Safety at Major Sporting Events

Prof. Chris Johnson

School. of Computing Science, University of Glasgow, Glasgow, G12 8QQ. Scotland.

johnson@dcs.gla.ac.uk, http://www.dcs.gla.ac.uk/~johnson

1 Introduction

The London Olympics were perceived to be a great success in terms of public safety but the results of the independent inquest into the Hillsborough tragedy shows what can go wrong at major sporting events. Further security concerns are described in [1]. Your task in this exercise is to create a risk assessment tool that can be used by games organisers to identify the hazards that might arise from future sporting events. You are free to choose the type of event that is of interest – it could be a major football championship or a multi-event competition, such as the 2014 Commonwealth games, or a motorsport event such as a Formula 1 race.

2 Tool Development

Your task in the open assessment is to develop a technique that will help identify the hazards to public safety from major sporting events. The aim is to enable senior or middle management to assess the safety related risks. The design of the technique is entirely open. You may choose to use one of the risk assessment techniques that are introduced during this course, such as Fault Trees or Failure Modes, Effects and Criticality Analysis. Alternatively, you may choose to develop an entirely new approach.

The key aim is to help organizations assess the likelihood and consequence of hazards that can arise during sporting events. These hazards include crowd safety concerns. They include the hazards associated with transport between the venues. They also include deliberate terrorist attacks; however, the focus must be on safety and not simply on security concerns. You can choose to develop tools and techniques that address all of these hazards or that focus on one particular set of concerns. However, you must consider at least one third party hazard; this is covered in the second lecture of the course. The specific focus must be on helping managers mitigate those risks by appropriate planning before a sporting event takes place.

You may choose to develop electronic tools that support the application of your technique using any programming methodology. The implementation of the tool could rely on simple web pages generated using HTML, PHP or any other associated technology. Your design may be realized using conventional programming languages or you could simply rely on paper-based support. However, the marking scheme will take into account both the strengths of the design for the risk assessment technique and the effectiveness of an implementation in terms of the support that they offer to the potential end users.

3 Evaluation

It is important that you evaluate your technique/tool for assessing the risks of major sporting events. One means of doing this would be to ask a number of different users to try it out, exploiting an appropriate evaluation methodology. For example, you could ask one group to use your technique and another to use one an alternate approach developed by someone else in the course. If you do this you MUST consider the relevant plagiarism guidance on the School Learning and Teaching Committee web site and state the name of the person you worked with on your submission. You must each develop your reports independent of each other.

If you split your users into two groups for each tool then this raises important methodological concerns. Firstly, how would you insure that both groups have the same level of expertise and background knowledge so that any comparisons are fair? Secondly, how would you go about assessing the accuracy of any risk assessments that are produced? Please consult with me before conducting your evaluation so that I can provide advice in answering some of these questions. You should also consult the course handbook and associated web pages that cover the ethical guidelines for user testing.

4 Transferable Skills

This exercise will provide a first-hand introduction to the challenges that face many large organizations as they prepare for major sporting events around the globe. . There is little common agreement on the best approaches to adopt and hence you will be working in an area of active research, which is also a focus for public, government and commercial interest. The exercise will provide some understanding of the problems that can arise in preparing for low probability, high-consequence events. It will also underline the uncertainty that often characterizes risk assessment in safety-critical engineering.

5 Assessment Criteria and Submission Details

This exercise is degree assessed. It contributes 30% to the total marks associated with this course. The body of the report should not exceed fifteen A4 pages. The report must be printed out and must be submitted in a secure binder. It must include:

- A title page containing your contact details (email etc);
- A table of contents and appropriate page numbers;
- A section on the tool that you developed.
- A section on the evaluation method that you used.
- A results sections.
- Conclusions.

In addition to the fifteen pages in the body of the report, you may also include appendices. These should contain the listing of any code used during the study together with suitable acknowledgements for the source of code that has been borrowed from other programmers. The report should be handed in by 9am on Friday 23rd November 2012 using the submission box outside the teaching office in Lilybank Gardens. Please make sure that you keep back-up copies of all of your work and submit a plagiarism statement using the standard on-line form. The following marking scheme will be applied: 15 for the method; 10 for the results; 15 for the conclusion; 10 for the technical documentation. All solutions must be the work of the individual submitting the exercise and the usual lateness penalties will apply unless I am given good reason in advance of the deadline.

References
[1] C.W. Johnson, Using Evacuation Simulations to Ensure the Safety and Security of the 2012 Olympic Venues. In P. Swuste and A. Hale (eds.), Proceedings of the 3rd International Conference Working on Safety, European Agency for Safety and Health at Work, Delft, Netherlands, 2006. Preprint available from:
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