

MS01 Submission

Group Members

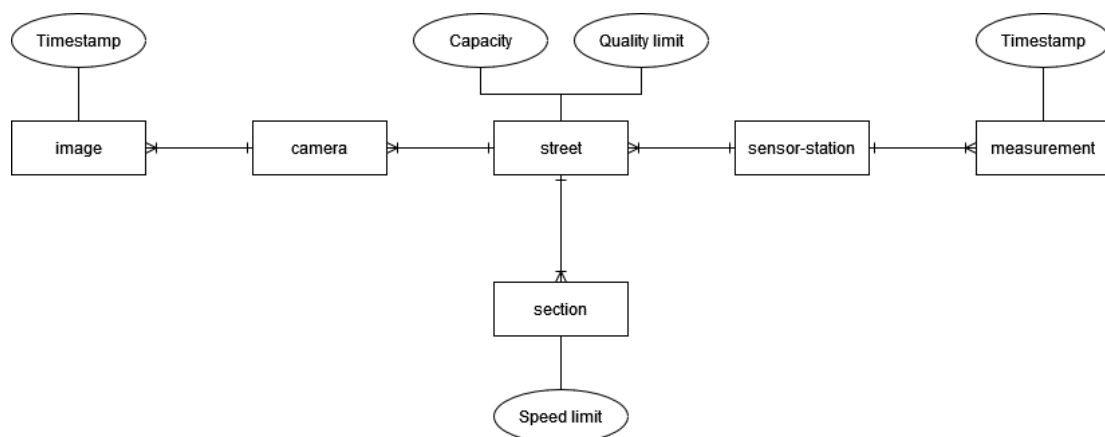
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Project Abstract

The goal of the service is to analyse images of traffic monitoring cameras and measurements of air quality sensor stations and update a dynamic traffic information system with speed limits and additional information.

Entity Relations

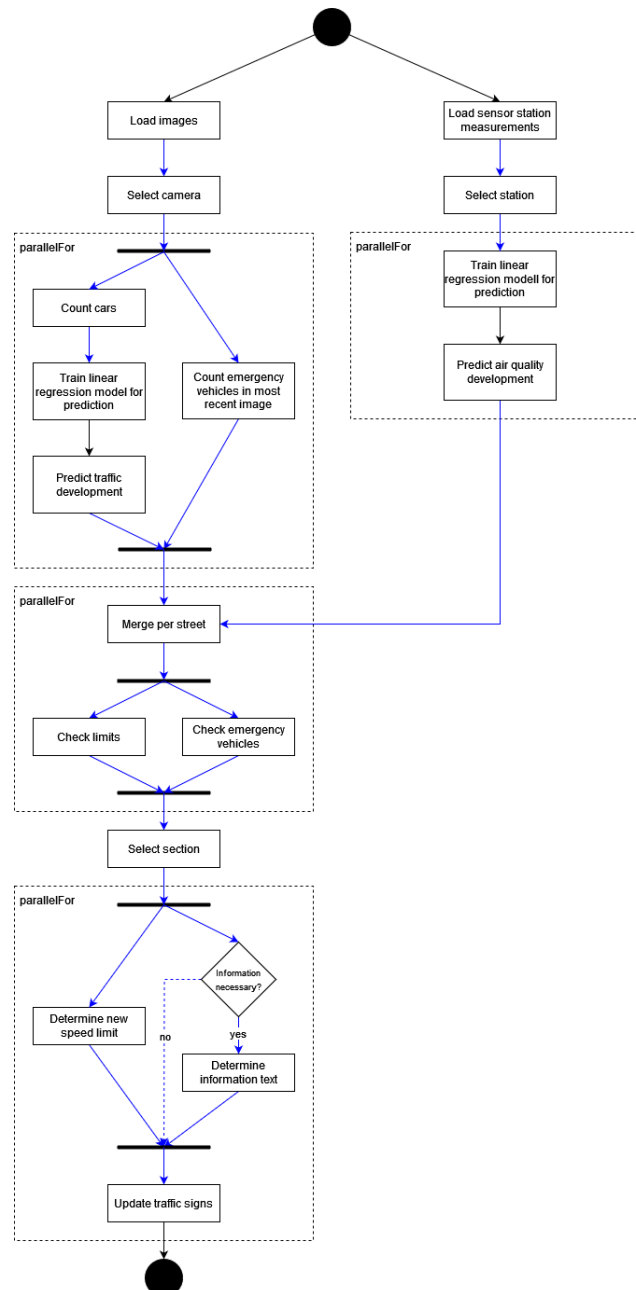
Sensor stations are distributed throughout the city. Each **sensor station** takes simple **measurements** over time and provides data for multiple **streets**. There are **cameras** distributed throughout the city that take **images** over time. A **street** is covered by multiple **cameras**. Each **street** has multiple **sections** each with its own individual speed limit.



Workflow

On the one hand a simple regression model is created to be able to predict the development of air quality for each sensor station, which is then done for all stations.

On the other hand, the images for each camera are used to predict traffic development from the series of images and the current number of emergency vehicles. This information is then merged per street section as every street is covered by multiple cameras. For every street it is checked if predicted car count and air quality is inside limits and if there are any emergency vehicles currently active. Then for every street section a speed limit is determined and if any information is required (traffic jam, emergency vehicles active). The traffic signs for each section are then updated.



Possible Problems

It might be difficult to automatically recognize emergency vehicles. If impossible with reasonable effort, the emergency vehicle feature would be dropped from the service.