1. Introduction

Visual representation of specific information for planning and design decisions is one of the key parts of the design process. Especially Infographics in AEC-FM (Architecture, engineering, construction and facility management) field are one of the effective graphical representations of data, information or knowledge intended to depict sophisticated spatial information intuitively. This research poster describes a research and development of a computer application to visualize and analyze city-level maps representing the building energy consumption near the subway stations. This is a part of procedural implementations for a research project for the transit-oriented development in the city of Seoul, Korea.

2. Implementation

The major part of the implementation described in this poster consists of three modules as follows:

1) Data collection module, for the building energy consumption data near the subway stations: a numeric raw data set usually collected and gathered by field workers can be imported into the application over the network by the manual and semi-automated way.
2) Data modification module: such a collected dataset has been processed by an auto-modification module with several data fields such as building type, geospatial data, distance from the station, energy consumption data, etc., in order to restructure data for various types of visualizations. This module also handles all of the subway station information that is provided by the metro of Seoul over the net.

3) Visualization module: open-source web mapping APIs have been examined and adopted for visualizing the background maps, and implemented its interfaces as a stand-alone application. This is in charge of controlling the collected dataset in specific and various purposed visual representations on top of the city of Seoul maps.

3. Summary
For demonstrating the application proposed in this research, several different types of data visualizations have been tested as shown in Figure 1 for some examples, with many of tabular structures of numeric data. It shows an impact of visual representations as an infographic that is responsive to users, and we expect intensive further works using various graphical representations of building energy consumption near the subway stations for planning local area developments in the perspective of transit-oriented development research.

Figure 1. Sample snapshots of the implemented application interface: collected and processed numeric data of energy consumption near subway stations of Seoul (left) and one of their visualization examples using a chart representation.

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