Experiment-1

1. **Introduction**

* **Purpose**

The purpose of this document is to list out the requirements for designing Electric Cash Counter System (ECCS). This system will help to count the cash with high speed and accuracy. It will be able to find fake notes as well.

* **Scope**

Electric Cash counter System is aimed to be used in banks, big stores, and other finance related places which need to deal with huge amount of cash on daily basis. This will be able to count notes, find jammed notes and fake notes. It will save a lot of time by counting notes faster and more efficiently than normal workers.

* **Definition**
* **ECCS**: Electric Cash Counter System
* **GUI**: Graphical User Interface
* **API**: Application Programming Interface
* **LCD**: Liquid Crystal Display
* **Batch Counting**: Counting a specific number of notes as defined by the user.
* **Firmware Updates**: Updates to the system’s embedded software to improve functionality or add features.

1. **Functional Requirements**

* The system should be able to identify fake notes or coins by UV, IR sensors.
* There should be an LCD screen to display the number of notes and its value.
* The amount of cash it can count at a time should be good enough.
* The speed of machine to count notes should be good enough as well (preferably 1000 notes per minute).

1. **Design Requirements**

**Hardware Design**

The system should have:

* UV, IR sensors.
* LCD screen.
* keypad
* power supply system
* small printing equipment to print receipts
* hardware that can work under normal environment conditions like 0°C to 60°C

**Software Design**

The system should have:

* optimized operating system to count cash efficiently
* program for giving warning for jammed notes or fake notes
* program to generate receipts

1. **Software Requirements**

* C / C++ / Python are the programming languages that can be used to program the software of system. Visual Studio Code will be required for compiling, debugging and testing code
* DBMS is needed to store the data of previous transactions done. Database can be made by MySQL / SQLite.
* GitHub for team collaboration in developing the software
* Testing tools like Postman