

## Position statement

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**for W3C-OGC Workshop on Maps for the Web**

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Let me first wish the team all the best for initiating such a challenging task of incorporating geospatial map viewer in HTML. While I touch upon on “**Web GIS application for Indian Prime Minister’s Rural Road Programme**” that sustained for more than 15 years, one factor that is very significant to the theme of the workshop is the spatial accuracy. As we are aware, GIS is based on precise location and it’s not on associating attributes to meagre drawings. That means, the digital features are expected to be mapped exactly to the same place where the objects are located in the real world. Further, geoscientists have already started considering geospatial problems in terms of Digital Twin.

The accuracy of digital geospatial data would be a national priority for India to encourage the pressing need of geospatial interoperability. In order to manage and monitor the activities of *Pradhan Mantri Gram Sadak Yojana (PMGSY – Prime Minister’s Rural Road Programme)*, at national level, we started with the customization of ESRI ArcEditor along with Web GIS development on MapXtreme. Currently, the Web GIS applications for PMGSY are working on commercial as well as on open source software. Even though the open source application is capable of serving/accepting geospatial data in OGC standards, some of the external Web GIS application builders (outside PMGSY) continue to accept data in shape files only. However, the geospatial Web APIs are expected to be an integral element of geospatial transactions.

The coordinate system along with datum and projection is of utmost importance in a map viewer. While it may be unnoticeable as we visualize smaller areal coverage, like a municipal area; but for bigger areal coverage the distortions would be clearly noticeable in the viewer. For example, the world map in Cartesian coordinate or in Mercator projection, we would notice the distorted gigantic sized Antarctica. It is highly recommended to have Google Earth like viewer; location and scale aware. I would also suggest avoiding the standard map projections and implementing on-the-fly projection at the viewer. Another challenge would be for prioritizing map projection and datum that are used around the world. The viewer should have provision not only for handling raster and vector locally, but also for consuming external data services. However, incorporating specialized geospatial utilities may not be feasible; therefore in parallel, specialized geospatial development as well as geospatial data services would continue. With the initiative of incorporating geospatial map viewer in HTML, we may expect enormous contributions from the developer community. The geospatial-data-as-a-service could be the next big business opportunity.

### Further reading:

- <https://www.w3.org/2020/maps>
- Sajeevan G (2008). *Latitude and longitude – A misunderstanding*. Current Science, vol. 94, no. 5, pp. 568-569
- Sajeevan G, Danish Shaikh, Mugdha Magare and Ashish Kuvelkar (2019). Online geospatial transaction system using open source libraries. Journal of Geomatics, vol.13, no.1 pp.47-52
- [https://www.researchgate.net/profile/Sajeevan\\_G](https://www.researchgate.net/profile/Sajeevan_G)