

Abstract

In the current era of using web technologies for sharing information, Web GIS has evolved from web apps to mobile apps and interfacing with many other technologies like SAP/ERP, IOT etc. for sharing information. It helps businesses with seamless workflows from planner to field data collection to data processing & manipulation. Demand for mobile applications has been increased with the increase of users and evolution of mobile technologies. GIS product companies such as ESRI fulfilling these business requirements with low code or zero code, configurable apps available as out of box components

Basemaps are the fundamental component in any GIS based application. When it comes to mobile apps and web apps, performance is of paramount importance which can affect loading time, stability and responsiveness. Because business data are constructed on top of a basemap therefore, its performance is one of the key parameters that may affect the productivity of business workflows.

Tiled map was a remarkable notion in the development of web application evolution. Over a period, it is noticed that, although high performant, it has many drawbacks, like every time the data symbology or geometry changes, an entire set of tiles requires to be regenerated. Being static, raster tiled maps also do not permit direct users' interaction to web maps like user is able to change map themes, change feature colors etc. Google was a pioneer in this field, introducing them in the mobile and online version of Google Maps in 2010 and 2013 respectively. Vector tiles are vector objects i.e., points, lines, polygons, saved on the server side and displayed to the user instead of images.

In this paper, I have tested several cases that illustrate how the capabilities of vector tile maps in enterprise GIS are utilized to reach a broad number of users through a high-performance web mapping application with different functionalities.