



# Getting GPS Data into PODS

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# Importance of Data Dictionaries

- If you build it, They will come....
- How are most companies gathering new information about their assets? ILI, GPS,

# One of many ways to conquer

- We were collecting mountains of GPS data...
- Storing it under file names we did not understand, and could not find later on, and...
- If we did find it again, it was a lot of work to get it to talk to PODS because it all had to be interpreted for the table structure and have a stationing calculated for each feature before it was manually entered into PODS item by item.

# This meant lots of manual work

- The biggest downside was the chance for human errors. Lots of manual keystrokes.
- Next was the time factor. Lots of time required.
- Another difficulty was extracting the stationing from the GPS latitude longitude one at a time.

# Basic Concept: To Batch Process

- 1. Get your GPS data into a tabular format (MS access file).
- 2. Import and convert the tabular GPS data to a spatial feature class. (Personal Geo-database)
- 3. Automatically assign pipeline stationing etc. to the GPS Data so it will fit into the PODS scheme.
- 4. Upload the final data to the destination PODS database in the appropriate tables.

# THE GREAT MISSING LINK

GPS Coordinate conversion to  
stationing

Especially when your GPS is much  
more accurate than your centerline in  
GIS!

This requires people to create some  
code for you to use that will snap  
points over to the centerline.

# Answer

## Build an Automatic Station Calculator

that will place station values into the personal geo database for each GPS feature automatically, and have it ready to batch upload into PODS.

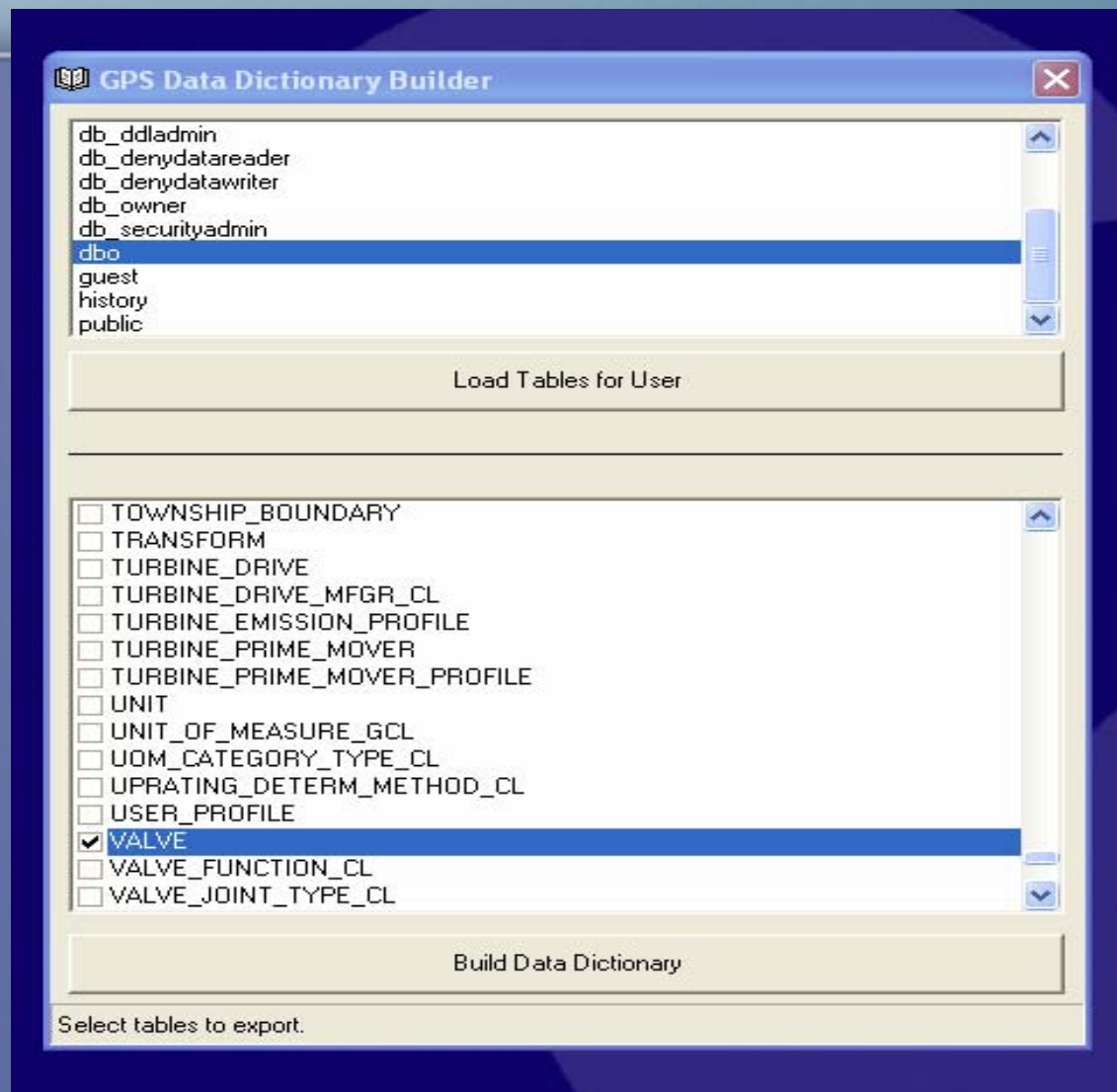
# The manual way was good..

- Each GPS feature class can be manually assigned or matched to go into a specific table in PODS so that when the batch runs all like kinds of data will end up in the right place.
- Data in the right place is always a good thing in PODS or any database.
- But this requires an extensive knowledge of the PODS database structure.
- Table names are something only the chosen few will remember. I am not one of them.

# The automatic way is better!

- If I could only collect my data in a format that already has the PODS table structure established, I could anticipate that it would match up and fit to my PODS database without me having to do the manually assign data to tables routine every time.
- And so the IDEA! was born.....

# Data Dictionary Builder



# Trimble Data Dictionary Editor

PODS valves.ddf - Data Dictionary Editor

File Edit Options Help

Name:

Comment:

Features:

- VALVE

Attributes:

- COMMENTS
- DATE\_MANUFACTURED
- DESCRIPTION
- EVENT\_ID
- FUNCTION\_CL
- JOINT\_TYPE\_CL
- DATE\_INSTALLED
- MANUFACTURER\_CL
- MATERIAL\_CL
- MILL\_TEST\_PRESSURE
- MODEL
- NAME
- NOMINAL\_DIAMETER\_INL
- NOMINAL\_DIAMETER\_OUT
- NOMINAL\_PRESSURE\_RAT
- NOMINAL\_PRESSURE\_RAT
- NOMINAL\_PRESSURE\_RAT
- PURCHASE\_ORDER\_NUMBE
- SERIAL\_NUMBER
- SOURCE\_GCL
- SPECIFICATION\_CL
- TYPE\_CL
- VALVE\_IDENTIFIER

Text

Length: 100  
Default Value:

On Creation: Normal  
On Update: Normal

Default Feature Settings:

Min. Positions: 10  
Accuracy: Code  
Log Interval: 1 seconds  
Label 1: <Off>  
Label 2: <Off>

New Feature... F3    Edit Feature... F4    Delete Feature F5

New Attribute... F7    Edit Attribute... F8    Delete Attribute F9

Press F1 for help

Start    GPS Pathfinder Office    PODS valves.ddf - Dat...    8:07 AM

Data Standard

# Each attribute has all the PODS associated entities attached

The screenshot displays the 'PODS valves.ddf - Data Dictionary Editor' application. The main window is titled 'PODS valves' and contains a list of attributes. The 'Attributes' list includes:

- COMMENTS
- DATE\_MANUFACTURED
- DESCRIPTION
- EVENT\_ID
- FUNCTION\_CL
- JOINT\_TYPE\_CL (highlighted)
- DATE\_INSTALLED
- MANUFACTURER\_CL
- MATERIAL\_CL
- MILL\_TEST\_PRESSURE
- MODEL
- NAME
- NOMINAL\_DIAMETER\_INL
- NOMINAL\_DIAMETER\_OUT
- NOMINAL\_PRESSURE\_RAT
- NOMINAL\_PRESSURE\_RAT
- NOMINAL\_PRESSURE\_RAT
- PURCHASE\_ORDER\_NUMBE
- SERIAL\_NUMBER
- SOURCE\_GCL
- SPECIFICATION\_CL
- TYPE\_CL
- VALVE\_IDENTIFIER

An 'Edit Menu Attribute' dialog box is open, showing the 'Attribute Name' as 'JOINT\_TYPE\_CL'. The 'Menu Attribute Values' section contains a list of values: FE, FE x FE, SE, UNKNOWN, WE, and WE x FE. The 'Field Entry' section has two columns: 'On Creation' and 'On Update', each with radio buttons for 'Normal', 'Required', and 'Not Permitted'. The 'On Creation' 'Normal' option is selected.

At the bottom of the application window, there are buttons for 'New Feature... F3', 'Edit Feature... F4', 'Delete Feature F5', 'New Attribute... F1', 'Edit Attribute... F2', and 'Delete Attribute F3'. The Windows taskbar at the bottom shows the Start button, 'GPS Pathfinder Office', 'PODS valves.ddf - Dat...', and 'Microsoft PowerPoint - [...]' with the system clock at 8:11 AM.

# The Downside

- There is a 20 character max in Trimble DD field names that causes problems once in a while.
- PODS table values are not always perfectly clear just by reading them. #^\*&(@%!)\$^  
So in the field collecting data with the GPS we have to guess what is being asked sometimes.

# Questions ~ Discussion

