Ideas and Innovation in Intelligence Learning

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ABSTRACT— **In various international report artificial intelligence is must emerging Technology field in education Technology in the world in the current time artificial intelligence in machine learning is a remarkable transformation for all educationist and required to improve the effectiveness of Technology but many challenges must we find to maintain these improvements greatly exceed the scope of any single task it might be education Technology it can improve the teacher training and there is kills better for the school and college programs because the need of hour in current days all education atmosphere is adaptive this education system aim to reduce the entire content and create the best way for a student learning in that sense education content will reduce and learning efficiency of student will be increase but present learning system is taking adaptive student learning according to their learning style and find this is a crucial step in making e learning traditional education adaptive learning model have been suggested literature that is not readily available software tool that provide the flexibility to select and implement the most suitable learning model it is suggested that this is tool to be displayed in a cloud environment to provide a scalable solutions that offers easy and rapid determinations are learning style.**

Keywords- *LEARNING DELTA, SOFTWARE TOOLS, FUZZY LOGIC, NEURAL NETWORK, ALGORITHM FOR A.I.*

INTRODUCTION

STUDENTS LEARN IN DIFFERENT WAYS. SOME PREFER FACTS, DATA AND EXPERIMENTS WHEREAS OTHERS PREFER PRINCIPLES AND THEORIES. SOME PREFER READING WRITTEN MATERIAL WHEREAS OTHERS PREFER PROBLEM SOLVING. LEARNING MANAGEMENT SYSTEMS SO FAR HAVE BEEN DEVELOPED WITH THE PHILOSOPHY OF "ONE-SIZE FITS ALL AS A RESULT OF WHICH STUDENTS TEND TO GET DISORIENTED AND THE INFORMATION OVERLOAD RESULTS IN REDUCED EFFICIENCY. EACH STUDENT HAS HIS OR HER OWN LEARNING STYLE. DETERMINING A STUDENT'S LEARNING STYLE IS A CRUCIAL STEP IN MAKING E-LEARNING OR TRADITIONAL EDUCATION ADAPTIVE TO STUDENTS' NEEDS. THESE THEORIES PROPOSE THAT ALL PEOPLE CAN BE CLASSIFIED ACCORDING TO THEIR 'STYLE' OF LEARNING, AND PROVIDE DIFFERING VIEWS ON HOW THE STYLES SHOULD BE DEFINED AND CATEGORIZED. ARTIFICIAL INTELLIGENCE (AI) APPROACHES ARE REGARDED AS VALUABLE TOOLS, AS THEY HAVE THE ABILITY TO DEVELOP AND REPLICATE THE DECISION-MAKING PROCESS ADOPTED BY PEOPLE. THERE ARE VARIOUS AI

TECHNIQUES THAT HAVE BEEN USED IN ADAPTIVE EDUCATIONAL SYSTEMS. THESE INCLUDE, BUT ARE NOT LIMITED TO, FUZZY LOGIC, DECISION TREES, NEURAL NETWORKS, BAYESIAN NETWORKS, GENETIC ALGORITHMS AND HIDDEN MARKOV MODELS BUT THERE IS NO STANDARD APPROACH CREATED SO FAR, TO FIND OUT WHICH IS THE MOST SUITABLE LEARNING THEORY AND THE MOST SUITABLE ARTIFICIAL INTELLIGENCE METHOD TO APPLY FOR A PARTICULAR LEARNING ENVIRONMENT. NOR THERE IS ANY SOFTWARE TOOL DEVELOPED THAT FACILITATES DETERMINING THE LEARNING STYLE FROM DATA OF STUDENTS' LEARNING BEHAVIOR. WHAT IS REQUIRED IS A TOOL THAT IS EASILY CONFIGURABLE, EASILY ACCESSIBLE AND CAN BE USED IN DIFFERENT LEARNING ENVIRONMENTS, EITHER TRADITIONAL OR E-LEARNING. HERE, AN ARTIFICIAL INTELLIGENCE BASED SYSTEM IS DEVELOPED THAT TAKES INTO CONSIDERATION MULTIPLE LEARNING STYLE MODELS AND MULTIPLE ARTIFICIAL INTELLIGENCE TECHNIQUES FOR DETERMINING STUDENTS' LEARNING STYLES. THIS SYSTEM CAN BE DEPLOYED BOTH IN E-LEARNING AND TRADITIONAL EDUCATIONAL ENVIRONMENTS TO IMPART ADAPTIVE EDUCATION.

RELATED WORK

VARIOUS AI METHODS THAT HAVE BEEN USED EARLIER FOR PROVIDING ADAPTION IN LEARNING ARE BRIEFLY REVIEWED HERE. FUZZY LOGIC IS AN EXTENSION FOR THE TRADITIONAL SET THEORY AS STATEMENTS CAN BE PARTIAL TRUTHS, LYING IN BETWEEN ABSOLUTE TRUTH AND ABSOLUTE FALSITY. A MULTI-AGENT BASED STUDENT PROFILING SYSTEM BASED ON FUZZY LOGIC HAS BEEN GIVEN. BY APPLYING FUZZY LOGIC, THE CONTENT MODEL, THE STUDENT MODEL, AND THE LEARNING PLAN HAVE BEEN DEFINED FORMALLY. NEURAL NETWORKS COMPRISE A LARGE NUMBER OF INTERCONNECTED NEURONS WHICH WORK TOGETHER TO PROCESS INFORMATION, SIMILAR TO A BIOLOGICAL NEURAL NETWORK. THESE CAN BE USED TO CLASSIFY STUDENTS. PREVIOUS STUDIES HAVE SHOWN THE APPLICATION OF ARTIFICIAL NEURAL NETWORKS IN DETERMINING LEARNING STYLES. A DECISION TREE IS A TREE IN WHICH EACH BRANCH NODE REPRESENTS A CHOICE BETWEEN A NUMBER OF ALTERNATIVES, AND EACH LEAF NODE REPRESENTS A DECISION. IN [10], DECISION TREES HAVE BEEN USED TO PROVIDE PERSONALIZED LEARNING PATHS. A BAYESIAN NETWORK IS A DIRECTED ACYCLIC GRAPHING WHICH NODES REPRESENT CONCEPTS AND EDGES INDICATE CAUSE/EFFECT DEPENDENCIES BETWEEN CONCEPTS. IN [13], THE AUTHORS SHOW THE USE OF BAYESIAN NETWORKS IN THE MODELING OF GLOBAL PERSONALIZED LEARNING PROCESS. IN HIDDEN MARKOV MODEL, A SET OF DISCRETE STATES ARE DESCRIBED WITH THE PROBABILITY MATRIX BEING THE DETERMINING FACTOR OF THE TRANSITION BETWEEN THE STATES. HIDDEN MARKOV MODELS HAVE BEEN USED IN TO PREDICT STUDENT BEHAVIOR AND DETERMINE SIMILARITY BETWEEN PREVIOUS STUDENTS AND THE CURRENT STUDENT. GENETIC ALGORITHMS USE DARWIN'S CONCEPT OF EVOLUTION, NATURAL SELECTION AND SURVIVAL OF THE FITTEST AS THEIR FOUNDATION. THESE HAVE BEEN EMPLOYED BY TO CONSTRUCT AN OPTIMAL LEARNING PATH FOR EACH LEARNER.
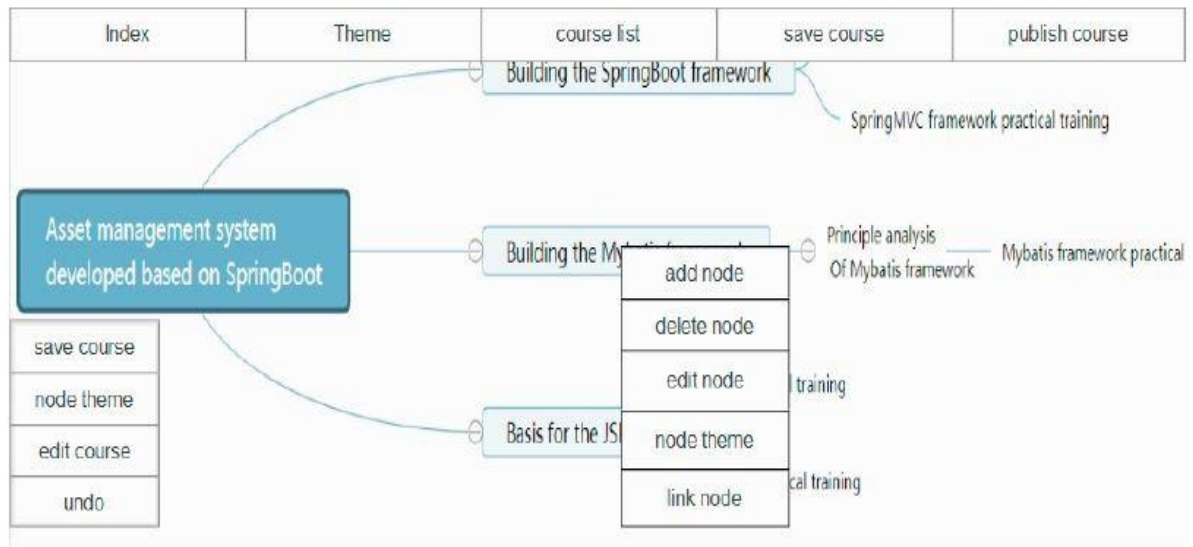
Fig. 1. Knowledge Tree Creation Tool

Evaluation and Future Improvement

At present, the software effectively improves users' learning efficiency and enthusiasm, enabling them to have a full understanding of what they are going to learn and how to achieve it before they start learning. It realizes the transformation of learning from manual and mechanized to planarity and informationalized, strengthening the communication between teachers and students and promoting the development of teaching. It is of great significance for self-study and learning resources sharing among students across the country. However, due to funding and current technology limitations, our software still has some problems to be solved and optimized. They are incomplete resource storage management scheme and slow reading speed. Thanks to the rapidly developing era of information technology, new technologies have emerged one after another; the artificial intelligence algorithms will greatly enhance the current software. Therefore, in the future time, through big data analysis, the first step we will record the courses that the users have learned to push the users to the advanced courses that meet the courses they have studied before.

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