

## **Abstract**

One of the greatest natural disaster threats to the Los Angeles area is earthquakes. A large earthquake could wreak havoc on the area, causing major damage and loss of life. Recent research from disaster events has shown that older adults (those 65 years and older) are one of the most vulnerable demographics to disasters. Older adults benefit from specialized planning and preparation designed specifically for their demographic. As the older adult populations are rapidly on the rise in the Los Angeles area, the county and city have devised plans to prepare and aid the community with natural disasters, including earthquakes. As a part of this effort, this project was to research, design, develop, and test a prototype web mapping application for the older adult population of Los Angeles to better prepare them for earthquakes and increase their awareness of nearby emergency services.

This project brought together map layers of earthquakes hazards, emergency services, and shelters, and other mapping layers related to seniors such as senior centers and nursing homes into a single web mapping application. This project customized the web mapping application user interface and user experience design in order to make the application user-friendly to older adults. The developed web mapping application allowed users to zoom to their location, pan the map, identify map layers, turn on/off map layers, print a map, search for the nearest emergency services and shelters nearest their location, and add an emergency preparation needs point to the map. With the results of this project, progress was made with understanding successful and unsuccessful methods of apply UI/UX designs of web mapping applications for older adults. The results can be applied to future research in order to best meet the needs of older adults with web mapping applications.