

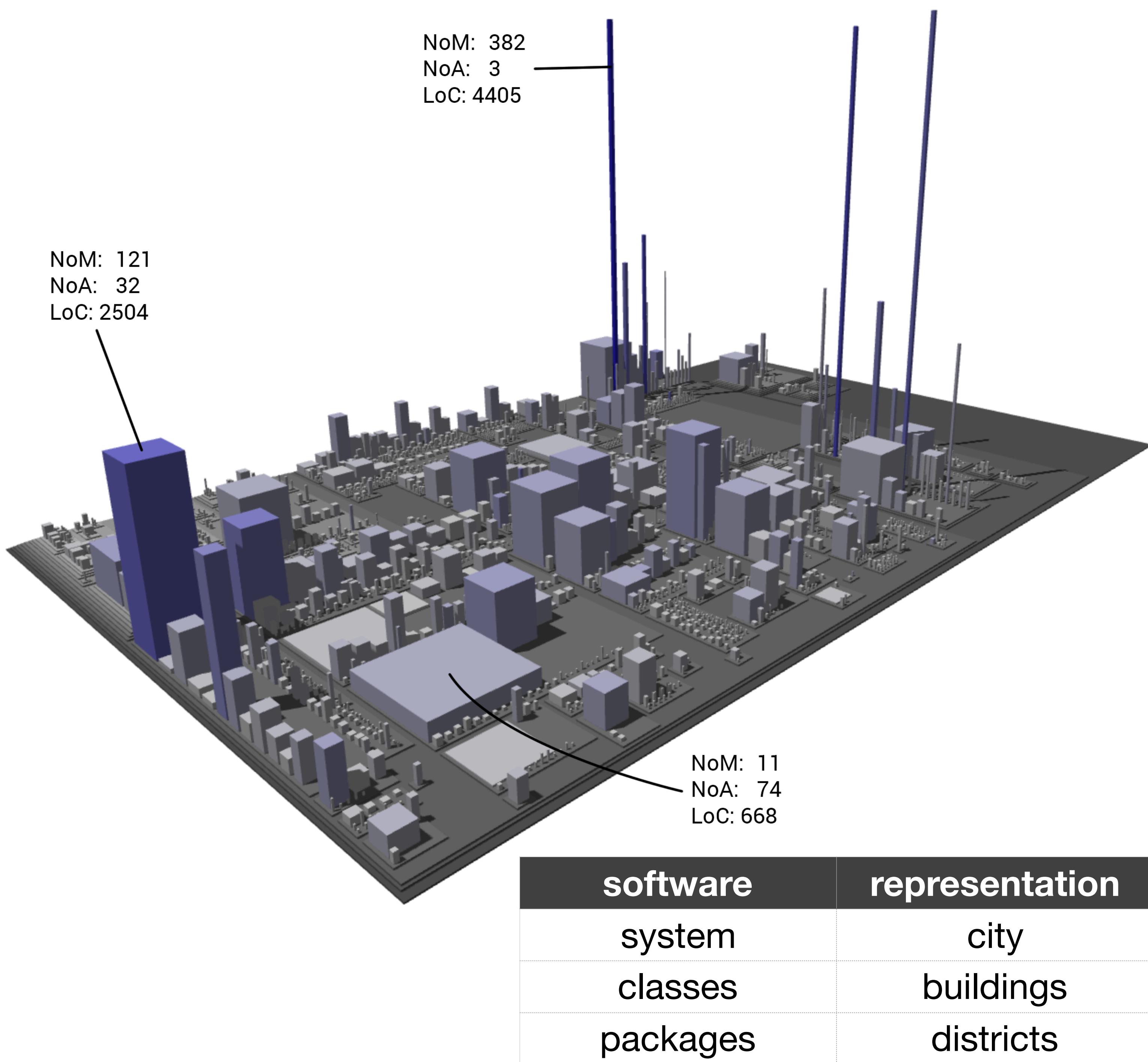
Motivation and Goal

Nowadays GitHub repositories grow bigger and bigger, and their code gets more complicated and harder to analyze and visualize without the help of specialized software.

WebCity is a web application that given a Java repository hosted on GitHub produces a navigable and interactive 3D visualization directly in the browser, without the need to download or setup any application.

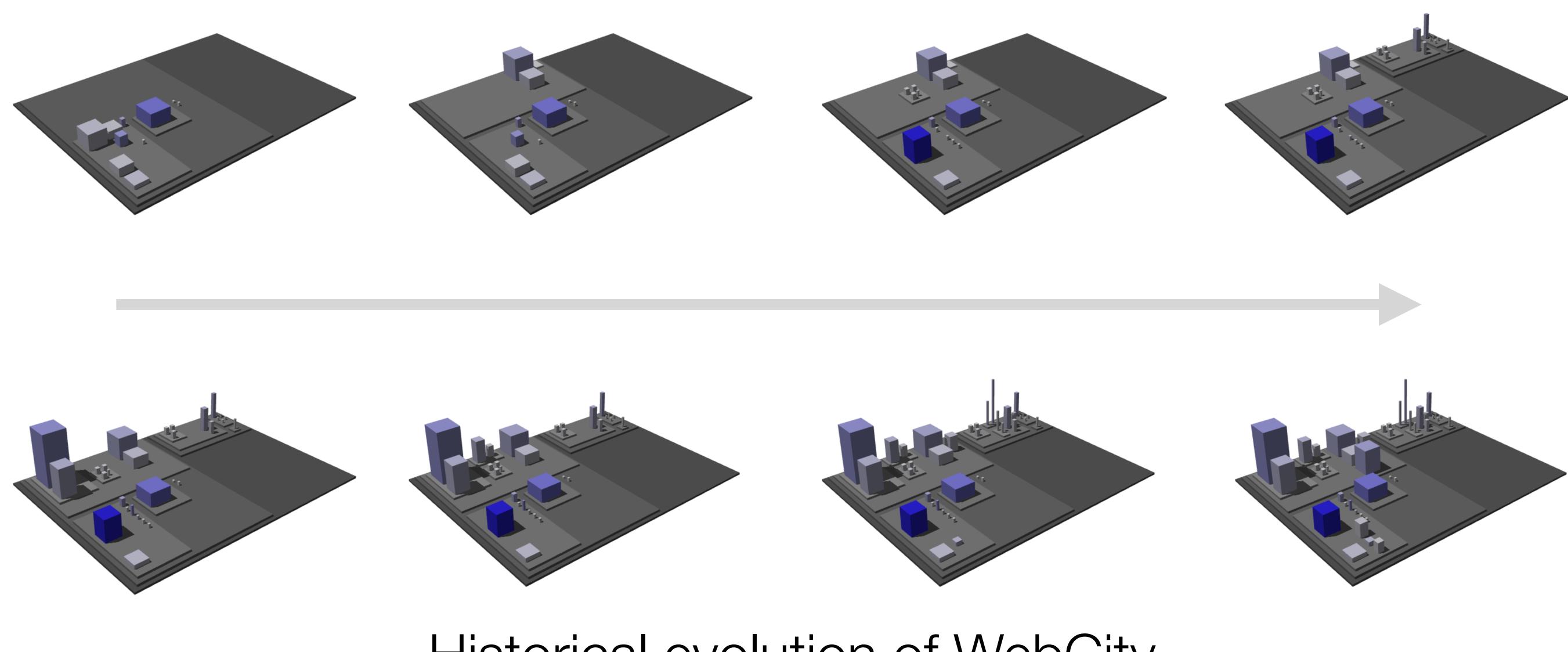
The Metaphor of the City

The visualization follows the city metaphor, where the classes are represented by the buildings of the city and the packages are represented by its districts. Code metrics are then mapped to the characteristics of the city: The Number of Methods and the Number of Attributes define the height and the width of the buildings, and the number of Lines of Code define their color.

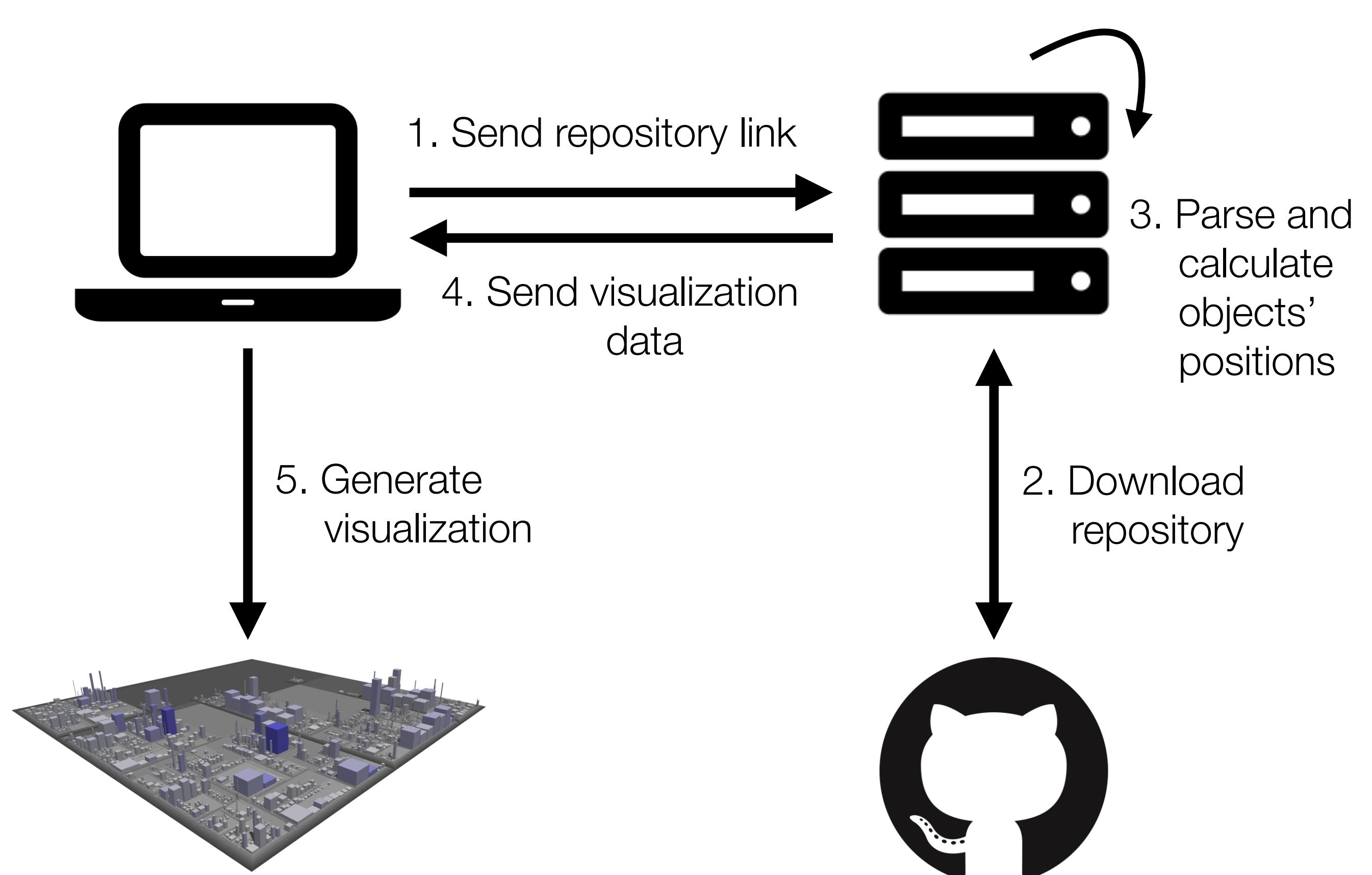


History of the repository

WebCity parses all the versions (commits or tags) of the repository before the visualization is produced. The user can then choose the desired version from a dropdown menu, allowing him to go through the history of the system he is visualizing.

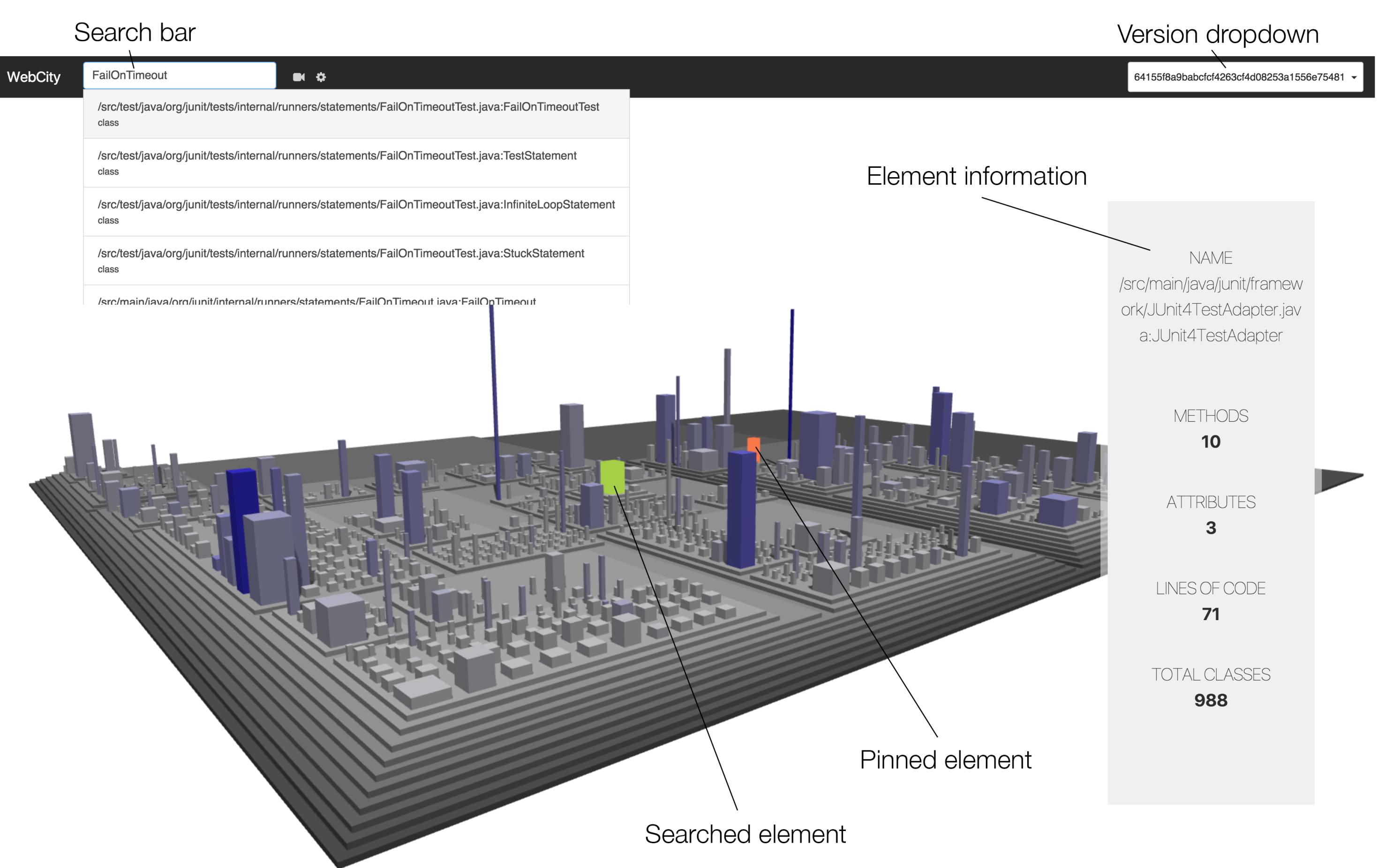


Architecture



Web Interface

The application looks as follows:



Video generation

The application can generate videos of the history of the visualized systems. Snapshots of the desired version are concatenated into the final video. The user can set parameters for the video, such as the resolution, the number of versions to be used, and the position of the camera.

