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Customer Success Story

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Dubai's landmark land information system Establishing the lie of the land



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— Marwan Bin Ghalita,
Dubai Land Department's
Technical Administration
Director

It used to be that land in Dubai could be bought and sold on a handshake. But then word about the emirate got out – talk of Dubai as a dynamic international business center, a laid-back tourist escape, a cosmopolitan society that socializes against the beautiful backdrop of Arabian antiquity – and suddenly a handshake would no longer do.

As a city that has reinvented itself several times as the face and space of the emirate has diversified, so too has its governing agencies in their endeavors to keep pace with the urban growth of Dubai and the great strides the UAE has made towards modernization. Nowhere has this reinvention been made more prevalent than in the Dubai Land Department (LD) – the technological jewel of Dubai's governing crown. Established in 1960 to oversee affairs related to land and private property in the emirate, the LD has been at the forefront of technological innovation in its strive to offer land owners the most systematic and effective service for purchasing, selling and registering property ownership in Dubai.

Plagued by four decades of tedious, paper-based procedures for handling land transactions – some of which could take up to three years to complete – the LD decided their paper-heavy business culture needed to be as versatile and mobile as the culture of citizens it served. The city of Dubai was growing and the LD's information management system needed to grow with it if it was to cope effectively with the continuing demand for property. In 1995, the LD initiated a complete overhaul of its operating procedures and in 1996 it shed a significant portion of its paper-based information management system with the launch of its Land Information System (LIS), a customized computer-based system designed to enable staff to perform business tasks electronically. However, although the LIS helped to automate a number of procedures, personnel were still being pulled from their computerized tasks to handle the manual tasks of serving customers' in-house requests for location information on a particular plot of land that they intended to buy. The LD turned to technology to resolve this time-consuming task as well. In perfect harmony with the Dubai e-government

initiative of 2001, the LD launched its technological crown jewel – the Dubai Guide Map – in Oct. 2002. Based on Autodesk MapGuide, a software suite that allows users to create, publish, view and distribute maps and map-related content over an intranet or Internet, the Dubai Guide Map extends the LIS to the Web, providing a complete vector map of every parcel of land in Dubai coupled with the database intelligence to offer detailed land-related data of any given parcel, such as its unique parcel number, an index of the last five transactions made on the property and distances to main roads. A revolutionary MapGuide application for not only Dubai but for the whole UAE, the Dubai Guide Map has become the gateway to improved efficiency for both the LD's internal staff as well as landowners and realtors.

Dubai Land Department Profile

Grounded in technology

As the only government-appointed property hub for Dubai and its 3.5 million citizens, the LD is an undeniably busy place. Offering 19 individual services including sales, mortgages and donations registrations, property evaluations, allocating common property, amending ownership details and issuing parcel maps, the LD processes over 15,000 transactions a year and issues an average of 50 land-ownership certificates daily. To date, the emirate comprises 88,000 parcels, of which 55,000 are registered with the LD. To best manage these registrations, the LD maintains a database of detailed information on those 55,000 pieces of private property as well as over 46,000 landowners.

With such activity, the paper-based environment of the past proved a difficult infrastructure for the LD's personnel to service effectively customers. Previously, when a person was interested in purchasing a piece of land, he would come to the LD and request to see a hard-copy map of the exact location of the plot. Staff would then have to set aside their work to search through paper sheets of maps - a map archive that was digitized three years ago -, find the specific parcel, make a copy of it and provide it to the customer. It was a time-consuming necessary service that made it difficult for the LD's seven draftsmen to produce efficiently land-registration certificates - their primary business task. It became clear that continuing to support labor-intensive procedures would hinder the LD's ability to regulate the registration process and protect property from misappropriation. Developing the LIS was the LD's first answer to improved efficiency and personnel were dedicated to continually customizing the system to service more internal application needs. Then the Dubai government announced the launch of its e-government initiative for government agencies and the LD jumped at the chance to further its technological applications portfolio. The Dubai Guide Map was the goal and Autodesk's MapGuide was the chosen software solution to reach it. In February 2001 the LD obtained MapGuide, developed the Dubai Guide Map in-house, and one year later launched it internally.

Six months later, it was released to the public. "We wanted to produce an e-service that was fast and powerful for our customers and the Guide Map was a strong choice," says Eng. Marwan Bin Ghalita, the LD's Technical Administration Director. "We had the information, we had the

technology, so it made sense to spread that information through the Internet to provide the maximum use of the data to customers - particularly to investors and realtors. MapGuide offered the features and facilities we needed in our system and as its customer friendly and easy to maintain, we were able to develop the Guide Map in-house with the full support of Autodesk."

Landing the solution

Powered by MapGuide, the Dubai Guide Map allows users to view any parcel or area of the emirate. Once they find their area of interest, they can zoom in or out or pan across the map, and clicking on any parcel provides users with a range of detail such as distances to sites of interest, transaction history, land value, real estate market statistics for the neighborhood, and details of any litigation pending on the plot. E. Senthil Kumaran, Project Manager - GIS Web Publishing, Dubai Land Department, who developed this project, says "By providing the searching power directly to the public, enabling anyone with Web access to research areas and find parcel locations themselves. The LD's staff is now able to dedicate more time to their primary business tasks, such as issuing of land certificates, as well as strategize for further business or application developments. "He also adds that "more sophisticated features will be added on in the future. These include facilities for property owners to post virtual 'for sale' signs, or link their own personal websites to their parcel".

Particular beneficiaries of the Dubai Guide Map are the real estate brokers, who can now research the market, keep abreast of property developments and analyze specific plots of land or properties from their own offices. Such information enables them to provide better real estate information to their clients and clients can then make wiser decisions on purchasing property. As property is now up for grabs for foreigners, the Dubai Guide Map is both an effective marketing tool to attract foreign investment and a smart real-estate tool to help investors better analyze real estate opportunities in the "city of technology." And the intelligence inherent in the Dubai Guide Map is growing daily as the application has been offered to a number of other organizations. The Dubai Development Board, responsible for constructing commercial and

residential buildings for rent, has its own layer on the Map to enable both expatriates and local citizens to see what rental properties will be available in the future. Organizers for the Shopping Festival have also added a layer of data to inform visitors of particular sites of interest in Dubai such as shopping districts and hospitals. "I am very happy with the Guide Map," says Bin Ghalita. "We made it for our customers and they're using it. Guide Map not only provides the important spatial view of a parcel but it also provides the real-estate statistical intelligence about that parcel to allow investors to make better-informed purchasing decisions."

Plotting for the future

More Map intelligence is on the horizon as well. Up first will be the launch of another data layer for the Islamic Affairs Department, which maintains information related to all the places of worship in the emirate. The LD is plotting the location of every mosque, along with its particular attributes such as maintenance schedules and ownership. The LD is also adding an appraisal application to allow investors to evaluate a piece of land themselves. A small program will be inserted in the Guide Map to enable a person to view a given area, and based on the user's requirements, the program will calculate the approximate value of the land.

"Autodesk MapGuide was easy enough for the experienced LD staff to use and develop their Dubai Guide Map in-house, we are proud of the outcome and we plan to maintain this application on the latest technology." Ahmad Al Jassim, Country Sales Manager of Autodesk Middle East said.

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