Using resizable icons to visualize distant landmarks on mobile devices

Poster Abstract:

Navigation systems on mobile systems are becoming widely popular in both academic studies and industrial development. Designs attempting to display distant objects on screen as a way to overcome the limit of the small display have been suggested. Some of these designs not only decrease the frequency of zooming but also contribute to users' sense of direction during navigation by showing the direction to distant objects. Approaching a similar goal, this study introduces an improved design that not only display the direction but also the distance concept of distant objects. The distant objects change in size as an indicator of the direction and distance to user's location. In order to compare the efficiency of visualizing distance, we design two kinds of mechanism: one is interval that the icons change in size continuously according to the distance; the other is ordinal which means different sizes of icons are applied to represent different ranges of distance. A small user study will be carried out to compare the effectiveness of these two kinds of visualization processes. A further follow-up of this design might be integrating the display of off-screen objects with routing technology in a mobile app to support pedestrian navigation.

Author: Jiayan (Tony) Zhao, Rui Li Department of Geography and Planning, University at Albany, State University of New York