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INFORMATICS INSTITUTE OF TECHNOLOGY

In Collaboration with

UNIVERSITY OF WESTMINSTER(UOW)

B.Eng.(Hons) in Software Engineering

**E-book Navigator**

**“Enhancement of Electronic Text book with data mining”**

A dissertation by

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## Abstract

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In any educational system either primary secondary or higher education, text books play a vital role as the primary supporting tool to continue education. However, many text books written in developing countries are not covered with required text in a simple form of language and also often lack adequate coverage of important concepts. This has created a lack of interest in the younger generation of students and educators to refer text book more often to improve their knowledge. Although many text books are now available as e-books, that could be read using electronic devices, the lack of interest in the use of textbooks among students and educators continue to remain.

In this background, this project will be proposing a technological solution to evaluate and address this issue, based on enhancing text book contents with authoritative and most applicable web content.

As the solution to solve the above issue, it is proposed to augment textbooks at section level for key concepts discussed. It is also proposed a technological solution for algorithmically identifying those sections of a book that are not adequately explained and could benefit from better exposition. Data mining is also widely used for identifying the concepts that need argumentation as well as to determine the links to the authoritative content that should be used for augmentation. With this proposed solution, it summarizes section wise to enrich text books on various subjects and across different grades with high quality augmentation using automated techniques. The system efficiently utilizes natural language processing, data mining and machine learning concepts to provide up to date augmentations of e-text books with accurate and effective summarized outcome expected by the students and educators.

### **Keywords:**

Information Retrieval, Data mining, Education, Text books, Text Augmentation, Dispersion, Text Rank.

### **Subject Descriptors:**

Computing methodologies - Data mining, computing methodologies – Information Storage and Retrieval. Computing methodologies - Concepts identification - information systems - Augmentation.