



CREATE AUTOMATICALLY GENERATING INPUT DIALOGS FOR SPATIAL MODELS eTRAINING

Introduction

Demonstrates how to modify a Spatial Model so that it can automatically self-generate a dialog that prompts for inputs.

Software

- ERDAS IMAGINE

Data

- Configurable_pc.gmdx
- Landsat_copy.img

Transcript

0:09

Thank you for watching Hexagon Geospatial eTraining. Your topic: How to create Automatically Generating Input Dialogs for Spatial Models. In this module, you will see how to modify a Spatial Model so that it can automatically self-generate a dialog prompting for inputs. This is ideal for creating Spatial Models that are simple to disseminate to other users.

0:29

Here you see a basic Spatial Model open in ERDAS IMAGINE. This simple model is intended to produce Principal Components from an input multispectral image, while allowing the user a high degree of flexibility over all the parameters.

For example, you can double-click the Raster Input operator to change the input image, or you can select the Spectral Subset operator and edit the input band range to use in the calculation.

0:54

Once altered, you can see the effects by generating a Preview or running the model to generate an output file. However, in this example, if you want to change the parameters, you are required to use the Spatial Model Editor.

It would be highly beneficial to create a dialog that allows the users to specify the input parameters when they run the model, rather than requiring them to understand how to use the Spatial Model Editor.

1:15

Adding this flexibility to a spatial model is a simple process of adding and defining Port Input operators. The Port Input operator can be found in both the Favorites category and in the Input category of the **Operators** pane.

Create Automatically Generating Input Dialogs for Spatial Models

1. To add a **Port Input operator**, simply drag it from the **Operator** pane and drop it into the editing canvas.
2. Create a dialog to prompt the user for the input file name you'll click on the Port operator's output port and connect it to the Raster Input operator's File Name port.
3. Double-click the **Port Input** to change what the user will see when they run the model. The most important fields for the user are **Name** and **Description**.

1:57

The text in the **Name** field will be the label the user sees next to the **Input** field. This should be a user-friendly term such as `Input Image Name`. Name will also become the name of the Port Input on the Spatial Model Editor canvas, so keep these strings short.

Description will become the bubble help for this field. This is designed to contain more specific information to help the user understand what information needs to be entered into the dialog. For Input File Name, you might type something like `Select the input multispectral image`.

2:27

Keywords are utilized when publishing Spatial Models to ERDAS APOLLO for use as Web Processing Services. So in this case, you can leave it blank.

4. Now click **OK**.

Notice how the text under the Port Input icon has changed to the Name you entered. Because the Raster Input operator already had a file specified, this will be loaded as the default value, but the user will have the opportunity to change it.

2:53

To see how this works, you'll click Preview on the **Spatial Modeler** tab. You're presented with an automatically generated dialog prompting me for the Input Image Name. When you hover your cursor over the file name, Bubble Help from the description field appears.

5. Click **OK** to run the preview and close the dialog.

Following the same steps as above, you have added 3 other Port Input operators. The last step is creating the Output File Name Port so the user can specify the name of their output file.

3:22

Note that this Port flows into the input side of the Raster Output operator. This specifies the name of the file to be produced, so it is still a Port Input, not a Port Output.

6. Once all the Port Inputs are defined, save your model by clicking **File > Save As > Save Model As**. you'll give it a name and click **OK**.

3:45

Now you'll simulate how a user would launch this model by closing all Spatial Model Editors and 2D Views.

7. To launch a Saved Spatial Model, go to the **Toolbox** tab, click the **Spatial Model Editor** menu, and select **Launch Spatial Model**.
8. Use the **Recent** button to quickly find the spatial model you just saved and click **OK**.

4:05

When the model launches, the Spatial Modeler presents a dialog for specifying all of the parameters you just added to the model. Remember that the default values seen here are being read from the values specified in the model's operators.

We can see the names for the fields, and when hovering, you can see the defined bubble help.

9. From this dialog you can run the Spatial Model to produce an output file, or you can click the **Preview** button to see how the current parameters affect the output file.

The model runs on the fly and renders the Principal Components into the 2D View. You can use the Preview image chain to alter the display parameters, such as changing from Multispectral to a Panchromatic or Relief display.

4:42

With the currently defined input parameters, there is only one principal component to display; however, when multiple layers are produced, you could select them and see the immediate change in the viewer.

You can also change the stretch type to better represent the data.

You can use the dialog to vary the input parameters and immediately see the effects in the Preview. By changing these inputs, you can now generate three principal components by using only the first 3 bands of the image and see the results in the viewer.

10. Make one final change to calculate three principal components using all 6 input bands.

You'll immediately see the results updated as the calculation considers more data when creating the results.

5:24

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