Exercise 3.3: Create a Data Dictionary using the GPS Pathfinder Office Software

After defining your data dictionary on paper, you are ready to create it in the GPS Pathfinder Office software. To do so, use the Data Dictionary Editor utility. After the data dictionary is created, it will be transferred to the TerraSync software to be used in the field as a guide to data collection and rover file structure.

*Note* – You can also use the TerraSync software to create a data dictionary. For more information, refer to the TerraSync Software Reference Manual.

In this exercise, you will:

- use the Data Dictionary Editor utility in the GPS Pathfinder Office software

Start a data dictionary file

To start the Data Dictionary Editor utility in the GPS Pathfinder Office software:

1. Select Utilities / Data Dictionary Editor.
2. In the Name field, enter Class 1. This is the title of the data dictionary that will appear in the TerraSync software.
3. In the Comment field, enter your name.

Create a point feature

The first type of feature you are going to create is a point feature.

To create your first point feature:

1. Click New Feature.
2. Make sure that the Properties tab is selected.
3. In the *Feature Name* field, enter your first point feature name. This is the name that appears on the TerraSync software when you use this data dictionary in the field:

![New Feature window](image)

4. In the *Feature Classification* group, the *Point* option is the default. This feature is at a single location on the earth’s surface, so a point is the most appropriate classification for this feature. Leave this setting as it is.

5. Click **OK**.

The *Data Dictionary Editor* window displays your point feature name in the list of features. A symbol indicates that it is a point feature.
Create attributes

Once you have created your point feature, you can add the attributes.

To create a menu attribute

Menu attributes are useful when the information you need to store is a defined set of options. This standardizes the entry of information and makes it quicker to enter values in the field.

In the field, a menu with these three values appears when you are entering the attribute.

1. Click **New Attribute**.
2. Select the **Menu** option and click **Add**.

   The **New Menu Attribute** dialog appears:
3. In the Attribute Name field, enter your first attribute name (question).


5. In the Attribute Value field, enter your first menu choice (answer):

![New Attribute Value - Menu Item dialog]

6. Click Add.

7. In the Attribute Value field, enter your second menu choice (answer). Click Add.

8. In the Attribute Value field, enter your third menu choice (answer). Click Add.

9. Click Close to return to the New Menu Attribute dialog. It displays the new menu attribute values.

10. Click OK to create this attribute.

11. Click Close to close the New Attribute Type dialog.
To create a numeric attribute

Use a numeric attribute type to enter numeric attribute values while in the field. The minimum and maximum values help prevent incorrect entries, and a sensible default value can save time.

*Note – If you want to create numeric attributes without default values, you need to disable the Numeric Default Values Required option. To do this, select Options / Numeric Default Values Required. For more information, refer to the GPS Pathfinder Office Help.*

To create a numeric attribute:

1. In the New Attribute Type dialog, select the Numeric option and click OK.
2. In the Attribute Name field, enter the numeric attribute name:
3. In the *Decimal Places* field, the default is 0. Change the default if the attribute values contain decimal places.

4. The *Minimum* field and the *Maximum* field limit the range of values that you can enter.
   - Minimum – lowest value a user can enter
   - Maximum – highest value a user can enter

5. In the *Default* field, enter a default value.

6. Click **OK** to create this attribute.

7. Click **Close** to close the *New Attribute Type* dialog. The attributes that you created now appear in the *Attributes* field.

*Note* – In the field, if you enter a value outside the range defined by the minimum and maximum values, an error message appears in the TerraSync software.

**To create a text attribute**

Text attributes are useful when the information to be stored varies for different occurrences of a feature, and when a defined menu list is impractical. This field lets you enter letters, numbers, and punctuation for each attribute. To make sure that the attribute is entered, set the attribute to be required. This means that, in the field, a value must be entered before the feature can be saved.

To create a required text attribute:

1. Click **New Attribute**.

   The *New Attribute Type* dialog appears.

2. In the *Type* group, select the *Text* option and click **OK**.
3. In the *Attribute Name* field, enter the attribute:

![New Text Attribute dialog box]

The *Length* field determines the number of characters that can be entered for the attribute. By default, the length of a text attribute is 30 characters. You can change this, but for this class leave it as it is.

4. In the *Field Entry* group, select the *Required* option.

5. Click **OK** to create this attribute.
To create a date attribute

You can create this attribute so that it is automatically generated for each feature. When a feature is collected, the current date is automatically entered as the date attribute.

To create a date attribute:

1. In the New Attribute Type dialog, select the Date option and click OK.
2. In the Attribute field, enter Date:

![New Date Attribute dialog](image)

3. By default, the Auto Generate on Creation check box is selected. Select the Auto Generate on Update check box.

When you create a new feature or update an existing one, the TerraSync software automatically generates the date. These fields can be exported as attributes to your GIS or CAD system.

4. Click OK to create this attribute.
5. Click Close to close the New Attribute Type dialog.
Save the data dictionary

Once you have added all features and their attributes from your tables, it is important to save the new data dictionary.

To save the data dictionary:

1. Select File / Save As.

   The Save As dialog appears. By default, the name of the data dictionary is automatically used to generate the file name; for example, C:\Pfdata\TerraSync Tutorial\Class1.ddf.

2. Click Save.

3. From the menu bar, select File / Exit.

For more information about data dictionaries, refer to the GPS Pathfinder Office Help.

Review the data dictionary

If you make a mistake creating features, highlight the feature in the Features dialog, and click Edit Feature. Make the correction, and click OK.

If you make a mistake adding attributes, highlight the attribute in the Attributes dialog, and click Edit Attribute. Make the correction, and click OK.

To change the order of features or attributes, highlight an item, and select Edit / Move Up or Edit / Move Down. Alternatively, click the up or down arrows on the toolbar.
Exercise 3.4: Transfer Your Data Dictionary

Now that your data dictionary file has been created in the GPS Pathfinder Office software, it must be transferred to the TerraSync software before you start to collect data.

This exercise shows you how to:

- transfer the data dictionary to the device
- check that the data dictionary was successfully transferred to the TerraSync software

Transfer the data dictionary to the TerraSync software

You need to transfer the Class 1 data dictionary to the TerraSync software, so that you can use it in the field to collect data. Use the Data Transfer utility in the GPS Pathfinder Office software to efficiently transfer data between the TerraSync software and the office computer.

To transfer the Class 1 data dictionary from the office computer to the TerraSync software:

1. Switch on your data collector and your office computer and connect the two computers.

   The Microsoft® ActiveSync® technology should automatically establish a connection with the data collector. When ActiveSync is connected to the data collector, the message Connected appears in the main ActiveSync window, and its taskbar icon is green.

2. If ActiveSync does not connect automatically, connect to the data collector manually. For information on connecting with ActiveSync, refer to the ActiveSync Help.

3. In the GPS Pathfinder Office software, select Utilities / Data Transfer.

   The Data Transfer dialog appears.
4. From the *Device* list, select the device called GIS Datalogger on Microsoft Windows® CE operating system. Alternatively, if you have set up a device definition for your data collector, select that device name from the list.

The Data Transfer utility automatically connects to the data collector.

5. Select the *Send* tab.

6. Click **Add** and select Data Dictionary from the drop-down list. The *Open* dialog appears.

7. Highlight the Class1.ddf file, and then click **Open**. The *Open* dialog disappears and the selected file appears in the *Files to Send* list:
8. Click Transfer All. The data dictionary is transferred to the data collector.

9. A message box showing summary information about the transfer appears. Click Close to close it.

10. Click Close to exit the Data Transfer utility.

For more information, refer to the GPS Pathfinder Office Help.