**PROBLEM IDENTIFICATION**

Currently, industries, organisations are using personal identification strategies such as RFID, Iris recognition, Fingerprint identification is used for taking attendance. It has several applications in attendance management systems and security systems. In this work, a system is implemented that takes attendance for students during lecture, employees in industries and etc. using Radio Frequency recognition technology. A time period is set for taking attendance and the database is automatically uploaded into the web server through the internet connectivity. This process is done without any human intervention. In the system ESP 32 is used along with a Radio Frequency module. The data is stored on the web page accessed through the internet. The results show that a continuous observation increases accuracy and maximizes the output.

The current systems that are used for updating attendance automatically are usually RFID based, Bio-metric based and MATLAB based. Usually, the manual method of taking attendance is difficult and a time-consuming process. Hence it is important to construct an efficient method for managing attendance automatically. Another advantage of these types is that inclusion of fake attendance can be prevented. The main motto of this work is to take and manage attendance using Radio Frequency Identification.

**RFID(**Radio Frequency Identification) uses electromagnetic fields to automatically identify and track tags attached to persons. RFID can violate the privacy and security of human beings. RFID strategies ultimately effect software that allows each person to be analysed by the primary database.

Many organisations, companies and institutions are taking periodic attendance using

* Face Recognition method.
* Biometric Fingerprint method and Registers.

These methods generally take more time for calculation.

**Biometric fingerprint** identification systems employ fingerprint as a unique identity. It is one of the most accurate systems running effectively today. But recognition of an individual fingerprint from a set of enrolled fingerprints is a difficult process. The fingerprint system does not reveal any information regarding the original fingerprint. This may have been proved to be false as many algorithms reveal that a fingerprint can be reconstructed with minute templates.

**Iris Recognition** is another type of implementation where the iris of people are scanned, stored and then retrieved for the comparison and attendance is managed automatically in the server. But there is difficulty in capturing iris of the students or employees and hence a fast implementation of face recognition with decreased illumination effect can be used.

The proposed system is used for taking attendance by using Radio Frequency Identification and managing the attendance in suitable environments such as colleges and offices.

In recent year, biometric based and RFID based attendance system are popular. The projectproposes a face recognition attendance system with IOT and high accuracy it access and control IOT devices, which is always, low cost and low power. Main aim to reduced documentation cost and efforts to the human are generated the digital classroom and offices.

**ADVANTAGE OF RFID OVER OTHER SYSTEMS**

Radio frequency identification is an automatic ID system. Like a barcode or the magnetic strip on a credit card, an RFID tag provides a unique identification code that can be read by a scanning device. Unlike other ID systems, RFID uses radio waves to communicate with readers. When a reader picks up these waves, it converts them into digital data that identifies the object that contains the tag. There are numerous benefits to RFID technology, but it comes with some limitations and drawbacks as well.

## **Scanning Range**

An RFID reader can scan a tag as long as it is within frequency range. It does not have any line-of-sight limitations. Alternative ID solutions, such as barcoding, require the reader to be close to the barcode before it can "see" it to scan it. RFID systems can automatically pick up tag IDs from a distance and, in some cases, through obstacles between the tag and the reader.

## **RFID Capabilities**

RFID systems can scan multiple items simultaneously. For example, you could scan incoming goods in your warehouse in the box, allowing you to check all contents at once without having to run individual barcode scans on each item. Other ID systems typically have a single or limited identifier for each object -- RFID tags can contain more information. Some are also read-write, allowing you to add or change data. You can implant tags into objects or use plastic coverings to protect them. This makes them more robust than some other ID tags. For example, barcodes must sit on the exterior of objects, making them prone to damage that may make them unreadable.

## **Speed and Convenience**

RFID readers can scan tags in milliseconds and work automatically. Optical scanning systems may need manual operation and may work less quickly, since the operator has to align the reader and code exactly to scan it successfully. The speed of operation also has convenience benefits in services such as cashless payments. For example, some festivals, venues and theme parks allow visitors to load cash onto RFID-tagged wristbands so that they can tap a reader to pay. They do not have to carry wallets with them and may spend less time waiting in line.

## **RFID Costs**

Although RFID technology has been around since the 1970s, its initial high costs restricted usage to larger businesses, many of whom developed proprietary systems. Although costs are falling, RFID systems are still typically more expensive to set up and use than alternative systems such as optical scanning. However, RFID systems bring their own cost benefits, such as reduced labor costs and improved efficiency.