

How to Manage the Libraries Properties and Equipment dynamically through GIS?

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Abstract

Managing the libraries properties and equipment, especially in multi-storey and large buildings is considered as one of main concerns. The current study aimed to dynamically manage the space of the equipment and properties of the libraries at the floor level through GIS in the Central Library and Document Center of Tehran University as a case study. This study made use of system design method to implement and feed the information and data into ArcGIS software, analyze the data, and display the results on the library maps. System Design method constitutes the framework that enables the building of information systems to be treated as a disciplined engineering activity rather than as a craft. The following procedures were done in the case of this research: (1) Preparing the map of the library; (2) Modifying the maps of the library study halls according to the recently made changes; (3) Observing and drawing the existing facilities and equipment in each section on the maps of library and converting them to digital format through appropriate elements by Auto CAD; (4) Feeding the spatial and attribute data into ArcGIS software and creating typology; and (5) Processing information layers and creating a spatial database for the library equipment and receiving the output. Finally, the research findings were employed to present the proposed model for dynamically managing the place of the libraries properties and equipment through GIS based on the practical aspects of different stages of the research.

Keywords: Libraries, Properties and equipment, Geographical Information System, Management.

1. Introduction

Managing the properties and equipment, especially in multi-storey and large buildings, is considered as a principal concern of different organizations. It is of paramount significance in document centers and libraries as well. Spatial movement of the equipment in archives and libraries in order to equip the space or reconfigure it would lead to some problems in managing these properties. In some document centers, the existing inventories do not correspond to the properties of those sections. Updating these inventories is done manually by the organization properties manager. This is more evident when frequent movements occur especially when managers and officials of the libraries and archives properties are changed. In this regard, some items might be placed in remote spaces and places, and thereby they might be hurt, lost, and not used; these shortcomings would lead to some financial expenses for the organizations.

An appropriate way to manage the existing properties and equipment spatially and to identify their configuration in the library building or archive is visualizing the data related to the library properties and equipment through drawing a map. Creating the maps and their link to the properties inventory of an online and integrated system requires implementing a dynamic processing system. The existing systems lag behind integrating the maps and search for the properties inventories. Hence, it seems that geographical information system is an appropriate solution. The properties management software, one of which is currently used in the central library and document center of Tehran University lacks adequate efficiency to see the location of the equipment.

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