



High Tech Turf

By: Mike McCullough

Fresh out of the "I can't believe they can do this" file comes a story about how video games and golf course management strategies go hand in hand. For many video game connoisseurs, the new simulated golf games are unbelievably accurate in their portrayal of the golf courses they simulate. Obtaining the information that eventually becomes the backdrop for these video games was at first considered marginal; now it is an exact science.

Some of this technology has been used in the past, but the reliability and accuracy was also in question. A recent example of this would be mapping irrigation lines with GPS receivers. This technology has been in the works for a couple of years, but a company out of Washington State has taken the GPS and robotic mapping to a whole different level. In fact, the level this field is in is actually the field of entertainment. EA Sports, the industry leader in sports video games, contracted out the services of Geodetic Services Inc. of Blaine, Washington to provide them with terrain models of popular golf courses for their video golf games. These terrain models have actually been made from computers based on points oriented from GPS and robotic survey instruments. Darryl Sharp, owner of Geodetic Services, claims that they are the only company in the United States that can provide this type of service relative to the amount of data, cost and speed of mapping a golf course.

Sharp and his associates can map an 18-hole golf course in 3 1/2 days or less, no small feat considering the amount of

information they obtain every day. The crew measures every tee, green, collar, approach and fairway. They also mark every sprinkler head, valve box and drainage grate on the golf course. Some hardscape features such as cart paths, prominent trees in play or rock outcrops also get referenced.

The information points that are generated are then downloaded in a computer. The computer programmers at EA Sports take the information and utilize sophisticated computer software to transfer the satellite derived location points into three-dimensional maps of the golf course. These drawings can outline specific course features such as water hazards, trees, cart paths and slopes. The programmers then add different textures to the grass, sand and other features to generate the finished product, a computer version of the real thing.

To compare the old way of GPS mapping with today's version is like comparing the gutta percha golf ball to the Pro V1. The first time Poppy Hills was mapped for a video game, there were only 5,000 GPS points taken on the golf course. Of those 5,000 points, almost half of the points were not usable. Hence the product was very rough. The last mapping of Poppy Hills generated more than 100,000 points, a 400% increase.

The equipment Geodetic uses is state of the art survey grade equipment. "We have been pioneers in developing techniques that gives us the measurements we need and our customers demand," said Sharp. With \$200,000 invested in equipment, the company claims the measurements provided are within 1 centimeter in accuracy

and can detect a 1/4 inch elevation change. The prehistoric data could have information points as much as 30 feet off line from the original reference point. Unfortunately the data was cataloged only four years earlier.

Geodetic Services has mapped many of the top 100 golf courses in the United States and Canada. Not bad work if you can get it.

So how is this applicable to maintaining a golf course? A superintendent can have a much more detailed set of "as built" to work from. Mapping each sprinkler head can provide some peace of mind in determining the exact spacing between heads. Knowing the head spacing can be beneficial if some coverage issues are prevalent. The information generated from Geodetic Services, Inc. can help in developing maps or data files to enhance the operation of computer based irrigation systems.

In an era where information is king, the data that can be generated by this type of mapping should be classified as

priceless. Small maps can be generated to help orient new employees or troubleshoot a drainage problem on a certain portion of a fairway. The data can also be used to determine exact square foot measurements for tee boxes, fairways or even sand traps. Other applications may include developing a precise hole location sheet for course setup purposes as well as determining the exact length of each hole for yardage book calculations. The cost for obtaining this information for an 18-hole golf course is comparable to other expenses of maintaining and operating a golf course.

The next time you see the EA Sports version of Tiger Woods 2002 being played on a video game, pay close attention to the detail of the golf course. Darryl Sharp and Geodetic Services, Inc. have taken great pains to insure pinpoint accuracy and detail is in every shot.

For more information about Geodetic Services, Inc. go to their website at <http://website.bcentral.com/Golf-Course-Mapping/>.

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