

## Need Statements for Design Projects.

### **Project # 1: Keeping firemen cool.**

(Teams A1, B1, C1, D1; Supervisor: Adam Niblick)

Firemen suits can get uncomfortably-sometimes even dangerously- hot while fighting a fire. This may require taking breaks and crew rotation. How can we keep the firemen cool so they would not need to take a break for this reason?

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### **Project # 2: Making changing a tire easier.**

(Teams A2, B2, C2, D2; Supervisor: Huimin Guo)

Changing the tire can often be a stressful experience, especially for inexperienced drivers. The tires are heavy, and the point at which to engage the jack is not always obvious. What can be done to improve the situation?

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### **Project # 3 : Harvesting people energy.**

(Teams A3, B3, C3, D3; Supervisor: Huimin Guo)

A lot of energy is spent in gyms on different kinds of equipment. It is proposed to capture some of this energy and convert it to electricity. This project will look at the feasibility of doing so for common types of gym equipment.

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### **Project # 4: A page-turner for musicians**

[Teams A4, B4, C4, D4; Supervisor: Adam Niblick]

When playing music it is cumbersome for musicians to turn the page of their music with their hands while playing. This project will develop ways to accomplish this mechanically, without involving the use of hands.

**Note: Generally, Huimin will be available 12.30 – 1.30 and Adam from 1.30-2.30 on Fridays in MEB 246 for consultation on the project.**