

Narrating the route: route memorability in navigation instructions augmented with narrative

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Abstract:

From oral histories to mnemonic devices, humans have an excellent ability to remember object sequences and their relationships inside of narratives (Baddeley et al., 2015). In pedestrian wayfinding, remembering landmarks and their relationships is considered key to learning routes (Denis et al., 2014). This is especially critical in mobile navigation, as it has been well-established that the use of GPS devices with metric turn-by-turn directions during wayfinding hinders spatial knowledge acquisition, both in the short-term and over time (Ishikawa, 2019). However, these devices are ubiquitous in our world today. In an attempt to develop alternative methods of route communication, some have found that using landmark-based route instructions facilitate the memorability of routes. In addition, instructions rich in visual imagery improve memorability of routes (Tom & Denis 2004; Tom & Tversky, 2012). Few researchers have suggested alternatives to how landmark-based route instructions might be communicated beyond simple turn-by-turn directions. In addition, narrative as an aid to wayfinding has not yet been explored in outdoor environments.

This research aims to identify whether augmenting verbal route instructions with a narrative can increase the memorability of a route. It is proposed that building causal relationships between landmarks via a narrative may make it easier for users to form meaningful connections between landmarks and thus, better remember a route in an urban environment.

Narrative theory was applied as a framework to augment navigation instructions with a narrative about Johann Strauss. First, the key components of a narrative were identified. Then, these components were utilized to craft narrative navigation instructions. The instructions were tested against a control in an in-situ wayfinding study in Vienna (N = 18). After learning a short route (800m with 13 landmarks) via either the narrative or control instructions, participants recalled the route verbally and completed a photo-based landmark sequencing task. One week later, a route recognition task and second photo-based landmark sequencing task was completed online. Results show high overall success on all tasks. Few performance differences were found between the narrative and control groups, though the narrative group often cited the narrative when sequencing photos and during verbal recall. The results indicate that communicating route instructions in a narrative can be done successfully in an outdoor environment and should be further considered in the field. This research confirms the potential of landmark-based instructions to facilitate route memory, contributes to the growing body of work suggesting alternate ways of route communication and could encourage designers to consider other route communication methods.

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