**Gate Transformer and Space-movement correlation analysis**

This exercise introduces the gate transformer tool and the QGIS spatial join functions to produce a simple space-movement correlation analysis. This exercise requires the pedestrian count dataset, the OS meridian line processed dataset and the catchment network dataset from the previous exercise.

**1. Prepare the dataset**

a. clear the canvas

b. drag the pedestrian movement shapefile onto the canvas

c. drag the OS meridian segment shapefile onto the canvas

d. the canvas should show the pedestrian movement gate layer and the OS meridian line layer

**2. Run Gate Transformer - Resize**

a. the aim of this step is to resize the movement gates so it has a constant length for visualisation

b. start the "Gate transformer" tool by clicking on the gate transformer button or go to "SSToolkit" -> "Gate Transformer"

c. select the “pedestrian count layer”

d. click on the "resize" radio button

e. set the length to "25" metres

f. press transform

g. this should resize the movement gates to the same length of "25" metres

**3. Run Gate Transformer - Rotate**

a. the aim of this step is to rotate the movement gates so it intersects with the segment layer

b. start the "Gate transformer" tool by clicking on the gate transformer button or go to "SSToolkit" -> "Gate Transformer"

c. select the “pedestrian count layer”

d. click on the "rotate" radio button

e. set the angle at "90" degrees

f. press transform

g. the gates should now be rotated by "90" degrees.

h. if the gates do not intersect with the segment layer, rotate again until it intersects.

i. make sure the gates intersect the correct corresponding segment

**4. Gate and space syntax measures spatial join**

a. the aim of this step is to join the gate data layer and the OS meridian processed map

b. go to the "vector" menu at the top - "data management tools" - "join attributes by location"

c. select the “pedestrian count layer” as target layer

d. select the “OS meridian processed layer” as join vector layer

e. check the intersect button

f. leave the other parameters as default

g. press run to create a temporary join layer

h. the temporary layer should show both the movement data and the network processed data where the two intersects

**5. Gate and catchment analysis spatial join**

a. the aim of this step is to join the gate data layer and the OS meridian processed map

b. go to the "vector" menu at the top - "data management tools" - "join attributes by location"

c. select the “pedestrian count layer” as target layer

d. select the “catchment network layer” as join vector layer

e. check the intersect button

f. leave the other parameters as default

g. press run to create a temporary join layer

h. the temporary layer should show both the movement data and the catchment data where the two intersects

**6. Visualise gate layer**

a. Start the "Attributes Explorer" SST tool

b. Select the newly created join layer

c. Select "symbology" tab

d. Select the "Pedmov" attribute

e. set colour range as "Classic"

f. increase the line width to 0.5

g. Set Intervals to "Equal Intervals"

h. Click the "Apply Symbology" button

i. This is the standard display for the pedestrian movement data

j. Save an image of the map window

**7. Scatterplot Analysis**

a. Start the "Attributes Explorer" SST tool

b. Select the newly created join layer

c. Select "Charts" tab

d. select "Scatter plot" button

e. under numeric attributes or X-axis, select "INT" as the X-Axis

f. under Y-axis, select "Pedmov"

g. The scatterplot should show the regression line, the equation of the line and the r2 (goodness of fit)