Emerging Geospatial Technology Trends in Relation to City and Building Information Modeling - An Application Specific Analysis

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Abstract: The exponential growth of population demands accelerated growth in urbanization which challenges the susceptibility of environments and human life. Geospatial technology attempts to document all the happenings on the surface of the earth. Usability and accuracy of this documentation with respect to real-world applications and scenarios are directly related to the methods of obtaining this information and use of different type of sensors used in the acquisition of data. The present study has attempted to illustrate methods of Geospatial technology to acquire suitable data for City Information Model(CIM)/Building Information Model(BIM) to use in various applications as per the challenges on the real ground scenario and to establish an analogy between the real world and its documented models produced by Remote Sensing, Photogrammetry, LiDAR, and 3D laser scanning methods and ascertain suitability of this models in various applications. Finally, Compare and contrast application versus LOD and LOD verses method of data acquisition and outputs with respect to the scope of the model use.

Index Terms: City Information Model, Building Information Model, Photogrammetry, LiDAR, 3D Laser Scanning, Level of Details (LOD).

Quality Assessment of Borewell and Tap Water in and Around Hyderabad City

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Abstract: To regulate the climate and shaping the land, water is the most important compound. It is one of the most important compounds that profoundly influence life. Initially, mankind used water for domestic purposes such a drinking, cooking, washing. However the present uses of water may be classified as domestic, public, commercial and industrial. Rapid industrialization and indiscriminate use of chemical fertilizers and pesticides in producing crops are causing heavy and varied pollution in aquatic environment leading to deterioration of water condition and depletion of aquatic biota. Due to use of polluted water, human suffers from water borne diseases. It is therefore necessary to check the water pollutants at regular interval of time. The water may consist of pollutants and toxic metals which are injurious to health.The following are general categories of drinking water pollutants and examples of each: Physical contaminants primarily impact the appearance or other physical properties of water. Examples of physical contaminants are sediment or organic material suspended in the water of lakes, rivers and streams from soil erosion. Chemical contaminants are elements or compounds. These contaminants may be naturally occurring or man-made. Examples of chemical contaminants include nitrogen, bleach, salts, pesticides, metals, toxins produced by bacteria, and human or animal drugs.

Index Terms: Electrical Conductivity, pH, Quality assessment, Total Dissolved Solids, Toxic metals, Water quality index.