Title: Service models’ alignment with an IT system: translation between OpenAPI and an IT system model

Description: Today’s enterprises use service-oriented architecture (SOA) and services to deliver SaaS to their customer. Specification of what the services do for the customer in a uniformed way is still an open area for explorations. The OpenAPI initiative tries to establish a standard for service description. There is an open question – how to connect these service specifications with the business decisions made, and the overall specification of the IT system that serves the customer.

This project’s objective is to create a tool that:
- Transforms an OpenAPI micro-service specification to a behavioral model of an IT system;
- Generates an OpenAPI specification from a behavioral model of an IT system.

Prerequisites:
- Motivation to understand service design and the principles service-oriented architecture
- Knowledge of REST
- Comfortable with at least one programming language

Benefits for the students:
- Learn service standards used in the industry;
- Possible contribution to an open source project (if willing to, not required for the project);
- Learn about service-oriented architecture and service-oriented computing.

Project type: Master or semester project

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References:
1. https://www.openapis.org/
2. https://swagger.io/specification/