

University of Connecticut
Electrical and Computer Engineering
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Remote Controlled Scoreboard

Project Statement

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Statement of Need

When playing a sport outdoors in a competitive environment it is desirable to display the score for those watching and participating to see. In the past this was done manually by changing score cards on a large display. Using this method there is often a delay in displaying the score and individual(s) have to wait next to the scoreboard to change the scorecards. It is our aim to improve this process of keeping score by creating a remote controlled scoreboard.

A remote controlled scoreboard will allow for a portable, multi-sport, easier to see display that will be quicker to update and easier to use. This eliminates the need to be constantly standing next to the scoreboard; instead an individual can easily push a button on the remote control and update the score.

Preliminary Requirements

The remote controlled scoreboard is, as stated in its title, to be controlled via a wireless (remote) control unit. This remote will control a scoreboard which will display different sport values while still being general enough to be used for numerous sports. The complete setup should be portable so it can be used inside and out, and withstand different environmental and weather conditions. Because it will be used in different locations, it is also required that the scoreboard's display be visible in most settings of ambient light. The most important requirement for the remote controlled scoreboard is that the unit as a whole is safe and easy for everyone to use.

Basic Limitations

The remote controlled scoreboard has a budget that is limited to a maximum of \$1,000, but the more economical it is built, the better. The time restriction in which we are to research, design, and build a working, deliverable product is two semesters, finished by April 2006. The design should be simple enough to build and use to increase portability and flexibility of use in different sport applications. A major limitation of the deliverable is power consumption in the device, where an adequate power supply may not always be readily available

and an onboard supply should be present. Another limitation is the maximum distance in which the remote can still control the scoreboard. An undesirable feature of the project would be a design which is too complicated and has features which are not feasible within our budget time deadline. A known code that will have to be taken into account is Federal Communications Commission (FCC) restrictions for the transmission of data via wireless communication. Another code that we must take into consideration for a marketable deliverable would be Underwriters Laboratories Inc (UL) which provides the standards for safety in the industry.

Questions

During our discussions for the remote controlled scoreboard, some general questions have arose that may not be answered until later in the design process. One question is how we will communicate the information between the scoreboard and the remote control? Assuming a receiver and transmitter are used, what is the maximum distance in which we can change the values on the board? Another question is how will we light the scoreboard so that it will be visible in a variety of different settings and weather conditions? This includes the type and color of the numeric display that will be used for optimum visibility. One other important question is how will we power the device to maintain its portability and use in different settings?