Using GIS To Measure In-Library Book-Use Behavior

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Abstract

This article is an attempt to develop Geographic Information Systems (GIS) technology into an analytical tool for examining the relationships between the height of the bookshelves and the behavior of library readers in utilizing books within a library. The tool would contain a database to store book-use information and some GIS maps to represent bookshelves. Upon analyzing the data stored in the database, different frequencies of book use across bookshelf layers are displayed on the maps. The tool would provide a wonderful means of visualization through which analysts can quickly realize the spatial distribution of books used in a library. This article reveals that readers tend to pull books out of the bookshelf layers that are easily reachable by human eyes and hands, and thus opens some issues for librarians to reconsider the management of library collections.

Full Text:
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References


A. K. Jain, A Statistical Study of Book Use (Ph.D. diss., Purdue University, 1967), 128.


More descriptions about collection arrangements of MacKimmie Library can be found in reference 11, "GIS in the Management of Library Pick-up Books."


McGrath also excluded periodicals from his survey on in-library book use. W. E. McGrath, "Correlating the Subject of Books Taken Out of and Used Within an Openstock Library."

W. S. Pierce, Furnishing the Library Interior.

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Refbacks
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Chimpanzee behavior analyzed using innovative GIS application offers insight to our human past. If it can be mapped, GIS, can be used to conduct analysis. A group of scholars used this fact to develop an innovative new application of GIS to understand stone tool use behaviors in chimpanzees during nut-cracking season. The team conducted a study in Guinea on the variation in stone tool use among these primates and GIS was used to analyze the spatial patterning of wear on the tools at the end of the season. The study could successfully identify distinct, spatial differences in active and passive tool use and exhibited the reliability of this method. Using GIS in practice and research could benefit library services by generating maps to convey more information than tables and text alone and by allowing spatial analysis of library services inside the library as well as in a library’s service areas. Originality/value – The paper provides future directions for an emerging research area and attempts to define subdivisions within this research area to clarify the area for researchers and practitioners. Information systems (GIS) as a tool to measure and analyze library services and establish future directions for this research area. A book has been written on implementing GIS services in libraries (Abresch et al., 2008; Aufmuth, 2006; Donnelly, 2010; Houser, 2006; Jue, 1995; Kowal, 2002; Larsgaard, 2005; Smith and Jingfeng Xia, "GIS in the Management of Library Pick-up Books," Library Hi Tech 22, no. 2 (2004): 209-16; Jingfeng Xia, "Library Space Management: A GIS Proposal," Library Hi Tech 22, no. 4 (2004); Jingfeng Xia, "Locating Library Items by GIS Technology," (Under Review). More descriptions about collection arrangements of MacKimmie Library can be found in reference 11, "GIS in the Management of Library Pick-up Books." E. E. Nkereuwem and U. Eteng, "Operations Research in Library Management." McGrath also excluded periodicals from his survey on