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CEMETERY MAPPING: WHAT CAN GIS DO FOR YOU?

article provided by Damian Bradley, LEES + Associates

What is a GIS?

A Geographic Information System (GIS) is a tool that relates tangible elements of the real world such as roads, trees, memorials and buildings, to information such as records, documents, photographs, history and statistics. Where a traditional map may show a labelled line to represent a street, a GIS displays the same line but is linked to a database. This linked database may contain any information that is required, such as the street name, surface type, condition, number of lanes and a photo of that section of road, and so on. GIS is the driving force behind products such as Google Maps, Earth and Street View, automotive and handheld GPS units, and cellular navigation technology. Each of these systems literally puts the power of GIS at our fingertips, and although there is a lot of data and complexity working in the background, the end user interacts only with simple yet powerful maps. The work that goes into creating a GIS infrastructure is not insignificant: a good example of this is the Google automobile fleet which has mapped and photographed thousands of kilometres of roads all over the world for the StreetView project by traversing and photographing each and every street. In collecting this data, building the infrastructure and making it accessible and easy to use Google was able to change the way the public interacts with street maps and uncovered new ways of capitalizing on mapping technology. The cemetery industry is in a position to do what Google did with roads: to fundamentally change the way we interact with cemetery information.

What is involved in building a GIS?

The first phase in building a cemetery GIS is taking an inventory of your assets. GIS professionals can use your existing maps, CAD drawings, aerial imagery or go on-site with a high-resolution GPS data logger to locate your plots, roads, buildings, iconography, signage, gardens, trails, trees, niches, crypts and memorials. The end result of this effort is a detailed map showing these assets and a full plotting plan of your cemetery.

The second phase involves making the data you have collected accessible to those who can make use of it. Larger

organizations such as municipalities may have GIS professionals on staff, but for independent cemeteries this is often impractical or unnecessary. The power of a GIS is most evident when combining GIS data with records management applications such as products offered by Stone Orchard Software or other GIS-enabled cemetery software. These applications will enable you to join your records with the spatial data you have collected, and provide a mapping interface which can help your staff take advantage of the technology.

How can my cemetery use a GIS?

Using a combination of GIS data and cemetery records management software provides cemeteries with a simple interface that allows users to access information from a database, or through a map. Features in this type of system often include:

- A real-time inventory showing the location of lots by status (available, on hold, occupied, etc.)
- Reports showing real-time counts of interment capacity
- The ability to search for the location of an interred person by name, rights holder, or other recorded information
- The ability to determine who is buried at a given location, and link back to their records
- Wayfinding assistance(how to get to a memorial)
- Photos of memorial or interment sites
- Showing the locations of memorials which are potential safety concerns, or require restoration
- Displaying photos of the above memorials to aid in the assessment of work required
- Marking the historically significant memorials in the cemetery

As cemeteries adopt GIS and realize the benefits of such a system, the scope of the software and the data collected expands to fill the greater operational and economic needs of the organization. Software developers and cemetery planners can work with GIS data and deliver a variety of value-added products at reduced costs. The information assists in:

Management:

- Providing cemetery planners with spatial and economic data which can be used to inform decision making and overcome planning and design challenges
- Determining short and long term budgeting and planning

Operations:

- Showing the location of trees which pose safety concerns to the public and require remediation measures or regular monitoring

- Locating various infrastructures located on the property, and the data and condition associated with that infrastructure (eg. roads, trails, buildings, drains, hydro poles, bridges, gates, fencing, walls, etc.)

Marketing:

- Publishing public, online, google-based cemetery maps and tours
- Creating online searchable databases to determine the location of memorials

Wayfinding:

- Facilitating publishing of printed cemetery maps
- Producing signage within the cemetery
- Providing an interface for kiosk-based maps
- Generating online or self-guided tours

Building an Infrastructure

By building a Geographic Information System at your cemetery, you can greatly enhance your organization's ability to overcome the challenges of management, administration and operations and visitor satisfaction. But the key to realizing the benefits of building a GIS is to start with the basics. Collecting an inventory, understanding your site and building a solid data infrastructure will help you to make informed decisions in the short term, and create a robust sustainable information system for your organization in the long term. GIS data acts as a foundation upon which more intelligent and sophisticated systems can be built as your cemetery grows.

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