



Source: Pok Rie, Pexels

Operations Planning

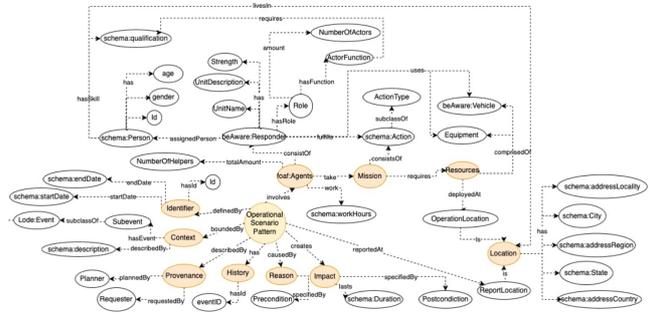
Decision Support in Civil Protection Operations Planning

PROBLEM STATEMENT:

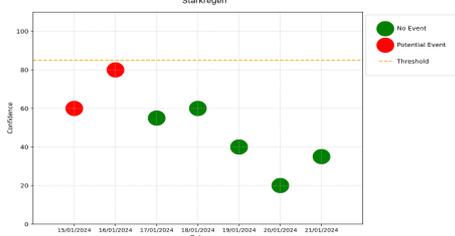
- Efficiency and effectiveness of civil protection in crisis management often impaired by manual preparation of operational plans --> cognitive overload and limited analytical overview
- Existing approaches neglect the planning process in the run-up to crisis situations

SOLUTION:

- Graph-based approach for operational planning based on semantically enhanced historical operational data --> Operational scenario patterns for conceptual modeling of historical operations (JSON-LD)
- Generation of episodic knowledge representation of past operations (knowledge graph) that facilitates decision-making for future crisis events
- Evaluation in use case with THW: #157,450 historical crisis operations in Germany from 2012 to 2022



RESULTS:



- Tasks**
- erkunden (groß)
 - pumparbeiten (groß):
 - pumparbeiten (klein)
 - pumparbeiten (mittel)
 - beleuchten (mittel)
 - beleuchten (klein)

Units & Personnel

trupp einsetzstelle/versicherung
 zugtrupp fachzug logistik
 stabspersonal

fachgruppe wasserschaden(pumpen) (a)

Abbreviation (gr wo (a))
 Strength ~10/12 (+12)*
 Description die fachgruppe wasserschaden(pumpen) ist die spezialfähigkeit des trupp zur förderung großer wa die durchführung ihrer aufgaben ist sie auf die unterstützung anderer teilabteilungen angewiesen (2 numerisch sortiert).

Equipment
 Vehicle
 Function

Select a row to get more details about the selected function.

Number	Name
1	gruppenführer(in) fachgruppe wasserschaden(pumpen) (a)
12	fachhelfer(in) (reserve) fachgruppe wasserschaden(pumpen) (a)
9	fachhelfer(in) fachgruppe wasserschaden(pumpen) (a)
2	truppführer(in) fachgruppe wasserschaden(pumpen) (a)

② Displaying details for fachhelfer(in) fachgruppe wasserschaden(pumpen) (a).
 Select a row to get more details about the selected qualification.

Name
 bereichsausbildung sprechfunk- grundausbildung
 erste-hilfe-ausbildung
 maschinenführer schmutzwasserpumpen
 fachausbildung wasserschaden.pumpen



- Data-based decision support in operations planning in civil protection wrt time effort (efficiency), accuracy and completeness of resulting operational plans (effectiveness) and empowerment of less experienced planners
- e.g., anticipated characteristics of future crisis events; recommendations for allocation of resources and personnel



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