SOA Approach as a Possible Future Solution for Better Healthcare Activity Management

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The new challenges that the societies have to tackle with in the near future are greater number of patients, more illness, on short, more tasks for the healthcare area and lesser resources, money and people. The benefits we expect applying SOA (Service-Oriented Architecture) to healthcare domain are flexibility and interoperability of systems and on the long run better healthcare services for the patient and lesser financial burdens due to reuse of resources related to the EU actions regarding interoperability standards for EHR and messaging and deployment of health information networks [1]. SOA’s most anticipated benefit is faster and more flexible reconfiguration of processes. [2]. We can associate the HIS processes with the process-driven portals. By consolidating access to the content, applications and processes relevant to the user - all in one portal view the user’s tasks are simplified and audience value can be provided, resulting in improved productivity. As a prototype for implementation of SOA we considered the processes built around a GP Office. When the general practitioner retrieves a demographic data of a patient or a lab result, there is the possibility that it is out of date, but he/she is conditioned to accept this. They are also conditioned by the type of data; lab results data become stale faster than demographic data. So, there are suggested architectures in which the requestors must be conditioned to accept variations in copies of state. The information system built around a GP Office, developed by our team as an academic experience [3], is based on WEB Services. The system can be associated with 6 services, as communication agreements, prescriptions, activities associated with patients’ files, exchanging information between GPs, hospitals and laboratories, a.s.o. Based on the experience above, we analyzed in detail from a SOA perspective, an example consisting of three services: patient management, patient services, and prescription management. We figure that flexibility can be seen as the core value of SOA and that this approach will have a great impact not only for the development of healthcare applications but will mark deep transformations in the way software is being built.

References