UNIVERSITI TEKNOLOGI MARA

A GENETIC ALGORITHM BASED STUDENT ATTENDANCE MANAGEMENT SYSTEM WITH BIOMETRIC IDENTIFICATION

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In the name of ALLAH

The most gracious and the most merciful

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ABSTRACT

Current class attendance collection in UITM is done manually using a paper containing a namelist of students. In this conventional system, sometimes exist cheating in attendance collection where their friend forged the signature. The main purpose of this system is to help lecturer to manage the attendance effectively and overcome cheating among the students. Besides, this system was developed with an integration with biometric devices to increase the efficiency in attendance collection. We have incorporated Generic Algorithm (GA) in one stage of the system. The importance of using the Genetic Algorithm is to find the best fingerprints after going through all processes of selection, cross-over and mutation. From our preliminary study, it was observed that the images captured by the device are almost the same. The surface of the fingerprint reader is very sensitive with fingerprints because the fingerprints might left some trail on it. Therefore, Genetic Algorithm was used in this project is to improve the quality of the fingerprints. The method that we used to change the brightness for every image lead to better quality images. Based on the results obtained in this study, it was revealed that Genetic Algorithm managed to improve the quality of the images. Using a biometric device, together with our proposed system using Genetic Algorithm, it was shown that the method has achieved its objectives which helps in managing attendance recording process efficiently.

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