

RCPD: iDOCENT

iNODES for Wi-Fi Network Enhancement

In the past, navigation typically consisted of an individual looking at a map on printed paper. As technology advances, individuals in today's society are shifting to an electronic lifestyle. Today, people rely on GPS as a means of navigation in outdoor environments, but are still reliant on diagrams or maps while indoors. This is because GPS signals typically will not penetrate the physical structures that humans encounter on a daily basis.

Indoor Digital Orientation Communication and Enabling Navigational Technology (iDOCENT) is a cell phone application aimed to assist navigation throughout buildings on Michigan State University's campus. The software application can direct an individual along the best path to a specified location while vocally speaking turn by turn directions. iDOCENT uses existing Wi-Fi access points supplemented with the iNODE to receive the device's signal strength for localization purposes. The iNODE is designed to increase system accuracy of a building outfitted with an existing Wi-Fi network, as well as making a building without Wi-Fi capable for iDOCENT navigation. The ultimate iDOCENT system will enhance the ability for any individual to navigate through an iDOCENT mapped building efficiently. This application is designed primarily for visually impaired individuals, but could also be useful for anyone unfamiliar with the Michigan State campus.

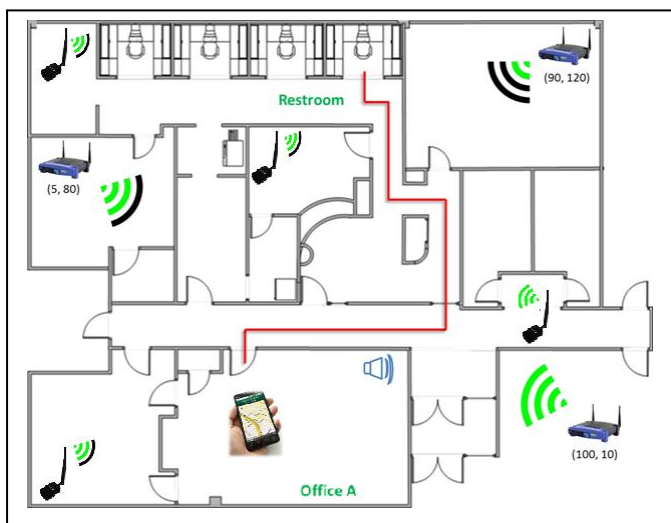
<http://www.egr.msu.edu/classes/ece480/capstone/fall11/group03/index.html>



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