About some practical problems concerning UML, BPMN and database integration

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Talk at IFIP WG 1.3 meeting, Eindhoven

Project open_eGo

ZNES
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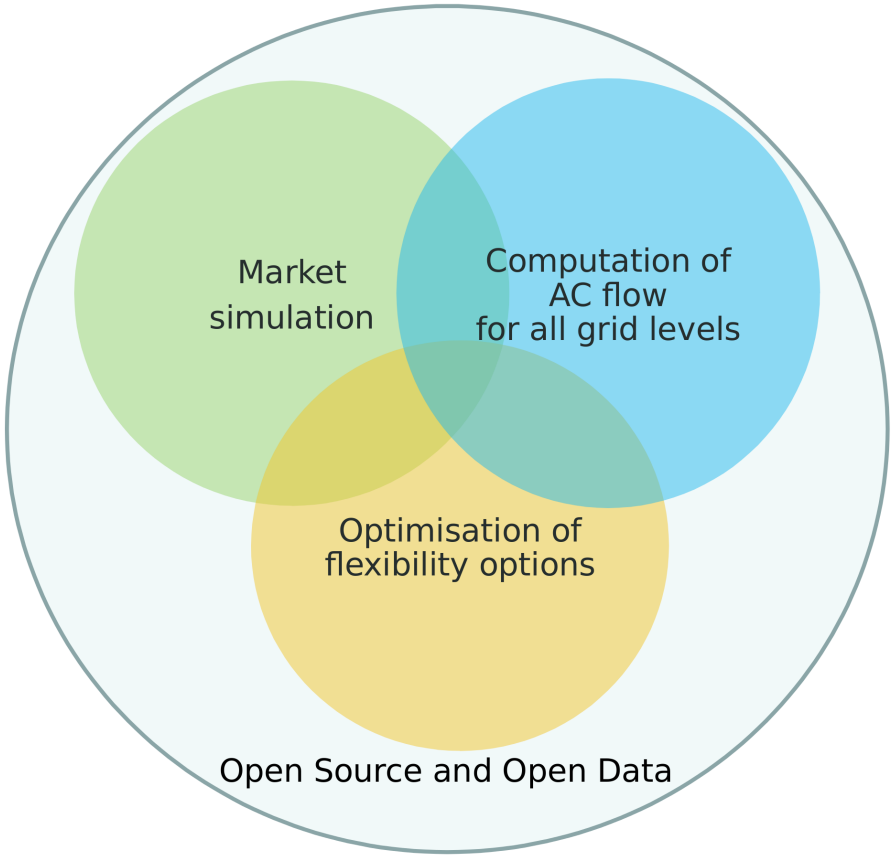
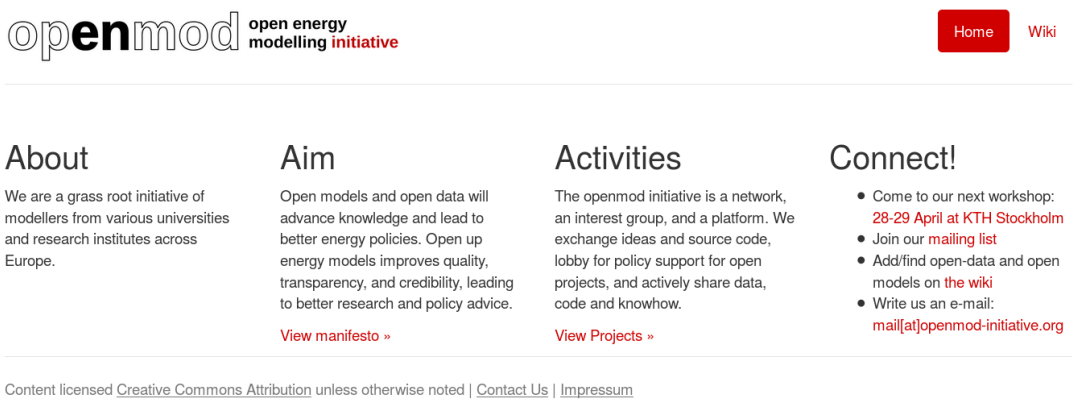
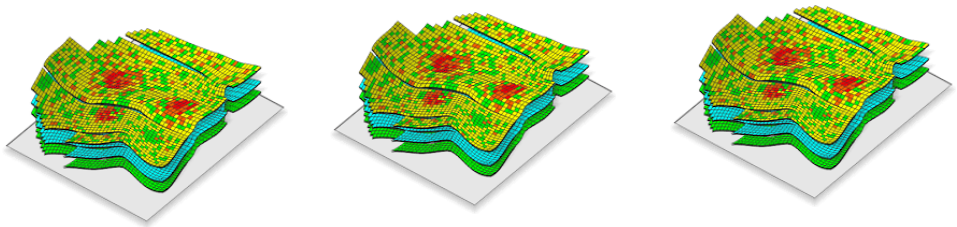


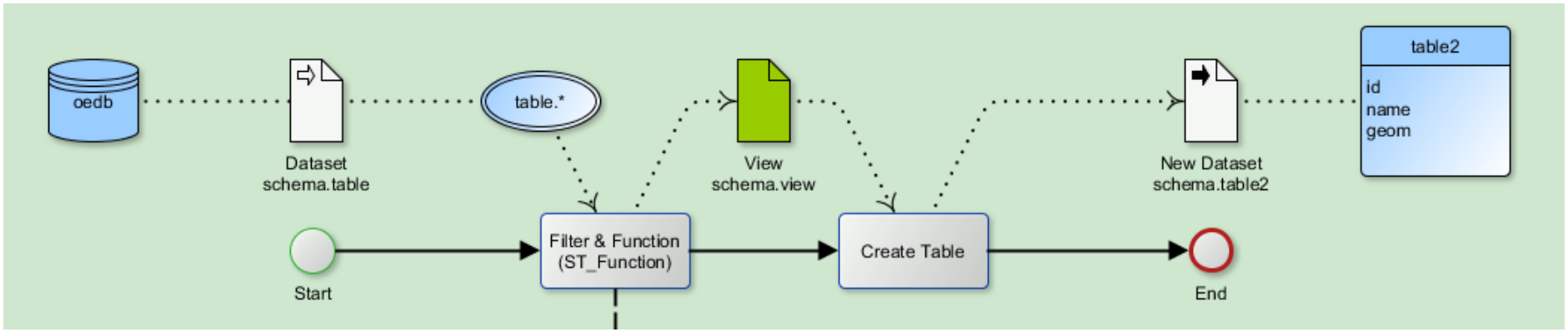
Web platform (Django)



Energy net simulations (Python)



Databases (PostgresQL)


oedb
Dataset
schema.table
table.*
View
schema.view
New Dataset
schema.table2
table2
id
name
geom
Start
Filter & Function
(ST_Function)
Create Table
End

Practical problem: Modelling with UML, BPMN

- UML use cases
- BPMN / UML activities for data integration, database setup
  - derive or annotate PostgresQL implementation
- UML class diagrams + OCL for data models
  - consistency?
  - compatibility with Djano data models
- possibly: UML state machines for workflows
  - derive Python implementation

Are there formal-methods-based and off-the-shelf usable tools for UML and BPMN?

- Hugo-RT, UMLtoCSP, EMFtoCSP, ...

Database schema integration

- Different energy grid modeling tools
- Based on different but overlapping databases

This cries for a database schema morphsim/colimit based approach for integration ...
Are there formal-methods-based and off-the-shelf usable tools for database schema integration?