INTRODUCTION

RFID (Radio Frequency Identification) is one of the burgeoning technologies in the market today. The wireless use of radio frequency electromagnetic waves to transfer data has been applied in various fields, like product tracking, asset management, attendance record, RFID-passports, etc. We tried to apply the same principle to make a register & log in system, which will be implemented in a children’s fair in the coming month.

We used Arduino boards (Arduino UNO), Wi-Fi shields (cc3000), RFID detector(mfrc522), RFID tags, PHP & python coding to complete this.

The basic idea of the project is to register users with unique RFID tags at the registration desks, which they will carry with them throughout the day and keep scanning it at the checkpoints. Towards the end, they will receive an automated report about what they did the entire day, along with pictures and other details. The RFID tags communicate wirelessly with the Scanner, at a close proximity. This is because, the Current flow in the scanner, creates a magnetic field which in turn causes a current to flow in the internal circuitry of the tag (Electro-Magnetic Induction), hence accomplishing the feat.

The registration desk has a computer, with a webcam. On scanning the RFID tag, it creates a new account and all the details get tagged to that card. Every time the card gets scanned, it is recorded in a database. So every card is always tracked in the entire fair.  
Once its job is done, it isn’t discarded, but the account is de-activated and the tag can now be re-used.

This way, all the visitors can be tracked for their safety, and in the meanwhile, there is panache unlike the quotidian fairs.