

Electrical/Computer Engineering Design Project Proposal

Title: *Kubkar Electronics*

Client: *Stephen Bruneau*

Supervisor: *not yet identified*

Description

The Kubkar rally is a cornerstone activity for Scouts Canada. Essentially the activity involves young kids making wooden cars and then racing them in head-to-head gravity-run heats down an inclined-to-level track. Most aspects of the cars, tracks and racing protocols are very well structured and typically many thousands of children participate happily in these events across the country each year.

Frequently, races are very close and a keen eye is required to judge the placement of the three or more cars running simultaneously on the single track, multi-lane system (because there are typically no electronics involved). Though rare, disputes over the placement of vehicles passing the finish line sometime erupt and neither re-runs or a free hot dog settles the matter.

Though available, the cost of purchasing commercial electronic timing systems for these races is prohibitive and the Newfoundland and Labrador Council of Scouts Canada has indicated that if MUN Engineering could help them with this matter they would be exceptionally pleased. Thus a project is proposed as follows:

Develop a relatively low cost race monitoring system in which the unambiguous placement of three race cars crossing a finish line is established. The option of timing the trials may also be desirable for practice runs and car development, however, only placement of the three is required for the race event. It is expected that the system would in the least provide ranking, but optional features may include photo-finish capabilities for on-screen display, actual timing of races from release to finish, incorporation of sounds and or lights, other as may be determined. . etc etc. NL council will ultimately need four of these, though design and delivery of a single working prototype is the expectation for this course.



The primary contact is Prof. Steve Bruneau though the following person is the outside client:

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