

MEASURING THE SYLLABUS COVERAGE OF THE EXAMINATION PAPERS USING ONTOLOGY

Premathilaka K.Y.T.^{1*} and Kumara B.T.G.S.¹

¹Department of Computing & Information Systems, Faculty of Applied Sciences, Sabaragamuwa University of Sri Lanka, Sri Lanka

*kypremathilaka@std.appsc.sab.ac.lk

Examinations play an important role in the learning process and in the whole education system. It is a way of assessing what the students have learned with regards to particular subjects. Strength and weaknesses of the students can be assessed through the examination. Therefore, examination papers should have a standard and quality attributes. Question writing process is a very challenging step for academics. Sometimes, academics fail to prepare the question papers to address the all the points in the syllabus. It is a critical problem in the education, when it fails to cover all the learning outcomes. Currently, there are not any automated system to check the depth of the examination papers. Checking the depth manually is very difficult and time-consuming task. In this research, ontology-based approach is proposed to determine the depth of the examination papers. An ontology is formal, explicit, specification of a shared conceptualization. First, the ontology for particular subject was created using Protégé software. Then, the soft copies of the examination papers were collected relevant to the subject. Then the stop words of the examination papers were removed. The created ontology was read by Java and Jena library. After that, list of the subclasses of the ontology had been retrieved. Next, the path of the word where included in the ontology was discovered. In parallelly, number of all concepts in the ontology was counted. Using the paths of the words, the depth of the examination papers was evaluated. Empirical study of our prototyping system has proved the effectiveness of our proposed ontology-based method.

Keywords: *Ontology, Protégé software, Data Mining*