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Design and implementation of a geodatabase and Web GIS

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The merging of internet and web has created many disciplines and Web GIS is one of these disciplines which is effectively dealing with the geospatial data in a proficient way. Web GIS technologies have provided an easy accessing and sharing of geospatial data over the internet. However, there is a single platform for easy and multiple access of the data for the European Caribbean Association (Europäische Karibische Gesellschaft-EKG) to assist their members and other research community. The technique presented in this paper deals with designing of a geodatabase using Postgre SQL/Post GIS as an object oriented relational database management system (ORDBMS) for competent dissemination and management of spatial data and Web GIS by using OpenGeo Suite for the fast sharing and distribution of the data over the internet. The characteristic of the required design for the geodatabase has been studied and a specific methodology is given for the purpose of designing the Web GIS. At the end, validation of this web based geodatabase has been performed over two desktop GIS software and a web map application and it is also discussed that the contribution has all the desired modules to expedite further research in the area as per the requirements.

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Sustainable and innovative open-space/greenways development with GIS

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The Houston Parks Board is a non-profit organization that is currently undertaking a major initiative called Bayou Greenways 2020 to build 80 miles of hike and bike trails and parkland along bayous throughout communities in Houston. These hike and bike trails are a valuable form of transportation for many in the under parked community, but they also provide tangible health benefits, socio-economic benefits and environmental benefits. While the organization was busy building these major infrastructure projects along Houston's bayous, they discovered along the way that providing easy access within the organization itself and its public-facing website to locations and information about amenities of these trails and green spaces was a necessity. Out of that necessity initiative came to build a public mapping application. The Houston Parks Board has leveraged its nonprofit status to create a dynamic GIS database capable of hosting both internal and external data that ties directly back to a GIS server, which creates up-to-date information available for all users at reduced cost, reduced speed and high integrity. Creating this public mapping application has and can continue to reduce maintenance efforts because it can inform the organization of repairs, provide a central repository for all projects, and maintain a seamless and streamlined data processes and transfers from multiple vendors. This model can be transferred to other organizations and agencies, and the solutions provided by creating this dynamic system can do the following: Gather real time information submitted by the actual users of the infrastructure; increase productivity and better time management due to less time monitoring out in the field and create a better defined experience for users because their input is taken into account.

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