

Fuzzy Logic and Fingerprint Based System to Improve the Productivity of Teaching Process in Sri Lankan Schools

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Education is an essential factor of life in global context. It takes a very vital role by maintaining a high literacy rate among countries in the world. Sri Lanka is a country intending to provide free education as much as possible in an efficient way. After some reforms of the education system in Sri Lanka, nowadays in school systems, there are 6 teaching hours which start from 7.30 a.m. to 1.30 p.m. The teaching hours are divided into 8 periods and organized in the daily timetable. Schools play a major role in preliminary stages of education. The deep study of the above problem has been done by analyzing the school teacher's attendance. There are some practical problems found in daily school routine by analyzing the current administration process of Sri Lankan schools. A computer-based approach can be designed to overcome this problem by designing a system. The productivity of the school can be improved by this approach and utilizes the teacher's maximum potential. A Fuzzy logic and fingerprint-based system has been done to improve the productivity in Sri Lankan schools. Currently, there are two main problems of assigning teachers for a free period and generate a quality timetable in Sri Lankan schools'. The fuzzy and fingerprint-based system can mark the teacher's attendance with the available period of the day and send some notification S.M.S. to the teacher. The system that has been designed is able to find the best-matched teacher among others to assign for free period. In addition, the timetable generation problem also can be solved by generating the given number of timetable and select the best effective teacher among others. The system were tested by teachers by assigning some real data and found the speedup is achieved by the system is more than 20 times. The automated timetable scheduling also made the process very faster than the existing methods around 100 times. The teacher who has done testing highly recommended the system for their schools and they confirm that the system will make their task easy.

Keywords: Fuzzy, Education system, Fingerprint