

CHAPTER THREE

METHODOLOGY

3.1 Design Consideration

The proposed RFID Smart Card Reader is a software – hardware hybrid, that detects student ID cards as input, sends this input to the server and return a true or false (red or green lights), depending on what operation was done. The hardware consists of:

- Node MCU ESP8266 Microcontroller
- MRC522 RFID Sensor and its Tags
- A Buzzer
- 9V Batteries
- I/O Switch
- LED's(Red, Green, Yellow, Blue)

The software is a web application hosted on an Apache hosting service built with:

- HTML
- CSS
- PHP
- JavaScript
- MySQL

At the end of development, the hardware should be able to read a students ID card, send this info to the server, and get a true or false response.

3.2 Summary of Project Methodology

the hardware should be able to read a students ID card, send this info to the server, the server confirms if he or she has performed a task like paying school fees, paying

departmental/faculty fees and returns a true or false reply. The hardware device displays this as either Red(false) or Green(true).