

# Software Engineering 2 (e20) Concrete ideas and features

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#### **DTU Compute**

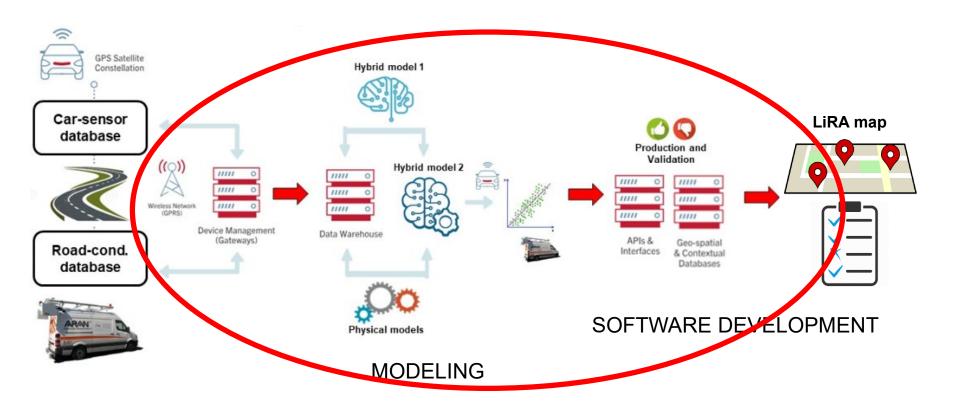
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Detailing "Tasks" from first project  $f(x+\Delta x) = \sum_{i=0}^{\infty} \frac{(\Delta x)^{i}}{i!}$  presentation (in particular slide 16)

$$A(x) = \sum_{i=0}^{\infty} \frac{(\Delta x)^{i}}{i!} f^{(i)}(x)$$



### Overview





# Integration, unification of LiRA Warehouse and LiRA Map into a more flexible framework

- Defining new data types
- Defining data processing pipelines
- Deal with "historic" data

...

# User management

- User authentication
- Defining and assigning roles
- Access rights

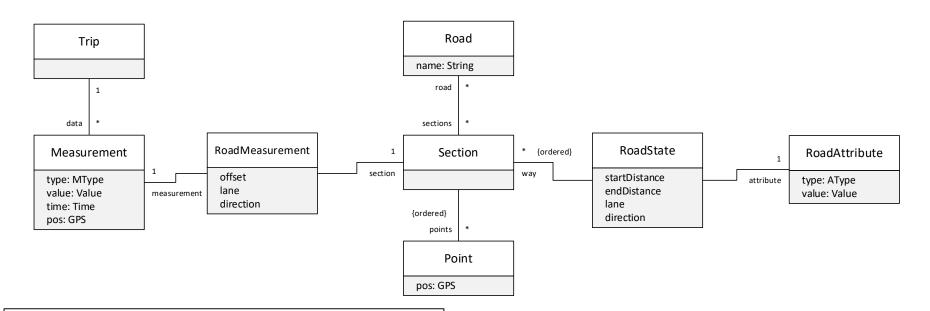
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# User interface (web frontend) for LIRA Warehouse

- Inspecting available data (on map on in other forms)
- Definition of new data collected from cars or road condition data (without changing the software)
- Manual import and export of data
- Definition of new data sources and processing pipelines (including data cleaning and pre-processing, and machine learning of road conditions)
- Visualize development of road conditions

This can be achieved by unifying car data and condition data and existing LiRA Map



#### **Data Collection**

## **Machine Learning**

## LiRA Map





# Support road maintenance planning processes

- Plan maintenance measures
- Visualize and keep track of problems (bad road conditions)
- Prediction and estimates

.. or features that eventually could help with implementing such features



Extensible microservice architecture

 Unified and extensible data model for car data and condition data