

A SPATIALTEMPORAL DATA WAREHOUSE METAMODEL FOR APPLICATION ON MULTIPURPOSE CADASTRE

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SUMMARY

The Multipurpose Cadastre is an important support resource to the land management. With the modernization of the Multipurpose Cadastre new technological tools have been used for its implementation. The aim of this study is to present the use of new technologies to support the management of the MC including temporal characteristics, among these technologies are the Geographic Database, Temporal Database and Spatial temporal Data Warehouse (STDW). Many researchers have discussed about the importance of the historical record of land plots to monitor the evolution of the urban space, but is not yet common to find Multipurpose Cadastre with this feature. Thinking of the Multipurpose Cadastre integrated into a decision making environment, we propose the use of the STDW to support the management. In this context, the Multipurpose Cadastre would be implemented in a traditional Territorial Information System with On-Line Transaction Processing (OLTP) characteristics. In a decision supporting environment the STDW would be developed, fed by the Territorial Information System, keeping all the important issues to the administration, breafly, and the history of occurrences, such as dismemberment and unions of the territorial plots. The STDW will allow to keep up with the changes in the territory through consultations: simple, with the space location, with the time location, and spatial temporal. The STDW besides using the data from the Geographic Information System, will be able to integrate registration data from various distinct sources and provide information to the public administrator to support the decision making process. The definition of a STDW meta model will provide a conceptual pattern of relevant information for use of the Multipurpose Cadastre managers.