

## Futuropolis

### Introduction

This small project is inspired from the sceneries of New York's metropolitan areas in the 1930s, where the cityscape is dominated by the mixture of modernist and historicist skyscrapers of various styles. To create diversity, the color schemes, dimensions and façades of all structures are randomized under a number of predetermined themes, so that different runs of the same page create different cityscapes where structures of different styles are interspersed.

### Design

The scene has parallel avenues that run throughout the area, where structures are randomly created in between. The structures are generally of two styles, the modernist and historicist style. The modernist style consists of skyscrapers of square, octagonal and circular geometries, with horizontal and vertical lines decorating the façade. The historicist style generally uses traditional pillars, windows, architraves and domes that represent the aesthetics of classical architecture.

### Controls

The viewer may navigate through the streets using the standard "w", "s", "a", "d" keys to control the walking steps. To control orientation, the user may move the mouse within the scene to change the horizontal and vertical directions of view. The user may only navigate on the streets and within the bounds of the cityscape, as attempts to traverse the structures or step beyond the bounds will be automatically blocked.

### Technologies

This project uses the WebGL technologies and the three.js library, which is an open-source library that leverages on WebGL to simplify the tasks of creating complicated scenes. These should be compatible with most browsers up-to-date. The source file for three.js can be obtained for free from the link provided on the official site:

<https://threejs.org/docs/index.html#manual/en/introduction/Creating-a-scene>,

which is also included with the project. Otherwise, all designs are made from the primitive objects provided in three.js with rendering and calculations done at runtime, without using any models or textures from external artworks.