

## Maps in Documentary Videos

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### Abstract.

The paper deals with user issues related to maps in documentary videos. The aim of the paper is to present concept and results of experiments on maps included in documentary videos so called video maps.

In many industries, the video maps are the simplest way to visualize the spoken interpretation of the territory. They are used mostly as an adjunct in films, serials and reports. Their "lifetime" is very short. They appear for a few seconds, exceptionally several tens of seconds. Thanks to very short time for its reading the video map needs to be prepared with adequate detail so that the reader gets out of it quickly with just this information that the map author intends. It is very important to conduct a proper visual hierarchy, so that the reader's attention to the map has not been charged by less significant element. It is much easier to add map of the spoken word.

20 video maps were included in the experiments. Using various streaming video programs the video maps were cut with 45 seconds before the map and one minute after it. The video maps were evaluated in two phases. First, they were analyzed as a static map. The symbol key, composition elements, map content, labeling was evaluated. Then the video maps were analyzed as a part of the video, mainly:

- portion of visibility of the map
- number of displaying of the map (full screen, part of the screen)
- total time of map displaying (the entire screen, part of the screen)
- relationship of the main phenomenon to the map (total time for verbal comments, etc.)

Mostly the video maps occupied 100% of the image areas for 7 seconds and for another 2 seconds when the map was covered with partially transparent image and accompanied by verbal commentary (longer than displaying

maps - about 13 seconds), which described the main thematic content of the map.

The map use experiments were the main part of the research. The experiments with individual maps are always attended by 10 people, mostly 6 women and 4 men. All ages (from 18 to 77 years) were included. Respondents were asked three questions:

- the first open question was related to the main phenomenon (eg. Where is Chicago?) and examined the relationship video map and text comments.
- the second closed question was focused on the phenomenon of the highest levels of visual hierarchy (eg. Chicago is on the coast or inland?) and studied how much attention the map draws and if detail are seen.
- the third open question concerned the content of the map (eg. What was the map?) and examined the clarity of symbol key.

From experiments it was showed that compliance of cartographic rules and sufficient simplicity of implementation are more important than time in which the map is displayed. If all elements of the chosen correctly with regard to the topic mapped, then the reader does not need to analyze such maps for more than 15 seconds. This does not apply if the user does not have the language in which the map is drawn. In this case, the time map reading extends for a few seconds because of that the reader cannot be used labelling. In a properly assembled maps the time of interpretation would not be extended, however the experiment showed that it cannot be always provided. It would be interesting to view the same map in Cyrillic or Arabic, a language that most Europeans cannot read. But this was not the aim of the experiments.

Video maps are field of cartography which cartographers must pay special attention. Compilation of the map is a complex task. Ideally, the cartographer should be familiar with the target audience and its needs. However, when creating documents for a wide range of users, it is not possible. So a cartographer is to rely on their own intuition. Time and other constraints do not allow the creation of maps to use some advanced methods that would phenomena could be shown, a mastery of the map lies in the simplicity and the use of only a small number of content elements to represent the most phenomena. This is not an easy task, so to build video maps can only be recommended to the map professionals with experience in cartography.