ArcGIS as a Tool for Infrastructure Documentation and Asset Management: Establishing a GIS for Computer Network Documentation

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Abstract : Built out of a real-world need to have better, more detailed, asset and infrastructure documentation, this project will lay out the case for using the database functionality of ArcGIS as a tool to track and maintain infrastructure location, status, maintenance and serviceability. Workflows and processes will be presented and detailed which may be applied to an organizations' infrastructure needs that might allow them to make use of the robust tools which surround the ArcGIS platform. The end result is a value-added information system framework with a geographic component e.g., the spatial location of various I.T. assets, a detailed set of records which not only documents location but also captures the maintenance history for assets along with photographs and documentation of these various assets as attachments to the numerous feature class items. In addition to the asset location and documentation benefits, the staff will be able to log into the devices and pull SNMP (Simple Network Management Protocol) based query information from within the user interface. The entire collection of information may be displayed in ArcGIS, via a JavaScript based web application or via queries to the back-end database. The project is applicable to all organizations which maintain an IT infrastructure but specifically targets post-secondary educational institutions where access to ESRI resources is generally already available in house.

Keywords : ESRI, GIS, infrastructure, network documentation, PostgreSQL

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