**The Urban Data Input Tool' - Exercise**

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This exercise offers the experience of a complete workflow of mapping urban data (frontages, entrances and land uses) using the Space Syntax standards for QGIS. It's a set of minimal instructions, assuming basic familiarity with the QGIS environment. Participants can work through the various steps in pairs.

**Frontages data input**

1. **Prepare the project**
   1. Open the sample data project (sample\_data.qgs)
   2. Start the UrbanDataInput tool
   3. Make sure the ‘Building’ layer is present in the layers panel
2. **Create frontage layer (Do at least 1 method)**
   1. **Memory layer - existing building layer**
      1. Select the ‘Frontage’ tab located on top the tool.
      2. Click the ‘Create New’ button.
      3. Select the ‘Use building layer’ check box.
      4. Select the ‘buildings’ layers from the drop-down menu.
      5. Click OK
   2. **Shapefile - existing building layer**
      1. Select the ‘Frontage’ tab located on top the tool.
      2. Click the ‘Create New’ button.
      3. Click the … and select location to save the shapefile.
      4. Select the ‘Use building layer’ check box.
      5. Select the ‘buildings’ layers from the drop-down menu.
      6. Click OK
   3. **Memory layer – no building layer**
      1. Select the ‘Frontage’ tab located on top the tool.
      2. Click the ‘Create New’ button.
      3. Click OK
   4. **Shapefile – no building layer**
      1. Select the ‘Frontage’ tab located on top the tool.
      2. Click the ‘Create New’ button.
      3. Click the … and select location to save the shapefile.
      4. Click OK
3. **Draw Frontages**
   1. Choose one of the following options
      1. Building
      2. Fences
   2. If you choose ‘Building’, you can choose the following sub categories-
      1. Transparent (eg. Shopfronts)
      2. Semi-transparent (eg. Frosted glass frontage)
      3. Black (eg. Blank wall)
   3. If you choose ‘Fences’, you can further choose from the following sub categories -
      1. High Opaque Fence
      2. High See Through Fence
      3. Low Fence
   4. Select the ‘Add Feature’ form the Main QGIS toolbar.
   5. Draw lines along the respective building.
4. **Update Frontages** 
   1. Select the Frontage(line) to update
   2. Choose one of the following options
      1. Building
      2. Fences
   3. If you choose ‘Building’, you can choose the following sub categories-
      1. Transparent (e.g. Shopfronts)
      2. Semi-transparent (e.g. Frosted glass frontage)
      3. Black (e.g. Blank wall)
   4. If you choose ‘Fences’, you can further choose from the following sub categories -
      1. High Opaque Fence
      2. High See Through Fence
      3. Low Fence
   5. Click ‘Update Type’ at the bottom left on the tool.
5. **View attributes of selected features of the frontage layer** 
   1. Use the ‘Select features’ tool to select the required frontages.
   2. The attributes related to the selected frontages will now be displayed in the urban data input tool.
6. **Update Frontages ID**
   1. If you have a Frontage layer loaded on the map canvas press ‘Update IDs’ to update the ‘F-ID’ attribute of the Frontage layer.
7. **Update Frontages Length**
   1. If you have a Frontage layer loaded on the map canvas press ‘Update Length’ to update the ‘Length’ attribute of the Frontage layer.
8. **Hide frontages** 
   1. To hide the lines with no value for Frontage type press the ‘Hide’ button at the bottom right of the tool.
   2. To make the lines with no value for Frontage type reappear press the ‘Hide’ button again at the bottom right of the tool.

**Entrances data input**

1. **Prepare the project**
   1. Open the sample data project (sample\_data.qgs)
   2. Start the UrbanDataInput tool
2. **Create entrance layer (Do at least 1 method)**
   1. **Memory layer**
3. Select the ‘Entrance’ tab located on top the tool.
4. Click the ‘Create New’ button.
5. Click OK
   1. **Shapefile**
      1. Select the ‘Entrance’ tab located on top the tool.
      2. Click the ‘Create New’ button.
      3. Click the … and select location to save the shapefile.
      4. Click OK
6. **Draw Entrances**
   1. Choose one of the following options
      1. Controlled
      2. Uncontrolled
   2. If you choose ‘Controlled’, you can choose the following sub categories-
      1. Default
      2. Fire Exit
      3. Service Entrance
      4. Unused
   3. If you choose ‘Uncontrolled’, you can further choose from the following sub categories -
      1. Default
   4. Select the ‘Add Feature’ form the Main QGIS toolbar.
   5. Draw points at appropriate locations along the respective building.
7. **Update Entrances**
   1. Select the Entrance (point) to update
   2. Choose one of the following options
      1. Controlled
      2. Uncontrolled
   3. If you choose ‘Controlled’, you can choose the following sub categories-
      1. Default
      2. Fire Exit
      3. Service Entrance
      4. Unused
   4. If you choose ‘Uncontrolled’, you can further choose from the following sub categories -
      1. Default
   5. Click ‘Update Type’ at the bottom left on the tool.
8. **View attributes of selected features of the Entrance layer** 
   1. Use the ‘Select features’ tool to select the required entrances.
   2. The attributes related to the selected entrances will now be displayed in the urban data input tool.
9. **Update Entrance ID**
   1. If you have an Entrance layer loaded on the map canvas press ‘Update IDs’ to update the ‘E-ID’ attribute of the Entrance layer.

**Land use data input**

1. **Prepare the project**
   1. Open the sample data project (sample\_data.qgs)
   2. Start the UrbanDataInput tool
2. **Create Land use layer (Do at least 1 method)**
3. **Memory layer - existing building layer**
   1. Select the ‘Land use’ tab located on top the tool.
   2. Click the ‘Create New’ button.
   3. Select the ‘Use building layer’ check box.
   4. Select the ‘buildings’ layers from the drop-down menu.
   5. Select the appropriate ID column from the drop-down menu.
   6. Click OK
4. **Shapefile - existing building layer**
   1. Select the ‘Land Use’ tab located on top the tool.
   2. Click the ‘Create New’ button.
   3. Click the … and select location to save the shapefile.
   4. Select the ‘Use building layer’ check box.
   5. Select the ‘buildings’ layers from the drop-down menu.
   6. Select the appropriate ID column from the drop-down menu.
   7. Click OK
5. **Memory layer – no building layer**
   1. Select the ‘Land Use’ tab located on top the tool.
   2. Click the ‘Create New’ button.
   3. Click OK
6. **Shapefile – no building layer**
   1. Select the ‘Land Use’ tab located on top the tool.
   2. Click the ‘Create New’ button.
   3. Click the … and select location to save the shapefile.
   4. Click OK
7. **Draw Land Use blocks**
   1. Choose one of the 21 available land use categories.
   2. Choose one of the Sub Category options if available. Some land use categories also have options available for Sub Categories. E.g. Catering has 3 Sub Categories
      1. Restaurants and cafes
      2. Drinking Establishments
      3. Hot Food Takeaways
   3. Add an integer for ‘Total number of floors:’ if required. Leave 0 if no data available.
   4. Add ‘Description’ if required. Leave blank if no description needed.
   5. Select the ‘Add Feature’ form the Main QGIS toolbar.
   6. Draw polygons to represent the buildings as required.
8. **Update Land Use blocks**
   1. Select the Land Use blocks (polygon) to update.
   2. Choose one of the 21 available land use categories.
   3. Choose one of the Sub Category options if available. Some land use categories also have options available for Sub Categories. E.g. Catering has 3 Sub Categories
      1. Restaurants and cafes
      2. Drinking Establishments
      3. Hot Food Takeaways
   4. Add an integer for ‘Total number of floors:’ if required. Leave 0 if no data available.
   5. Add ‘Description’ if required. Leave blank if no description needed.
   6. Click ‘Update Type’ at the bottom left on the tool.
9. **View attributes of selected features of the Land Use layer** 
   1. Use the ‘Select features’ tool to select the required land use blocks.
   2. The attributes related to the selected entrances will now be displayed in the urban data input tool.
10. **Update Land Use ID**
    1. If you have a Land Use layer loaded on the map canvas press ‘Update IDs’ to update the ‘LU-ID’ attribute of the Land Use layer.