Introduction:

LED Displays are the basic modes of information display. Those are widely use at public utility centers, such as Bus station, Railway stations, Banks, Airports displaying the current status of flights. A LED display has very simple installation procedure and requires low maintenance expenditure.

LED displays use the technology of light emitting diodes, which converts the electrical voltage into light. These diodes operate on very low voltage and gives considerable output. Message displayed with the help of LED display can be seen from long distance as it have low rate of scattering.

This project concentrates on the more improved implementation of LED display. Generally the message to be displayed on a LED screen is to be stored inside the micro-controller ram. We can modify this message by erasing and rewriting the contents of ram. Previously we would have to remove the LED panels in order to change message or we can do it with the help of PC.

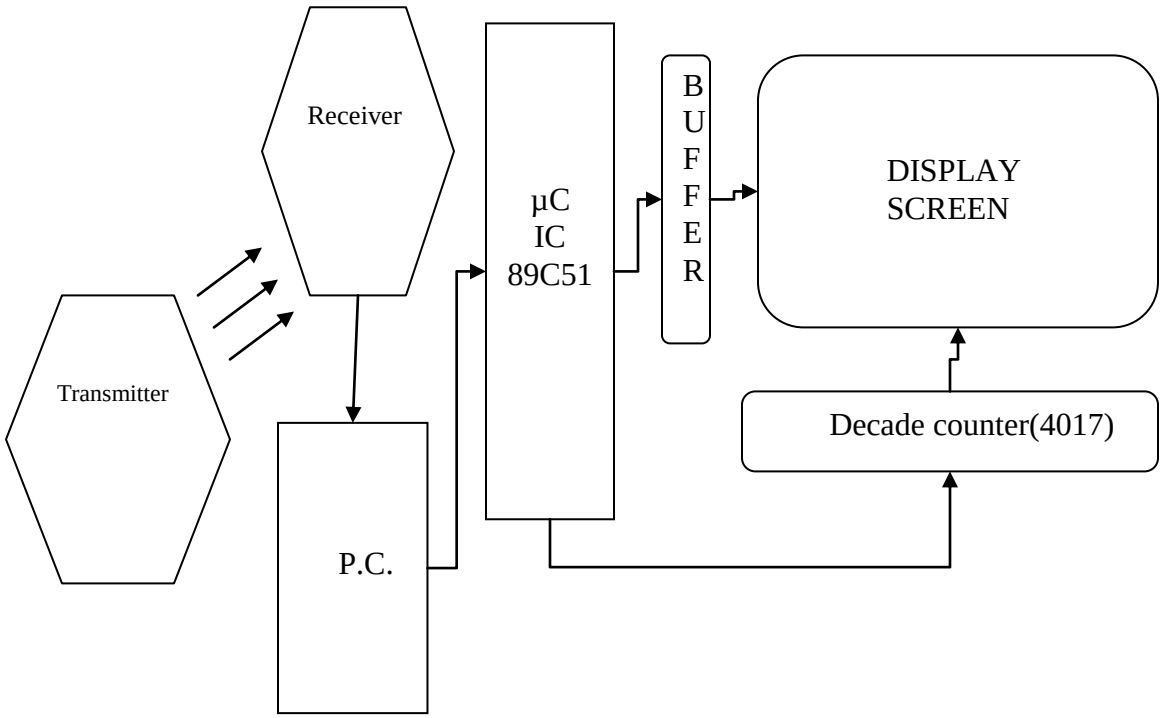
Now in this project we are going to change the contents of RAM using common GSM mobile phone. GSM phones are very common these days, we can use them as message changer.

We are going to interface a GSM mobile phone with the micro-controller IC, using data cable of that phone. This phone will act as a receiver of the message. For any message to be displayed on the screen we just have to type it on our transmitter GSM phone and send it to the receiver phone whose no. is known only to operator.

In this project we are using micro-controller IC 89C51 with a flash ROM. Flash ROM is a read only memory which can be erase using electrical current. Along with this we will interface the LED panel using decade counters. A buffer is also used for matching the peripheral speeds. LEDs are connected in seven rows. The functioning of LED are controlled by row and Column drivers: **Buffer 74ls245**

Decade counter cd4017

Block diagram:



Future improvements/ Applications:

LCD DISPLAY:

Instead of LED display LCD displays can also be used for this project.

ELECTRONIC NEWSPAPER:

An electronic newspaper can be made which updates you with latest news sent using mobile SMS. A screen can be installed at every squares which receives news feeds from reputed news papers.

A private model can also be installed in front of your bed. This could be a revolutionary concept as it has following advantages:

1) Its eco friendly paperless newspaper. So no more paper is required.
2) It reduces cost as no factory maintenance is required or laborer's payroll.
3) As there are no newspaper, no recycling is required
4) It meets user requirements and with the help of mobile phones it provides fast updates

Current Applications:

1) Train, bus, Airport status displays
2) Welcome note displays at various institutes.
3) Banks