

The project is implemented by a .NET web application.

Model folder:

- It contains the data structures(classes) for representing the Node, Street and Traffic data.

App_Data folder:

- It contains InputParser.cs, Reader.cs and Utility.cs
 - InputParse.cs:
 - ◆ It includes four classes: InputParser, NodeParser, StreetParser and TrafficParser.
 - ◆ InputParser is an interface for parsing the input.
 - ◆ NodeParser, StreetParser and TrafficParser are the actual implementation for parsing different data (Nodes data, Street Data and Traffic Data).
 - Reader.cs:
 - ◆ It includes three classes: Reader, DocumentReader and DatDocumentReader.
 - ◆ Reader is an interface and DocumentReader is an abstract class for reading files.
 - ◆ DatDocumentReader is the actual implementation of reading files.
 - Utility.cs: It is a helper class used to check if the actual number of data equal to the total number of data claimed in the file.

Controllers folder:

- TrafficController: it is responsible for controlling the flow of the application execution.

View folder:

- ShowInfo.cshtml: it is the view for displaying all the data to user by data grid (using Kendo UI framework).
- ProcessDrawingData: it shows the graphical representation of street plan. It takes the street and nodes data from the server side and draws them into lines.

Implementation explanation: This application is following MVC design pattern and SOLID principle. In the front-end, showing the data is implemented by grid of Kendo UI framework. This is because I think using grid to display data is more straight forward. The graphical representation of street plan is drawn by using HTML5 Canvas.

Improvement: The way to display traffic information is not intelligent enough. It can be improved by displaying more related nodes and street details. Also, new feature such as sorting the information by different categories would be an improvement. The graphical representation of street plan can be improved by integrating the traffic information (like the real-time traffic feature in Google Map).