

Design and Implementation of an Automation Tool for HL7 RIM-to-Relational Database Mapping

Shagufta Umer, Muhammad Afzal, Maqbool Hussain, Hafiz Farooq Ahmad, Khalid Latif
NUST School of Electrical Engineering and Computer Science (SEecs), Pakistan
{shagufta.umer, muhammad.afzal, maqbool.hussain, farooq.ahmad, khalid.latif}@seecs.edu.pk

Abstract- Due to lack of standardized schema model in the clinical databases, it is hard to incorporate HL7 interoperability with the local clinical databases. Despite of the efforts in relational databases and its standards, a single data model is not being practically followed. Due to heterogeneity in data models, it is difficult to bring local clinical schemas in compliance with HL7 messaging. HL7 version 3 messages can be parsed to any relational database composite of tables attributes and associated identifiers. This process requires an intelligent mapping middleware which can map HL7 v3 message to any relational model. In this paper, we explored the RIM to clinical schema mappings and proposed a scheme for dynamically mapping clinical schemas to RIM, thus streamlining the HL7 messaging.