Background and our research goal

**Background**
- **Ontology**: It is important that the ontology captures the essential conceptual structure of the target world as generally as possible.
- **Domain experts**: Often want to understand the target world from the domain-specific viewpoints in which they are interested. In many cases their interests are different, even if they are experts in the same domain.

**Our research goal**
- Development of a conceptual map generation tool for exploring ontologies.
  - It bridges the gap between ontologies and domain experts and can contribute to effective utilization of ontologies, and it contributes to integrated understanding of ontologies and domain-dependent knowledge.
  - It helps users to understand the target world from the viewpoints of domain experts.

Conceptual Map Generation Tool

**Extractions of concepts depending on the viewpoints**

- **The focal point** indicates a concept to which the user pays attention as a starting point of exploration.
- **The aspect** is the manner in which the user explores the ontology. It can be represented by a set of methods for extracting concepts according to its relations because an ontology consists of concepts and relations among them.

**Aspects for Concept Extractions**

- **Ex.1)** Extraction of concepts referred to other concepts
- **Ex.2)** Extraction of roles concepts

**An example of concepts extractions**

- **What kinds of problems are defined in the SS ontology?** [What are their targets?]
- **And, what countermeasures are considered?**

- **The focal point**: [Problem]
- **Aspects for extractions**: [isa,ssa,target,countermeasure]

**Visualizations of extracted concepts**

- A highlighting of the focused conceptual chain.
- Control of the range of exploration.
- Linking conceptual map with data stored at Layer 0.

Conclusions and Future Work

- The conceptual map generation tool contributes to help the user explore multiple conceptual maps generated from the ontology based on various viewpoints.
- It supports users’ understanding of the target world systematically across domains.
- Future work includes evaluating and improving the system through feedback from the experts.