Designing a tablet support tool for interpreters

Research Question

How can we design tablet support tools (TSTs) that help interpreters facilitate performative exhibits, especially exhibits with large numbers of peripheral visitors?

Design Process

User-centered design approach: involves extensive feedback from interpreters as well as iterative real-world testing

Goal: Develop a customized tablet support tool (TST) that provides functionality, content, and scaffolding to support and improve interpreters’ facilitation

Initial series of TST designs: Based on pilots with core group of interpreters from the teen Youth Volunteer Corps and adult Roving Naturalist program, at Brookfield Zoo (Chicago, IL)
  - Began with small groups of visitors in controlled environments
  - Feedback from interpreters in individual and group interviews
  - Paper prototyping of TST design ideas and revisions after use
  - Primary designer of the TST spent time "embedded" as an interpreter to better ground the design team’s understanding of interpreters’ goals and concerns

First TST iteration: Larger groups of interpreters evaluated multiple versions of the TST in a more naturalistic use case – our testbed exhibit, “A Mile in My Paws”
  - Design team video-recorded and analyzed their use of the TST

Findings & Current Iteration

Augmented co-facilitation

Although the tablet support tool (TST) creates an additional relationship in the exhibit that complicates the interpreters’ co-facilitation, the situational awareness provided by the TST re-represents exhibit content to change the focus of conversation, connect across topics, and introduce new ideas. Interpreters can take advantage of opportune “teachable moments” by interjecting with data and images on the TST, to deepen their conversations with visitors (e.g. at “A Mile in My Paws”, transitioning from discussing polar bear hunger, to instead discussing caloric expenditure and climate change mitigation).

Bridging

The TST re-represents exhibit content through the graph and map, but interpreters had difficulty making these representations accessible. They used visitor contributions (speech, actions) to draw connections (“bridge”) between the exhibit, representations on the TST, and visitor knowledge. Interpreters used the TST to ask questions and provide evidence, rather than as a didactic tool.

Second TST iteration

We revised the TST to emphasize images and meaning-making with multiple resources (graphs, maps, photos, diagrams) displayed side-by-side. This helps interpreters illustrate analogies, compare data representations, and transition between different topics.

Our design team is further developing this platform to allow interpreters to create and add their own images, and to sort resources based on situational elements such as audience composition.

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Study Context & Methods

Testbed exhibit: “A Mile in My Paws”, where a visitor pretends to be a polar bear in the past, present, and future, as they hunt for food in a changing arctic environment

- Performative: interpreters must attend to the central performer’s experience as well as larger peripheral crowds
- Depth of content: interpreters use the central role-playing experience as an approachable jumping-off point for discussion of rich, challenging content (e.g. climate change)

Temporary installation at the underwater viewing area in the Brookfield Zoo’s Great Bear Wilderness
  - Two sessions across two days, 1.5 hours each
  - 2-5 interpreters at a time, 12 interpreters total
    - 10 from adult Roving Naturalists program
    - 2 from teen Youth Volunteer Corps
  - Fixed video of full exhibit, with lapel audio recorders
  - Recording speech, gesture, gaze, physical positioning

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