Research Challenge Problem Definition No. 2

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| **Problem Topic: (**One Sentence description of the challenge**)** |
| How could technology be used to assist in preventing children with Autism from having meltdowns? |
| **Background:** (4-5 sentences providing a general description of the problem to be solved. Why is it important?) |
| If children with Autism are able to control their emotions and avoid meltdowns it can improve the quality of life for them and their families. Emotional regulation can also make it possible for them to attend mainstream schools to achieve the best possible educational outcomes.  Technology can be appealing to children with Autism as it is predictable and unemotional. When children with Autisms are overwhelmed with the world they can have a mental and physical reaction. The triggers that overwhelm the children are often predictable and children often give warning signs prior to becoming emotional and acting out. There are strategies that children can be encouraged to adopt which will deescalated the emotion and assist them in regaining control. Technology can play a role in detecting problems before they occur and reminding children to adopt strategies that calm themselves down. |
| **Boundaries:** (Used to define constraints for the project. For example: Describe technical thresholds that maybe desirable; environmental conditions to consider; technologies that might be relevant; Other clarifying information.) |
| For more information on Autism and meltdowns there are many resources on the internet. For example see http://www.autism.org.uk/about/behaviour/meltdowns.aspx  Any research solution needs to be child safe. This includes that any technology that is provided has no pieces that can be swallowed and it needs to be easily cleaned. There are many new technologies and sensors that could be considered.  Ethics clearance would need to be considered for any research projects. |

I understand and agree to the following:

* Teams will have two hours to develop a research proposal that addresses the research topic as defined in this *Research Challenge Problem Definition*.
* Each team will then deliver a three minute presentation on their proposal. If overhead slides are used, such slides must be in PowerPoint format. The presentations will be recorded.
* Each team will complete a *Research Challenge Proposal* at the completion of the competition.
* Prizes will be awarded to the student teams for the best proposals, as judged by an academic panel.

A copy of the Research Challenge Problem Definition, the presentation recording, any presentation slides, and the completed Research Challenge Proposal will be published in the Monash Figshare repository, licenced under Creative Commons Attribution-NonCommercial-NoDerivs licence (CC-BY-NC-ND), and with joint authorship comprising the team members and the proposing academic staff member.