Semantify.io:

A web-based tool to semantify the knowledge of standards

Mentor:
Irlán Grangel-González

Group members:
Aleksandr Korovin
Shinho Kang
Alexey Karpov
Omar Gutiérrez

Overview

- Hierarchical classification standards that were not initially designed to be used as ontologies exist in many domains...

- For example: OPC UA.

Overview (ii)

- OPC UA defines a common infrastructure model to facilitate the information exchange between machines.

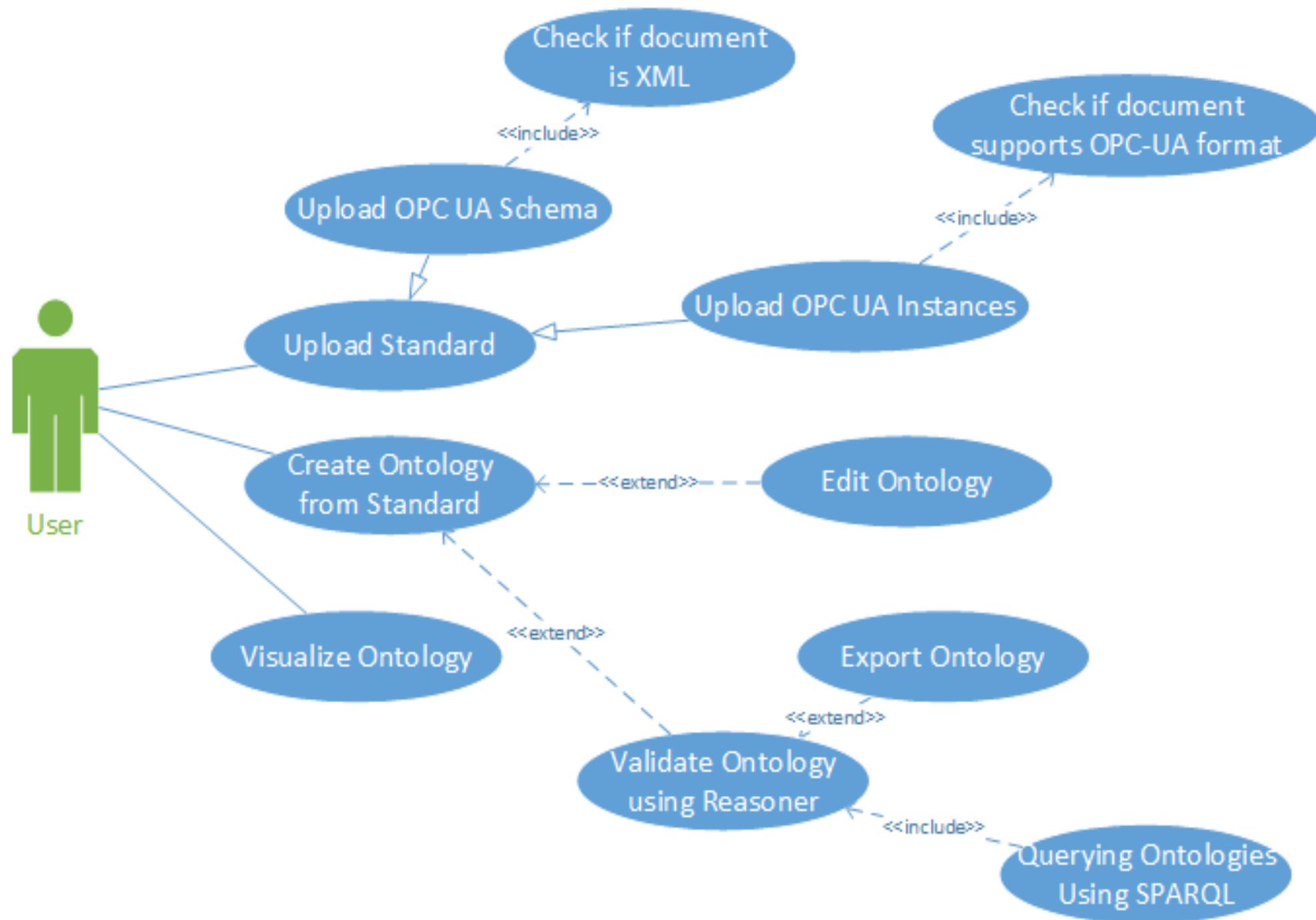- **Semantify.io** will be a web-based tool to create ontologies from OPC UA Standard.

Functional requirements

- **Upload OPC UA files**

  – Schema and Instances

- **Validate XSD/XML files**

  – Be sure that XSD (**Schema** files) are a valid XML

  – XML **Instances** must complain with the Schema definition

- **Validate ontologies**

  – Be sure that contains statements

- **Create ontologies from standard**

  – Similar work: SKOS2OWL (**GenTax**)

Functional requirements (ii)

- **Visualize ontologies**
- **Edit ontologies**
- **Management and storage of ontologies**
- **SPARQL query support**

Non-functional requirements

- **Handle different format files:**
  - OWL (.owl, .owx, .rdf)
  - RDF/XML (.xml)
  - Turtle (.ttl)
- **Render 100~150 nodes at time**
  - Render a reasonable number of nodes in the edition and visualization
- **Responsive interface**
  - Using Bootstrap
  - Simple interface for small devices

Technology stack

- **Back-end**
  - Apache Jenna
  - Express and Node.js
- **Front-end**
  - React.js
  - D3.js
  - Bootstrap

Requirements - Semantify.io

Questions?