

Title of Article: On the Development of Wi-Fi enabled Dual Frequency RFID Module and Web-based Attendance Management Software (WAMS),.

Author(s): Victor O. Matthews, **Emmanuel Adetiba**, Samuel Osafehinti, Ayoola E. Akindele, Samuel N. John,

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Abstract: Absenteeism control is a paradigm in human resource units of organizations that involves the administration of employees' obligation to maintain regular attendance at work and corporate events. This managerial control measure is not only obtainable in the industry but also, it attracts a lot of attention in the academic and government establishments. Widespread absence from work by employees can culminate in disruption, low efficiency and reduced productivity in any organisation. Also, absenteeism from school or class always has detrimental effects on the students' academic performance and attitudinal development. RFID technology is currently been adopted by researchers to implement absenteeism control for organisations. However, most existing technologies utilise single frequency RFID reader with connection via USB to a PC that runs stand-alone software. This kind of framework usually imposes huge installation cost and all the inherent flaws in a stand-alone software architecture. In this work, we designed and constructed a dual band RFID module that incorporates 125kHz reader and 13.56MHz reader/writer. The module connects directly via a Wi-Fi network to an intranet PC which functions as the Server on which we installed the Web-based Attendance Management Software (WAMS) developed in this work. One of the primary objectives of developing WAMS is to achieve client-server architecture for electronic-based attendance management. Employees or Students with either low or high frequency RFID smart card can sign-in and out by placing the card close to our dual frequency module. We tested the newly developed platform and obtain very promising results. The hardware and software are fully ready

for deployment to any organisation that desires a timely and efficient digital attendance management system.