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**A REFERENCE MODEL FOR NEXT GENERATION  
ELECTRONIC HEALTH RECORD SYSTEM**

A PROJECT REPORT PRESENTED BY

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## **A REFERENCE MODEL FOR NEXT GENERATION ELECTRONIC HEALTH RECORD SYSTEM**

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In this report a reference model for next generation Electronic Health Record System (EHR) is presented. Implementation of this reference model can give solutions to inefficiencies in the healthcare service due to paper based health record keeping system and improve the healthcare services with the usage of Information Technology. The reference model brings up what next generation EHR systems should be like in order to deliver high quality healthcare services.

Integration of mobile computing and artificial intelligence into EHR systems can lead to transformational improvements in the features provided by EHR systems and therefore the model was designed to use mobile computing and artificial intelligence.

The reference model includes three components:

- Functional model
- Architectural model
- Data model

Functional model describes the functionality of the system and architectural and data models were designed in such a way that the functionality can be achieved.

Decision support systems can play a major role in EHR systems to help care providers make effective decisions and help identify anomalous patterns earlier than humans or that humans

might not notice. So an algorithm for disease outbreak detection is introduced in addition to the models presented.

The integration of EHR, Mobile Computing, Artificial Intelligence and decision support systems into one system is a key feature that leads to a successful solution to the problems at hand. The prototype system proved the technical feasibility and testing the disease outbreak algorithm with test datasets gave successful results.

