Industrial Case: Feature Deliberatorium

This document presents an overview of the industrial case *Feature Deliberatorium* and the Stigmergic Coordination Model of the CI context viewpoint of the CIS architecture framework.

Due to confidentiality aggreements it is not permitted to share all architecture models based on the CIS architecture framework with third parties. We therefore refer to the session / workshop protocols that we took during our observations for more details about the procedure.

Overview and Context:

The Feature Deliberatorium (FD) is a collective intelligence system (CIS) that was developed in a joint R&D project between a large Austrian company, who builds and operates industrial automation systems, and a research lab at Johannes Kepler University Linz. The architecture researchers used our AF to independently design a CIS prototype for their industry partner.

The company maintains an internal industrial software ecosystem (ISECO) to build and customize automation solutions for their customers. The ISECO consists of the three tiers: platform (top), domain solutions (middle) and applications (bottom). An inherent challenge in this setting is the upward propagation of implemented, new features from the application tier to the domain solution tier due to ineffective sharing, consolidating and tracking of technical knowledge. Propagating application features into the domain solutions for integration into the platform is important to maintain feature consistency between tiers and counteract architecture erosion. The FD's objective is to introduce CI capabilities into the ISECO by supporting collective feature reviewing and consolidation within and across application and domain solution tiers.

Stakeholders:

- Domain Engineer (DE)
  A person who is part of the domain solution tier and responsible for the development and evolvement of platform variants for specific domains. They integrate well-proven feature solutions of application engineers into the platform.

- Application Engineer (AE)
  A person who is part of the application tier and responsible for the development of customer-specific extensions for a domain solution. They also promote valueable feature implementations for the integration into the platform by domain engineers.

CI Context Viewpoint

2. Stigmergic Coordination Model