The Procedural Generation of urban Environments through Space and Time

Building Elements
A set of elements are decided upon that can be used to define the majority of the world's architectural styles.

City Elements
Other factors that are key to defining a city's characteristics are implemented.

- Deviation factor - how much buildings vary within a city.
- Road structure must be appropriate to city.
- Weather, plants, and vehicles must be relevant to time and place.
- Landmarks may be added separately.

Implementation
By attributing a set of architectural styles and city elements to a virtual environment, we are able to recreate any real-world city from any time period.

Below: User Interface Design

<table>
<thead>
<tr>
<th>Basic: Architecture style 1</th>
<th>% Dominance: Victorian 30</th>
<th>City size: Large</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced: Architecture style 1</td>
<td>% Dominance: Victorian 30</td>
<td>City size: Large</td>
</tr>
<tr>
<td>Architecture style 2: Modern 50</td>
<td>Terrain: Flat, dry</td>
<td></td>
</tr>
<tr>
<td>Architecture style 3: Neoclassical 20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Right and Below: Examples of results through alteration of a few simple elements.