

## **Abstract**

Ideally, people could not resist disease so that they should take the drug. Unconsciously, patients immediately take the drug without knowing whether the drug can be harmful to the body or not. Especially for patients who have had drug allergies. Thus, the medical team needs a documentation of the patient's medical record. However, the medical records in Indonesia still use manual way with the paper. Therefore, medical record documentation system based on technology is needed so that patients can learn quickly about their medical history, which is also called EMR (Electronic Medical Record). This study will design EMR data model which is dynamic

To design a EMR data model, dynamic database is required because along with the development of disease and drugs that rapidly increases, we need a design model of dynamic data. The Design of this data model uses the data model ontology. Ontology is a new way to represent objects, relationships and properties that are contained in a domain of knowledge. By using this ontology data model, the system built will be flexible and scalable.

The method used in the construction of ontology data model is methontology. Methontology is a developing ontology which proposed the expression of ideas as a set of intermediate representations (IR) and generates the ontology using a translator. In this method there are five stages: Specification, conceptualization, Formalization, Implementation, and Maintenance. During the construction of the hierarchy, Protege tools needed for the implementation phase on the method, which is one of the tools used to build the ontology. By using this method, the system will be able to generate quick speed retrieve data using SPARQL query for retrieval part and exact appropriate accuracy by using protege

**Keywords:** EMR, Ontology, Methontology, Protégé, SPARQL