

AI powered Traceability in Software System Architecture

AI chat clients such as ChatGPT are becoming more and more popular. They enable a wide range of possibilities, with their main strength in AI text processing. Therefore, applying these in the contexts that require text processing becomes increasingly interesting. One of such scenarios are architectural descriptions. Typical systems today can have hundreds of architectural representations and sketches. Retrieving information from them can be hard. In the worst-case scenario, the magnitude of documents could defeat the sole purpose of the abstraction.

The main idea of this project is to apply AI clients, such as ChatGPT, on a variety of architecture representations. The outcome of this application should be a system that is able to comprehend queries about interactions of different parts of the system, although they are described in different documents. This would achieve traceability on the model design abstract level, something that has been a challenge for a while for standard algorithms. Standard algorithms in general are too rigid for processing textual representations with small variations.

This project would consider creating the full infrastructure with the ability of using a generic AI model. It would also consider design of a continuous architecture practices to follow the use of this infrastructure, and its integration within CI/CD flows.