

## Collaborative Modelling

Many concerns  
 Various locations  
 Different modelling languages

Multiple experts  
 Multiple time zones  
 Heterogeneous tools



Only models that cover the same domain are comparable  
 How do we make sure that the models cover the same parts of the domain?

## Requirements for the solution

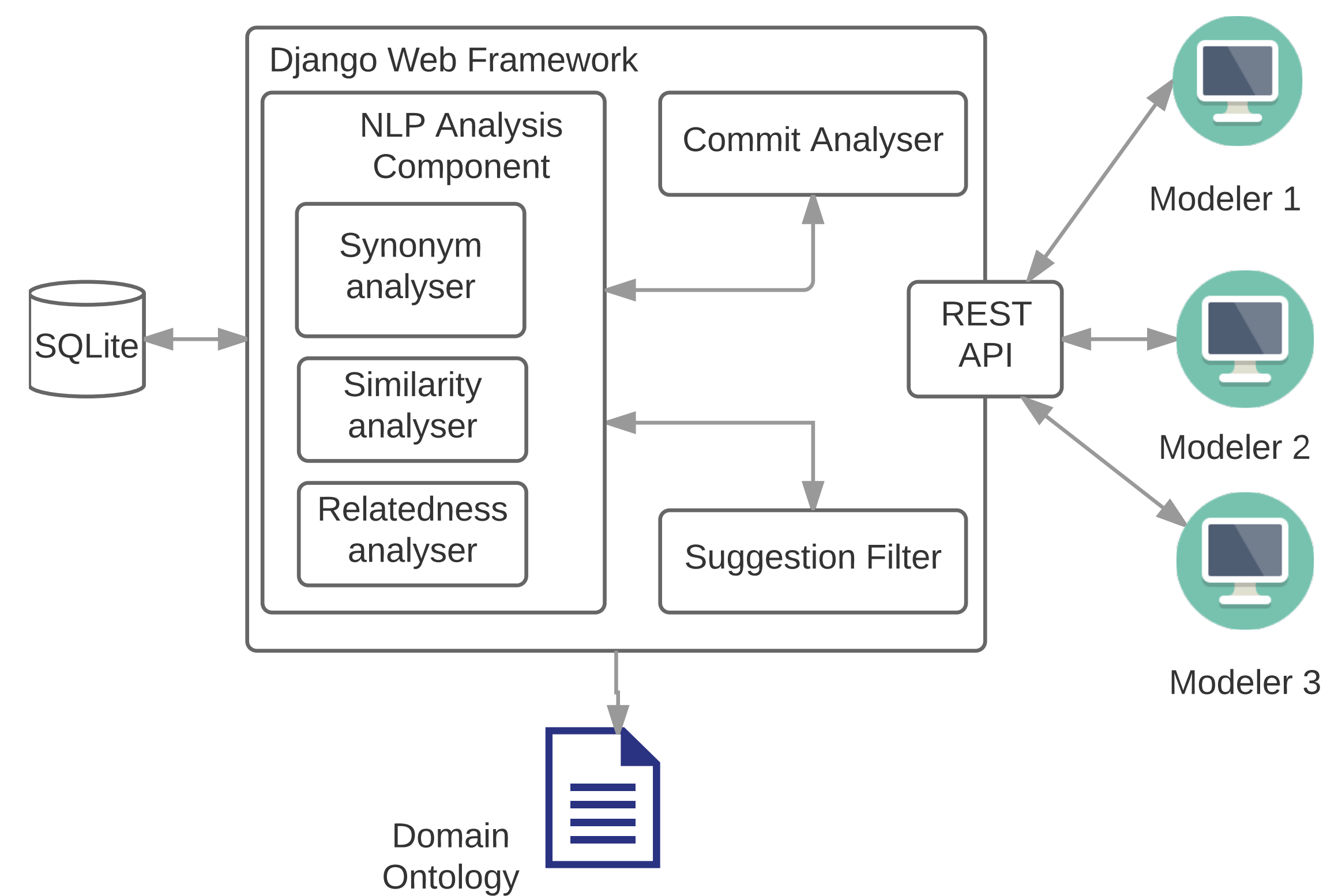
1. shall not obstruct the modelling work-flow
2. shall support different modelling languages
3. shall be easily integrated to different tools

## Our proposal

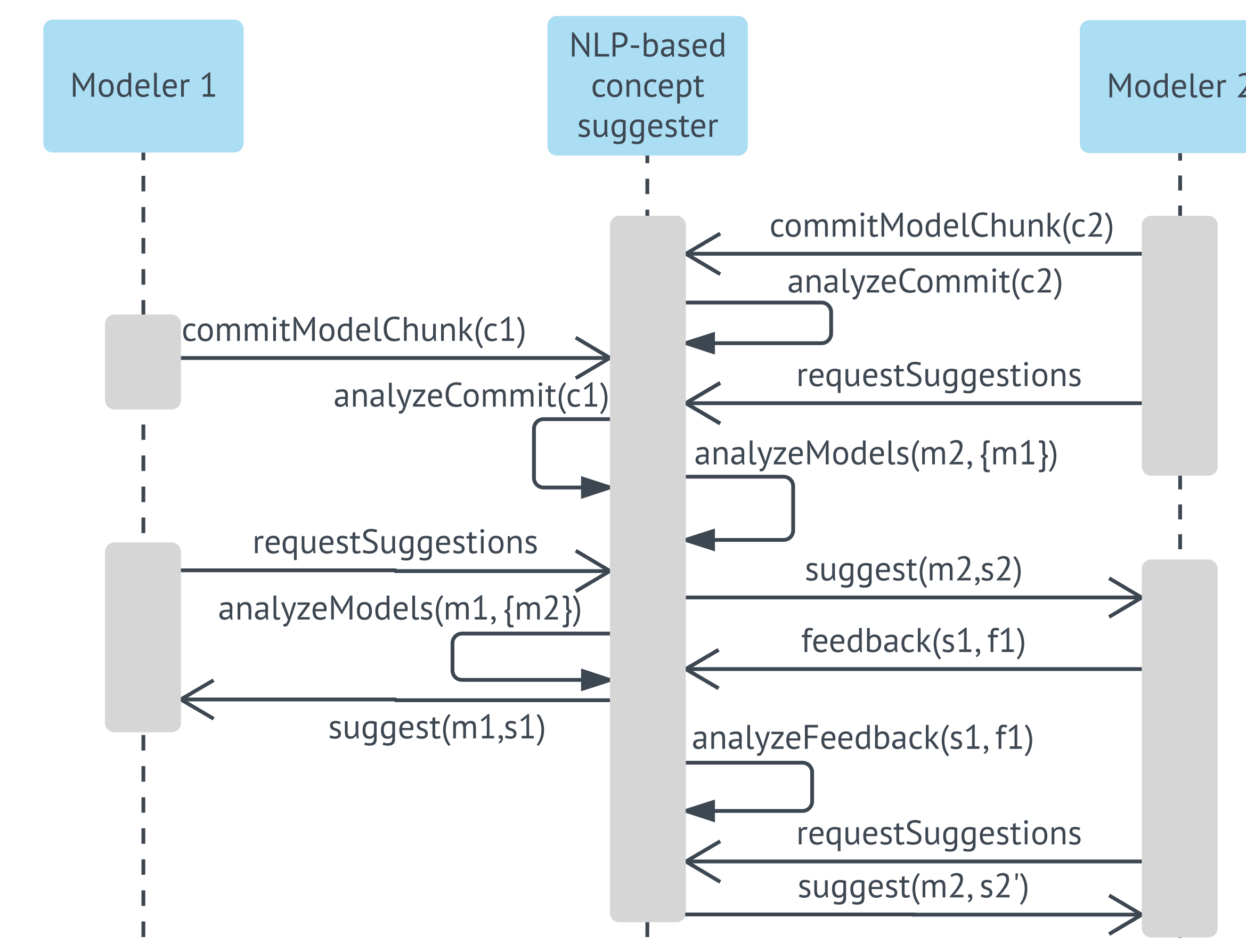
A web service that *suggests concepts from a domain ontology* to be modelled based on what has been modelled in other models by *analysing the models using NLP*

Asynchronous  
 Collaborative  
 (Modeling) Language agnostic

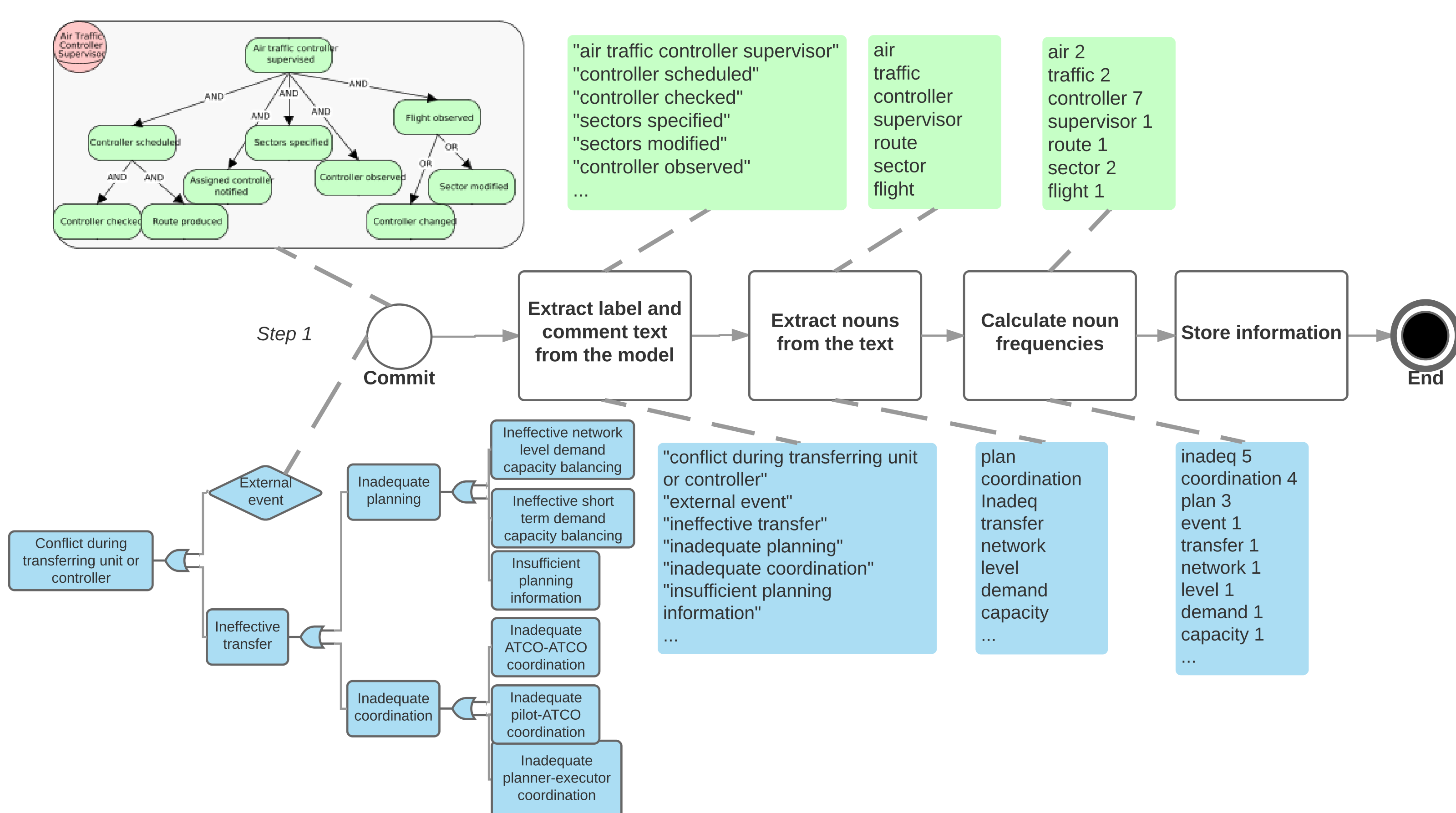
## Architecture



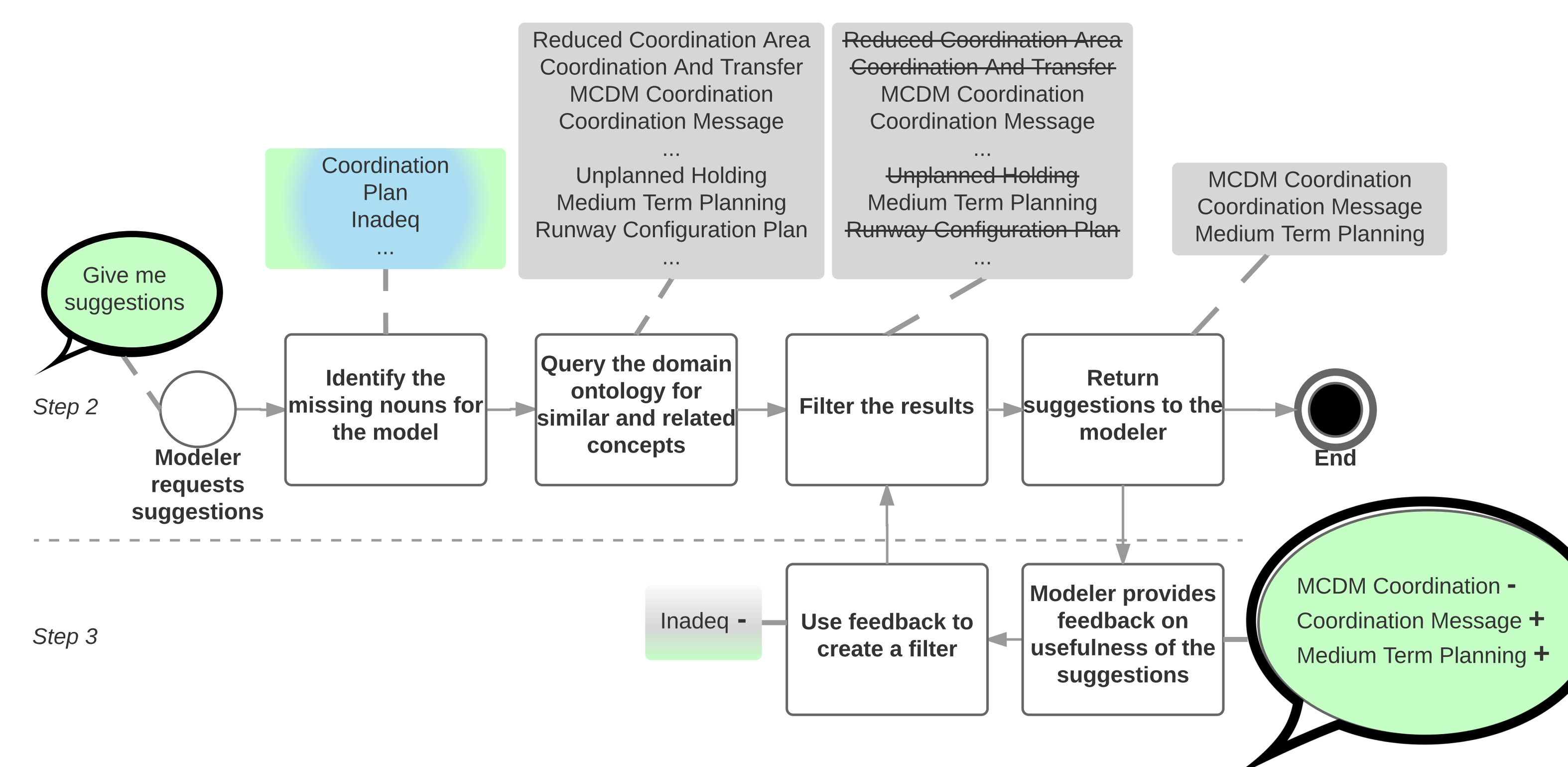
## Interaction



## Running Example: Commit



## Running Example: Suggestions and Filtering



## Evaluation and Future Work

- Focus group with European ATM experts
- Diverse preferences: level of abstraction and of suggestions, timing
- Fine tuning needed for heuristics: synonyms, similarity, relatedness
- Direction of suggestions are important, some models (e.g. security) may feed all models

## References

[1] Fatma Başak Aydemir, Fabiano Dalpiaz: Towards Aligning Models via NLP. Model-Driven Requirements Engineering (September 2017)