Capturing endoscopy data

A new tool to help medical specialists

GastrOS – Gastrointestinal Endoscopy Demonstrator for openEHR Specifications

GastrOS is the first implementation of a Windows-based desktop clinical application using the recent state-of-the-art openEHR Electronic Health Record specifications. It essentially captures all clinical information during endoscopy and then generates a valid endoscopy report based on the terminology and recommendations set forth by the World Endoscopy Association (OMED).

In a first, the project team has extracted all domain-related knowledge from the software code and packed this into a model called Archetypes. This means the software can be extended without programming at all, something that is critical to future-proofing health information system.

GastrOS is a C# / .Net implementation of the openEHR specifications (www.openehr.org).

The team has used and extended the C# Reference Model library from Ocean Informatics Pty. Ltd. through a contract with its FRDF research grant. Currently the application can generate all user interfaces automatically based on the underlying domain model and create an endoscopy report.

Since this formalism has recently been adopted by both CEN and ISO, the team’s implementation technology is at the centre of international interest.

The project is at a stage where it can generate most of the software functionality and GUI through a model, and also to deliver the collected information to the international standard. This means the system can achieve a high level of semantic interoperability for potentially all other systems in New Zealand and globally. The software also offers significantly reduced maintenance and integration costs.

The technology can be applied to other clinical domains such as anatomic pathology or other medical specialities. The principles used in this study were formerly applied to eGovernment projects in the Netherlands successfully where the concept of ‘patient’ was transformed to ‘citizen’ and used a similar model driven software architecture to deliver a Municipality Permits Management System.

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