E-Health Portal for Tumor Conferences of the Charité (OP2000)

Introduction

The video conferencing systems today have reached a new height of sophistication, providing sufficient availability, speed and quality of performance. Video conferencing has found permanent use in the healthcare area. In order to provide the best diagnoses and treatment of multidisciplinary diseases such as cancer, the video conference has become an indispensable component of the treatment process. One valuable example of this use is the Tumor Conference organized by the Surgical Research Unit OP 2000, at the Charité hospital. Through this conference the specialists from the Charité hospital in Buch offer their services to several smaller clinics who participate in the conference. The Tumor Conference represents a valuable opportunity to bridge the knowledge gap between the oncology departments and the clinics. Although the video conferencing is being provided at a high quality of service, there still exists wide room for enhancement.

In this bachelor project we propose to implement a portal-based service-oriented solution to provide the necessary support for the Tumor Conference. The created Service Oriented Architecture will provide services necessary for the preparation and post processing of the Tumor Conference, in order to provide greater benefits from this significant event. The offered services will be diverse and offered in a customized manner through the e-health portal.

The general goal of this project is to provide an interacting set of services, based on common standards, which will provide the necessary support for enhancement of knowledge and information exchange before, during and after the Tumor Conference. The strategy is to provide complete and relevant information electronically and make it available to practitioners involved in the patient's care to allow prompt and appropriate clinical decision-making.

Task List

- Analyze and model the processes: overview, typical usages, application scenarios, vulnerabilities, etc.
- Investigate the medical standards that are going to be used in the project: HL7 messaging, DICOM, HL7 Clinical Document Architecture (CDA), etc.
- Investigate the Web Services related technologies that are going to be used in the project: WSDL, UDDI, WS-Policy, WS-Security standards, SOAP, design of SOA architecture, etc.
- Investigate and choose portal technologies that are going to be used in the project: Jetspeed-2, Liferay, JBoss, etc.
- Develop a VPN solution for use during the video conference.

- Develop a Service Oriented Architecture, providing services necessary for the preparation and post processing of the Tumour Conference, in order to provide greater benefits from this significant event.
- Develop an e-health portal to provide a customized experience for the diverse set of users.

Requirements

- Basic knowledge on Web Services related technologies: WSDL, UDDI, WS-Policy, WS-Security standards, Axis, SOA architecture, etc.
- Good programming skill on Java, C/C++ and .Net.

Project Partner

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