

Team Id: 133

Team name: DASH

**Team members:**

1. Hrushikesh Loya (150010017)
2. Ayush Khandelwal (150010020)
3. Deep Tavker (150010001)
4. Suyash Vyas (150110069)

**Problem statement**

In every sports event in our institute we have to make do without a digital scoreboard owing to the high cost. Having a digital scoreboard would make the events much more enjoyable and would give a touch of professionalism to the participants. We aim to design a versatile digital scoreboard which can be used in many sport events.

**Abstract**

- We are designing a scoreboard using LEDs which can be controlled wirelessly. The different parts of our model:
  - Screen:
    - The moving screen will be fabricated using LEDs and aluminium foil(to reflect light) and hot glue(we are actually making the seven segment displays using LEDs as it is cost effective). We shall be exploiting the idea of seven segment display in order to depict digits.
  - LED controlling electronics:
    - We shall be using ICs and a microcontroller which will encapsulate the logic governing the digital output.
  - Remote Controller:
    - The microcontroller will be controlled over an Android platform and Web platform remotely.

- Remote controller will be versatile enough so as to be used in multiple sports like football, basketball etc. our score board will be general purpose (all these sports almost require same no. of seven segments except some(volleyball and tennis) which require two more seven segments to display other things like sets won and whose chance it is.)
- The interface for communication between microcontroller and Remote will be based on XBee.
- List of components
  - LEDs
  - Microcontroller
  - Aluminium sheet
  - Xbee and Xbee module
  - Foam board
  - Basic electronic components (PCB, ICs etc.)

### *Plan of action*

Week 0(26th april to 10th may): electronics(rip,board's elec),coding(web basics,app basics),mechanical.

Coding: web development and android dev (everyone)

Week 1: learning and collecting components

Week 2: electronics and mechanical

Mech: screen's skeleton

Elec: screen circuit

Week 3 and 4: electronics and coding

Elec: one part of the team starts working with ripi with Xbee which will be the communicate between the module and the mobile and ripi also controls the LEDs on the display

Coding: other part of the team design a web interface and android application for the referee.

#### Week 5:

Elec and mech part: Final finishing of the module, making the score board (the series connection of LEDs) - the mechanical part.

Coding: Adding of additional features in the website and app to make it easy to use.

#### Week 6:

Testing : check it for different sports

### *Estimated cost of project: 7,000/-*

1. Raspberry Pi : 3500/-
2. LEDs : 300/-
3. Xbee and Xbee module for RiPi: 2200/-
4. Basic electronics(BCD circuit for controlling LED display): 500/-
5. Wood, aluminium foil and aluminum sheet: 500/-

