually not isolated. There must be some relations between those events, which make them easier to be understood. These relations are varies, e.g. spatial, temporal, causal ones and so on, and are as important as the events in a story. Story is a comfortable way of acquiring knowledge, because within these relations we extend our knowledge step by step continuously.

Map is an important and useful vehicle for conveying spatial related information. However, conventional maps are not efficient in learning knowledge from them by ordinary people who are not well trained to read maps. These maps are usually too large sets of static symbols. This kind of maps is not efficient to be used and applied to our daily life. One reason is that they have weak relations with people's existing knowledge and within the symbols in the maps.

ICT gives us much more possibilities to make more friendly maps that are called mappings. Now the mappings are to be dynamic, animated with multiple scales, and to be linked with texts, pictures, videos and so on. As the result, the mappings can provide much more information and are easy to access by ordinary people, but the existing web mappings still have same weak points as conventional maps, when we consider them as vehicles to convey knowledge.

2. Event patterns of story within mappings

What we want to have is a mapping closer to the human nature of acquiring knowledge that can be used more directly to enhance our behaviors. In order of this, we give more concern about the relationships within the map symbols and items, and make them a sequence, which is more like the structure of a story. We may call it mapping with story.

We want to provide basic event patterns and several important issues for the new type of mapping.

- Point event: place of interest or importance (e.g. start, goal, intersection, folk point), which can include or connect to texts, pictures, audios, videos, and so on to introduce related information. A nest of points as well as lines can represent a relatively large and enclosing place, and can be abstract to a point in small-scale views.

- Line event: a way to move alone, from point to point, which can contain introductions of the relations (e.g. guidance). Lines and points are the very basic elements of a story in map.

- Stage: parts of a long story, which are relatively complete, connect to other stages with starting and ending point events. Stages in one story may not be in the same scale.

In these design patterns, the relations and connections are explicit also implicit. The explicit relations, like lines, are obvious to the users, but there are implicit connections such as those between a point and its related contents, between connected stages, and between users' current status and stories within maps. Actually, these are weak points of a paper guidebook. For making these implicit connections more obvious to the users, more dynamic graphic, interactive symbols and animations must be applied.

In using mappings with enhancing story, we are going to realize some implementations on mobile devices. Our proposed framework makes users acquire new knowledge more efficiently and comfortably from the mappings, with which they can get better experience of the real world.

Keywords: story, ubiquitous mapping, affordance, weak and strong relations