

**Title:** **Visualization of an Information Systems Cartography**

**Description:** Information systems (IS) play vital role in the enterprises' success on the market. Today the business value is provided through services and it is tightly related with the implementation of IT systems within the enterprise. Large enterprises face the challenge of maintaining the legacy IT systems and developing new IT solutions to meet customer's needs that bring the business value. Enterprise architecture (EA) methods and models that support services are designed to help in dealing with that challenge, by providing the tools to help creating a shared understanding of what systems exist in an enterprise, and how these systems help in delivering the business value. Only after knowing what exists, one can focus on the development of new, or reuse of old systems in the design of new services.

This project focuses on using a cartography of IS as a metaphor for modeling and mapping the IS, SOA, and everyone around the IS. The goal is to develop a new or improve the existing interactive cartography prototype that shows different viewpoints of systems, services and people in an organization. The case study of this project is EPFL's IS cartography.

Project consists of research and technical parts split in three milestones:

1. Do a literature review [research part] of:
  - a. enterprise architecture methods to understand what should exist in an IS cartography and why people do it,
  - b. data visualization papers, methods and tools.
2. Understand the current EPFL's cartography. Then explore and propose different data visualization techniques to show viewpoints that can exist in a cartography [research and technical part].
3. Build an interactive prototype in JavaScript for a cartography data visualization (e.g. D3JS, D3plus) for EPFL's cartography case study [technical part].

Initial reading: [Specification and Implementation of a Meta-model for Information Systems Cartography](#)

**Prerequisites:** (1) Motivation to conduct a research based project that involves a lot of reading. (2) JavaScript knowledge.

**Benefits for the student:**

- Learn how to describe the relation between business and IT
- Learn how to manipulate company specific data and apply visualization techniques
- Learn SEAM, our business and IT modeling method.
- Get in-depth knowledge of the enterprise architecture EA and service-oriented architecture SOA

**Domain:** Data visualization, enterprise architecture, service-oriented architecture and systems thinking

**Project type:** Master or semester project

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