Evaluating RiverCare storylines and creating visualisation guidelines

PUBLIC SUMMARY

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RIVERCARE STORYLINES

This bachelor assignment was commissioned by RiverCare, a research team consisting of 22 researchers from 5 Dutch universities. Their goal is to monitor and research the consequences of river interventions carried out during the Room for the River programme, in which more space was created for Dutch rivers to flow.
RiverCare aims to communicate their research to a broad audience of multidisciplinary water professionals, using a multi-media communication strategy they call 'storylines', in which interactive visualisations play a central role.

RiverCare storylines are summarised visual overviews of RiverCare's publications, made by their researchers in an online tool called ArcGIS, which focusses on showing the publication's contribution to practice. These storylines are meant to quickly make understand the core of RiverCare publications, spark their interest and to have readers share the storylines amongst their colleagues. Figure 4 shows a storyline cover page.

The assignment was to help RiverCare reach their communication goals towards their broad audience, by creating visualisation guidelines for the storylines, as RiverCare was not yet satisfied with the (visual) representation of the storylines. These guidelines could then be used by RiverCare researchers during the creation of new storylines. RiverCare preferred an industrial designer for the creation of the guidelines, as graphic design and visualisation in general are important aspects of the bachelor.

Figure 1. QR code to first storyline.

Figure 2. QR code to second storyline.

Figure 3. QR code to third storyline.

METHODS

To be able to write helpful guidelines, several methods were applied for gathering information on RiverCare storylines and visualisation principles.

Firstly, three published RiverCare storylines and the original guidelines used to write these were analysed. The results showed that RiverCare storylines consist of around 12 pages, have certain standard pages and that ArcGIS partially limits the design space in terms of visual representation. QR codes in figures 1, 2 and 3 lead to the storylines.

Secondly, the goal was to find out how effective the storylines were and how members of the intended audience reacted to them. The applied method consisted of four workshops which were held at different water institutes; Netherlands Centre for River studies (NCR), HKV Consultancy, Rijkswaterstaat and IHE Delft Institute for Water Education.

Workshop participants consisted of target audience members, like interested water professionals and researchers. They were asked after their opinion on the storylines after reading them and their feedback was gathered using question sheets, surveys, screen recordings and audio recordings of discussions. This feedback was discussed and compared after each workshop. Insights gained from the feedback were used to set up the visualisation guidelines.

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Figure 4. Storyline cover page. Far left: Sidebar, for page navigation. Left: Side panel, where storyline text is written. Right: Main stage, showing one or more visuals.

Workshop participants wanted to see clearer introductions in the storylines, titles that satisfy reader expectations, clearer defined problems and lesser use of jargon.

Thirdly, creators of the original storylines were interviewed. By interviewing these researchers, more understanding was obtained of what problems a storyline creator might run into when writing and visualising a storyline. Two out of three storyline creators were available for interviewing and shared their experiences.
They explained their difficulties with the length of the original guidelines, the limitations of ArcGIS and writing for the target audience as they found this to be vague.

Fourthly, as these methods were not enough for gaining sufficient insights for the guidelines, a case study was carried out in which a new RiverCare storyline was codesigned. This was done with the publication's lead researcher, RiverCare's head of communication who was also the project manager, an industrial designer and a RiverCare member who represented the target audience. During the codesign, the original paper as well as a first storyline draft were studied and suggestions were made for the text and visuals in the storyline. Visuals that needed the most improvements were taken apart and the changes made to them were turned into design principles for the visualisation guidelines.

Resulting design principles included finding a balance in complexity, using visual examples for clarity and the importance of visuals being relevant to the story.

RESULTS

Obtained insights and design principles were gathered and 2 sets of guidelines resulted; a general storyline visualisation guideline and a specific RiverCare storyline visualisation guideline. The former helps setting up an initial storyline and includes most non-RiverCare-specific insights, and the latter expands on this and helps RiverCare researchers understand and apply ArcGIS's functions and features to turn their storyline into a RiverCare storyline.

CONCLUSION & RECOMMENDATION

The main goal of evaluating the storylines, gaining insights and using these to write visualisation guidelines was fulfilled. The guidelines were based on target audience feedback, codesign results and research insights.
Though helpful, the guidelines focus on visualisation and do not give much aid for writing a storyline. What could still be added are updated writing guidelines for the storyline creators. Even more, integrating visualisation and writing guidelines was the main recommendation for RiverCare to apply. Storyline creators will then have all the information they need in one integrated document.

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