3DShEx User Manual

3DShEx is a *Shape Expressions* visualisation tool that generates a three-dimensional graph. The tool is accessible at:

http://www.weso.es/3dshex/

To generate a visualisation of a ShEx schema, enter it in the text area and click on "Create 3D Graph".

The text editor will be hidden and the corresponding display will be shown. To return to the beginning, click on "Reset".

The following controls are used to navigate in the 3D environment:

- **Left** click and drag **rotates** the graph.
- **Right** click and drag **moves** the network.
- Mouse wheel allows for zooming in and out.

Visual notation

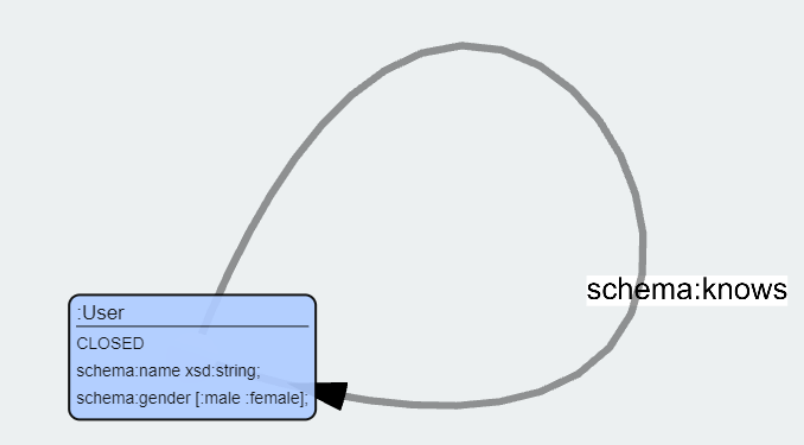
Shapes are represented by boxes, with their name at the top. Constraints and qualifiers concerning that shape are shown as textual statements at the bottom. The only exception are references to shapes, which are shown as arrows pointing to the target shape.

As exposed later, such restrictions are not displayed by default, but require user action.

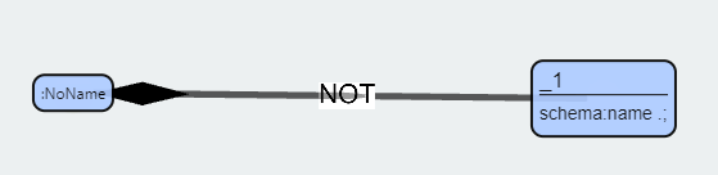
Thus, the following schema:

```
:User CLOSED {
 schema:name xsd:string;
 schema:gender [:male :female];
 schema:knows @:User;
}
```

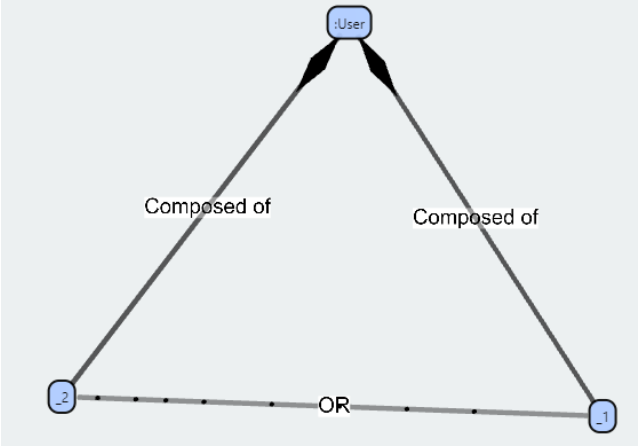
It is represented as follows -once expanded-:



The notation also contemplates the use of composition by means of diamond-headed arrows. E.g., schema *:NoName Not { schema:name . }* is represented as follows:



If two or more components of a shape are joined by a dashed line, this implies a dependency relationship between them, namely a conjunction or disjunction.



Interaction mechanisms

Shumlex incorporates several interactive capabilities:

- Shapes follow a "black box" principle, hiding their details by default. To show them, they must be clicked on. Another click returns them to their original state.
- Hovering over a shape will highlight references to or from that shape.
- Right-clicking on a shape will display a new subgraph consisting only of that shape, its neighbouring shapes and the references between them (see figure). A second right click on the shape will revert to the original network.