

COMPARATIVE STUDY OF PLANT BIODIVERSITY DATA MODELING IN RESEARCH PERSPECTIVE

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Abstract

Despite the extensive research has been perform in plant biodiversity area recent years, managing plant biodiversity with database system still poses many challenges. Bio-diversity is the variety of different types of plants species that grows in various landscape. There is phenomenal growth in the area of biodiversity studies, largely motivated by its economic and humanitarian. Various data models, query languages and techniques have been proposed by many researchers. Data models for plant biodiversity have been developed to manage plant information, digital map data, and remotely sensed images. Plant biodiversity databases management systems can become an enabling technology for important applications like Plant biodiversity, Plant Taxonomy, Botanical Information System, Medicinal and Aromatic Plants. Most of the data models are based on relational model. Relational model can not support temporal data (time), it only supports spatial data (space). Comparison has been made between existing plant biodiversity data model in computer perspective. Incorporation of the plant biodiversity and time can make an enhancement for the Plant biodiversity and analysis and manipulation. Integrate spatial and temporal information, it has becomes a critical issues in designing a data model. After the comparative study addressing the research issues in biodiversity databases but it will muse on the Plant Biodiversity Data Modeling is providing an analysis of challenges set, the problems come across as well as the proposed solutions and the phenomenal. Overviews the advance in plant biodiversity data model research.

Keyword: Biodiversity, Plant Biodiversity, Spatial, Temporal, Spatio-temporal, data modeling

1. Introduction

Over the last few years, there has been phenomenal growth in the area of plant bio-diversity studies, largely motivated by the economic and humanitarian potential that underlines the understanding of plant dynamics. New area has arisen which is called Bio-prospecting whose focus is solely on shifting through biodiversity data to locate potentially profitable biological sources [1].

There are various definitions on biodiversity proposed by researchers. Perhaps the best definition of biodiversity is the following (adapted from the Keystone Dialogue on Biodiversity in Federal Lands by Noss and Cooperrider, 1994): Simply put, biodiversity is the assortment of different types of organisms that co-occur in time and space. Biodiversity or more specifically the availability and sustainability of high levels of biodiversity –is accorded great value under numerous perspectives. This definition captures the important concept that biodiversity is hierarchical in nature. Biodiversity manifests itself on the genetic species, ecosystem, and landscape levels. Interactions within and among levels all contribute to biodiversity. *Plant biodiversity* is the variety of different types of plants species that growth in period and various landscape. Biological diversity plays a very important role in our lives.