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# DEPARTMENT OF MASTER OF COMPUTER APPLICATION

# TECHNICAL SEMINAR SYNOPSIS– 20MCA42

# Near Field Communication (NFC)

# Synopsis

**N**ear Field Communication (NFC) is a relatively young technology that has only been around for about a decade. NFC is a short-range, high-frequency, low-bandwidth wireless communication technology that allows two NFC-enabled devices to communicate with each other. NFC devices communicate at a high frequency of 13.56 MHz, which was first utilized by Radio Frequency Identification (RFID). In the fast-pacing world, every individual needs a quick solution that saves time and effort but increases accuracy. Such fast-pacing solutions are needed in the educational institutions too where the students and teachers time and efforts can be minimized and provide great results.

NFC operates in a variety of settings on both active and passive devices. Furthermore, NFC may only be used between two devices at a time. E-payment, e-ticketing, loyalty programs, identification, access control, content distribution, smart advertising, data/money transfer, and social services are all possible NFC applications and services. The main focus is on how NFC can be used in an educational institution, such as NFC enabled attendance monitoring, where the students can have NFC enabled watches which they can use to mark their attendance, else than they make fee payments quicker using the watch, else than the teacher can also share study material using the NFC watches. The steps needed to achieve the above are; Firstly, each watch will have a unique user code linked to the student, Secondly, when the watch is pressed against another NFC device let’s take the attendance monitor it will read the unique code of the watch’s software, Thirdly, it will validate the user’s identity as saved in the database, Finally, it will mark them present else absent at the end of the class foe one’s who haven’t attended the class. The software and hardware requirements for the above are as follows; software requirement contains an attendance monitoring application either using React.Js (Web-based) or Android (Mobile based), a well-written code to validate the code to one saved in the database, Database (SQL), thus the hardware comprises of the NFC chip, a digital watch.

The proposed solution will make attendance monitoring much faster compared to manual monitoring, it will also help to store a clear record of the student’s attendance. It can further help in fee payments by making the process quicker and reliable by giving the option to add funds to the watch and later transfer it by just pressing it against the receiver side NFC device

Under the Guidance of Submitted By:

**Dr. Jasmine K S** Ishita Sarkar (1RV20MC028)

Associate Professor,

Department of MCA, RVCE.