

UML – Lite: A Business Process Modelling Tool for Healthcare Domain

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Abstract

The quality of service in any organisation can be effectively improved through modelling the organisation's business processes. The Unified Modelling Language (UML) is a modelling language that provides a large number of diagrammatic notations for conceptual modelling. Although UML can be used to model and optimize the business processes in healthcare domain and improve the quality of service, healthcare professionals often lack the knowledge of the process modelling and there are no modelling tools that reduce the complexity of the process modelling for healthcare professionals.

To support healthcare community, this project provides a light-weight modelling tool with a very simple user interface to design and model healthcare business processes. To facilitate the development of modelling tool, the project intends to provide a detailed study of the patient treatment process and analyse the most recent statistics of patient waiting times in A&E department. The detailed analysis would assist in enhancing the quality of the patient treatment process and thereby, improving the quality of service in A&E department.

The modelling tool has many notations to model the business processes in A&E department. Five new modelling diagrams are identified for this purpose, and they represent the A&E business processes in different views. These diagrams are customised to model the stakeholders involved in the patient treatment process, the flow of information among them, the flow of communication among the stakeholders and the type of information used for communication. The diagrams also model the priorities set up whilst providing treatment to the patients admitted in A&E department and the standard protocol followed to optimize the patient waiting time.

The project successfully meets its main objective of helping healthcare community by developing the light-weight modelling tool as a free portable plugin to StarUML 5.0, which is an open-source software application and the tool can be used very easily to model the A&E business processes.