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USE OF DATA CLUSTERING TO ENHANCE STUDENT AND TEACHER PERFORMANCE

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ABSTRACT

In past decades, number of people interested in online courses has increased exponentially. Many new websites are deployed every day focusing on online courses. Recent research focuses more on teacher's decision making. There is a huge scope for teachers to improve, provided sophisticated tool. In this paper we differentiate student groups based on their score and comments and then provide suitable suggestions to teachers. We achieve this through Regression and Clustering. We will mainly focuses on K-mean algorithm to achieve our desired result. We remove noisy and inconsistent data and provide teachers with suitable solutions. This will result in better teaching and learning experience for both student and the teacher. We will do Regression and Clustering with the help of Weka.. We will host our server on local server using XAMPP and test our results

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INTRODUCTION

There is a huge benefits of VLE i.e. Virtual Learning Environment. It's just not easy to use but also easily available. It can solve the problem of lack of availability of experienced teachers in different parts of the world. Many governments around the world has encouraged laws that improved interests in e-learning. This has led to increased student performance overall. This transition leads to growth of learning datasets. This contains information that helps teachers decision making process as well as student's performance. Furthermore, combining the online courses and e-learning as VLE shares a lot with Social Network. In this paper we will find out students behavioural factor that teachers need to understand. Secondly we will find the factors responsible for the influence on the tutor's help in VLE.

LITERATURE REVIEW

Virtual learning environment allowed the development of many academic resources that assists in the teaching. In teaching learning material tutor system and educational reports etc.

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All these resource are helpful for decision making done by the teachers in virtual classrooms and conferences. Personalized Learning is another way to express e-learning. Education system has to aim to assist the student by virtual with interactive help, and we need to know what goals he is currently trying to achieve and what kind of knowledge he has. There are some challenges are facing on analytical processing. Data mining is one of the way of deal with different kind of learns is to understand collected data in VLE. One way to deal with different kinds of learners is to understand the collected data on VLE. According to Romero and Ventura, Data mining has become very famous and has a potential to achieve its goal (Romero, 2007). Scientists experiments and explore many methods of Data Mining which ultimately helps teachers as well as e-learning systems. It is known as EDM. EDM Stands for Educational Data Mining. Nevertheless, the EDM emphasizes in reducing learning into components that are analyzed and are fixed according the student's interaction on VLE (Siemens, 2012). Prediction, clustering, relationship mining, characterization for human judgment, and discovery models are the main types of EDM (Baker *et al*., 2011). Many studies were found to be discussing the same subject in scientific literature (Anderson, 2014).Clustering method's application of Hwang's study (Hwang, 2003). It entails a multiple criteria test-sheet-generating problem and a dynamic programming approach to

generate test sheets. Other example is the paper of (6). He explained the use of Fuzzy C-means (FCM) and the Kernel zed Fuzzy C-means method (KFCM) to build the fuzzy clustering method and it is technique of clustering models. This work try to find out the answer of these kind of question. Five categories of Learning of students: regular students, casual students, absent student and bad students. Many experiments has done on these categories and finally they removed casual student and absent student because they does not affect the student profile. There are many methods are apply to analyze the prediction methods in e-learning and consequently. Predictive model are useful to analysis the nature on VLE is to predict which student fail in class. Our goal is to improve the experience of e-learning and side by side provide quality support to the teachers. We believe on that this approach is remove many difficulties and encounter the problems on traditional approach of users. Basically in this paper we will focus on prediction and then clustering of the data.

Proposed Approach

To provide suitable solutions to the teachers we first have to understand profile of answers of students. Then on basis of these answers we have to narrow down our factors responsible for student's bad performance. Through which we will ultimately improve student learning experience. Our project code will be in Java. We will maintain our database with the help of SQL. The students comments will be stored in the database. To analyze the dataset, we will use Weka (Figure-1). Weka is a collection of machine learning algorithm for data mining tasks (http://www.cs.waikato.ac.nz/ml/weka/).

Figure 1.

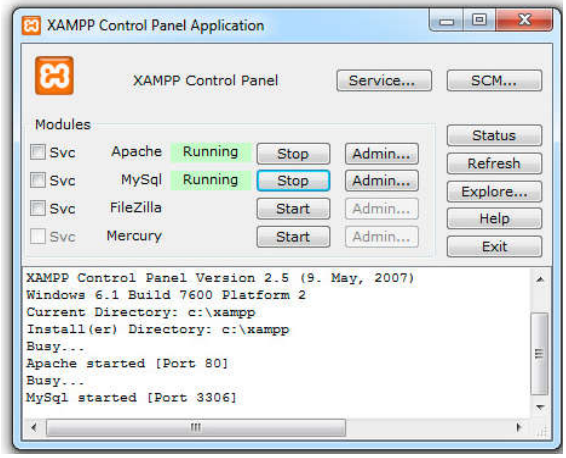

Figure 2.

This Weka will be launched through our Java code. We will deploy a local host server to test out our result using XAMPP (Figure-2). XAMPP is a free and open source cross-platform web server solution stack package developed by Apache Friends (https://en.wikipedia.org/wiki/XAMPP). It is the best tool available for developers around the world to sandbox there project.

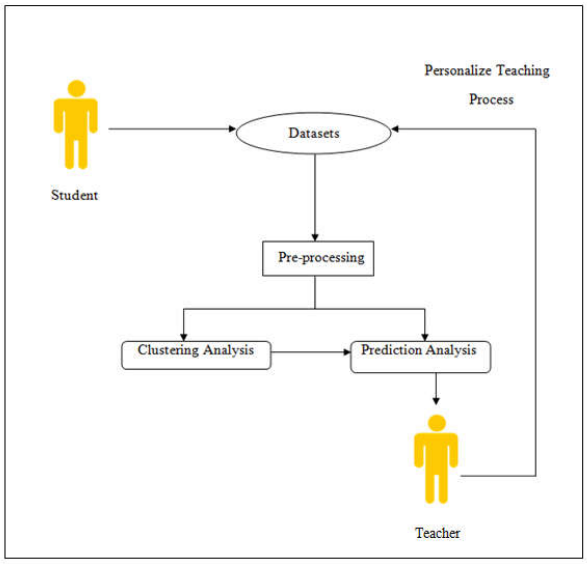

Figure 3.

In this local server we will train student data. The project will then provide us with the different student groups based on their score and comments with the help of K-mean algorithm. With these results we will provide teachers with suitable solutions and suggestions to enhance their skills and to improve student's learning and teacher's teaching experience in VLE.

Conclusion

In this project our aim was to minimize the gap between student and teacher by providing insight into student's difficulties and problem. We provided teachers with suitable suggestion on which they can improve. This will not only help student's learning experience but also result in better relations among the teacher and the student as well as improve interest towards VLE. Teacher will also have an improved teaching experience. It will improve quality of education and inevitably students will score high result which will bring the sense of comfort among students and the teachers.

REFERENCES

Anderson, Ashton, Daniel Huttenlocher, Jon Kleinberg, and Jure Leskovec. “Engaging with massive online courses.”. Proceedings of the 23rd international conference on World wide web, pp. 687-698. International World Wide Web Conferences Steering Committee, 2014.

Baker, RSJd, Sujith M. Gowda, and Albert T. Corbett. “Automatically detecting a student's preparation for future learning: Help use is key”. Proceedings of the 4th international conference on educational data mining, pp. 179-188. 2011.

Hogo, Mofreh A. 2010. "Evaluation of e-learning systems based on fuzzy clustering models and statistical tools.". Expert systems with applications. Vol 37 (10), pp. 68916903.

http://i.i.cbsi.com/cnwk.1d/i/tim/2012/10/01/Foreman_12753563_2196_x.jpg

http://www.cs.waikato.ac.nz/ml/weka/

https://en.wikipedia.org/wiki/XAMPP

https://www.ibm.com/developerworks/library/os-weka1/weka-startup1.jpg

Hwang, Gwo-Jen. 2003. "A test-sheet-generating algorithm for multiple assessment requirements.". IEEE Transactions on Education. Vol 46 (3), p. 329-337.

Romero, Cristóbal, and Sebastian Ventura. 2007 "Educational data mining: A survey from 1995 to 2005." Expert Systems with Applications. Vol. 33 (1), p. 135-146.

Siemens, George, and Ryan SJ d Baker. "Learning analytics and educational data mining: towards communication and collaboration". Proceedings of the 2nd international conference on learning analytics and knowledge, pp. 252-254. ACM, 2012.

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