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PVNET hooks up city to
GIS

*By Michelle Fisher Special to the
News*

RPV — When we use Web-based mapping services and vehicle navigational systems to get driving directions, most of us take for granted the complex information we are accessing with a keystroke.



We don't question how Web sites such as MapQuest.com and Maps.com work to provide the information we need. What is the technology that makes this all possible? GIS. It stands for geographical information systems, a segment of the software industry that is booming because of its widespread use.

Recently the Rancho Palos Verdes City Council voted to approve the use of a citywide GIS system, which will enable all staff to view various, multilayered maps of the city, according to Dennis McLean, RPV's director of finance and information technology.

"GIS is a necessary tool to enable us to track and manage our constantly changing city. For the city and the Peninsula residents, it will provide the ability to view layers of information, including locations of parks, schools, bus stops and even property information that is not currently available," says McLean.

He explains that the beauty of the GIS system is that it will enable City Council and Planning Commission members, as well as the staff and public, to view any parcel pictorially when a decision about a property is being considered.

"Instead of just talking about where the driveway is — or the hill or the boundary — they can just see it. These maps can be laid over one another to give a picture of a parcel as it is within the city. It really becomes a great tool for staff to view any portion of the city," he says.

RPV Mayor Larry Clark says council members adopted the new GIS system because of its many capabilities. He notes that the League of California Cities has been an advocate for cities

adopting GIS technology to benefit city entities and staff, as well as residents.

“This is a technology that’s been at work elsewhere in public entities for some time. It provides a dimensional capability that assists staff in providing a much more comprehensive visual presentation and perspective on land use matters,” says Clark.

He says that GIS technology was used in a recent presentation to council about McCarrell Canyon, where a storm-drain failure occurred last year. “The GIS capability was used to present a very comprehensive, detailed picture of the area of the canyon that needs repair,” he says.

Clark, who also spent four terms on the RPV Planning Commission, says that the commission, as the first city entity to deal with land-use issues and decisions, is set to benefit greatly from GIS.

“This decision is a move toward effective decision making on land use matters that come before them,” he says.

PVNET teams with city

McLean is quick to credit Ted Vegvari and his nonprofit computer technology center, Palos Verdes on the NET, for bringing this technology to the city. PVNET interns have been developing the city’s GIS system since the summer of 2004.

“We’d been observing over the past few years the inroads that GIS systems have made and how data is seamlessly integrated into information that we receive in all facets of our lives: business, entertainment and recreation,” says Vegvari.

He approached GIS software developer ESRI in 2004 and shared his plans to develop a GIS internship program. “We asked them to enable us to train people in the field of GIS,” he says, “because the interns who come here are seeking to try out a variety of technologies.”

Soon after, ESRI donated approximately \$20,000 worth of software to the computer center.

Vegvari emphasizes that none of his interns were even aware of GIS technology before coming to PVNET. “You should have seen their eyes open when they started learning about this facet of computer technology. The ‘oh wow’ factor is huge,” he says.

“Kids in the community have been joining the internship program to learn GIS,” Vegvari says. “They work on community projects that are advantageous to local cities and residents.”

The GIS interns have created databases containing information on the locations of parks, schools, libraries, fire stations and city offices that can be linked to maps, says McLean. In addition, interns can work with information that is not public but available to assist city staff, including locations of stop signs, traffic lights, easements, city trees, medians, sidewalks and businesses.

“The interns actually create some GIS information at no cost to the city, enabling the GIS system to provide more information than what the city could have done otherwise,” McLean says.

Sonali Tambe, PVNET's resident director of GIS services, explains that GIS works by linking data to geographical locations. This includes not only the physical attributes of a geographical location but also other types of information, from census and demographic information to data on transportation, utilities and environmental aspects of an area.

"The basic power of GIS is that the wealth of data is unlimited. Any kind of data can be linked to any area," Tambe says. "GIS is a technology that creates intelligent maps by linking spatial location to any relevant information about the location. GIS provides a tool to visualize this data, and a picture becomes worth a thousand words."

Tambe notes that GIS software, such as ArcView, also can be used in disaster preparedness and mitigation. "We have developed maps of fire hazard areas, flood areas, landslide areas and disaster routes for the city's hazard mitigation plan filed with the federal government," she says. "The advantage of having GIS in this case is that it allows the visualization of the emergency situation. Aligning physical geography with relevant conditions of the area will allow them to respond accurately and immediately."

A 'whole range of capabilities'

Tambe is excited as she talks about the projects she and other interns have worked on with the city. For the storm-drain user fee project, she says that GIS was effective in quickly identifying parcels and key information for city staff and property owners.

"It helped reduce the amount of time spent by city staff on this project, which otherwise would have had to be done manually," Tambe says.

Tambe adds that GIS technology also proved helpful in the Natural Communities Conservation Planning program reserve boundary identification and area calculation. Without GIS, she says, RPV city staff would have spent a lot of time in the field.

"The creation of this new program is another example of the wonderful relationship that exists between the city and PVNET that serves the city staff, the City Council and the residents of RPV very well," says McLean.

He points out that the young PVNET interns are set to benefit as well. "The GIS internship program provides these young adults a wonderful opportunity to learn computer skills that can become very useful to them in the future," McLean says.

Peter Trelenberg, 16, who became a GIS intern in August, says he has learned so much in just four months. In addition to training other interns, Trelenberg has worked on a project for the city as well.

"I created a map that showed all the recreation features. I had to map out zones, like where the horse trails are, whether it's a city zone — city vs. private property. Different zones were identified and color-coded so that you could tell the difference easily," he says. "The city will probably use this data when they go to look at where housing is located, where they want to set up new stores and such."

Trelenberg admits that he has only scratched the surface when it comes to fully utilizing software such as ArcGIS.

“It takes a while to get to know the program. It’s hard to even think of the whole range of capabilities in the program. But once you get into it and see all the things you can do, it’s fun,” he says.

Alex Cohen, 16, says he has learned a lot about GIS since starting his internship in June 2004. “It’s pretty neat — the software can do a lot. I didn’t really know much about it before, but now that I do, I see how it’s used in everyday life. It really helps people,” says Cohen, who also helps train interns. “It helps us realize how all sorts of systems work and how to map out areas, and a lot of companies use it. We might use it later on in our careers.”

Trelenberg agrees, saying, “I never would have thought of a career in technology before, but this has definitely moved me more in that direction, toward something I may want to do when I grow up.”

Vegvari says the idea to add GIS to the internship program arose from discussions he had with founding intern Hoon Kim, who was invited to join the National Security Agency. Kim was introduced to GIS in college and wanted to learn more about it, particularly its uses in space and defense programs.

“During that conversation, we decided that this was something we needed to incorporate into our internship program,” says Vegvari. “Learning about GIS technology gives interns one more possible career option.”