

Abstract

Perception of the surrounding environment influences personal behaviors and the way humans interact with each other over time. The fear of crime and perceptions of safety are a major contributor to these behaviors, and these perceptions influence the decisions made by law enforcement and city planners. Over time, a wide range of studies have been performed to understand the triggers that accentuate the fear of crime and the possible solutions to alleviate these fears. Most of these studies have been static in nature and rarely included a dynamic geospatial component. This thesis details the process used to integrate a dynamic geospatial component by developing a mobile Ecological Momentary Assessment (EMA) mobile GIS application prototype that: (1) enables users to collect spatiotemporal and fear of crime perception data in real time; (2) pushes notifications to users at specific times as a reminder to collect this data; (3) distributes this information to a Realtime database; and (4) provides values for integration into multiple GIS platforms for subsequent GIS analysis. Once the mobile application was ready for release, testers were distributed throughout the city of Albuquerque where they collected data and provided feedback on application functionality. At the conclusion of testing, all requirements to develop a functional EMA mobile application were achieved. Future work includes adding additional application features, external data sets for further analysis, and iPhone OS development for wider distribution.