UNIVERSITÀ DELLA CALABRIA

DIPARTIMENTO DI **MATEMATICA E INFORMATICA**

ASP-Based System For Humanitarian Assistance

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Summary. This paper presents an ASP-based system for coordinating human resources during a humanitarian crisis. The system was built according to the case study on the influx of refugees in Poland, effectively allocating volunteers to reception centers based on factors such as their availability, location and skills. System performance was analyzed through scalability tests. The results demonstrate that the system can be used in real situations to improve human resource coordination.

Context and Motivations

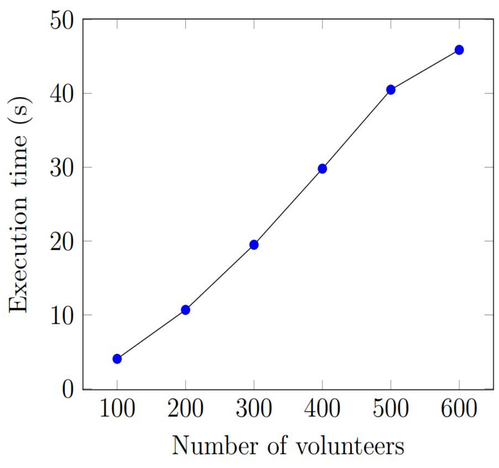
- Huge influx of refugees to Poland due to war in Ukraine
- Need to create a system that coordinates the human resources available during a humanitarian crisis

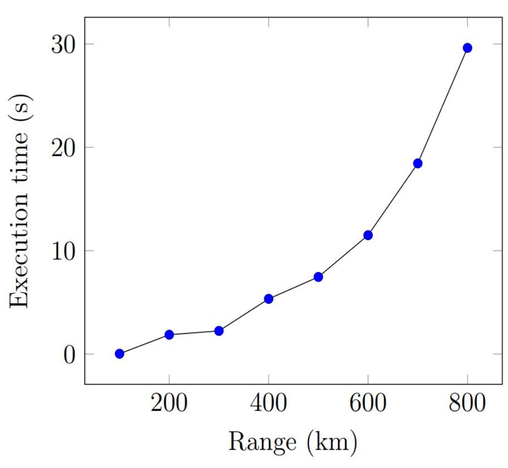
Contribution

- Used technologies: Answer Set Programming, DLV extension
- Definition of strategies and objectives to maximize the number of volunteers assigned in reception centres
- Subdivision into sub-programs and application of the Guess & Check methodology

Results

- Results obtained on simulated data





Conclusions

- An ASP-based system was developed to coordinate volunteers during a humanitarian crisis
- The system includes sub-programs for calculating the reachability of cities and coordinating volunteers, applying the Guess & Check methodology
- The ASP program has been tested on synthetic data for scalability analysis and has shown positive results