Element J: Documentation of external evaluation

# Formal Presentation

We presented our project at *[school name redacted]*. Our panel consisted of the following reviewers:

*[teacher name redacted]* Teacher, [title redacted]

*Michele Malinowski* – Senior Project Engineer – Electronics at Badger Meter, Licensed Professional Engineer

*Bob Schmeling* – [title redacted] Teacher

*Mark Jappinen* – Technology and Engineering Education Teacher

*Gina Moran* – Milwaukee School of Engineering Math Instructor, MA in Adult Education, Math/Physics specialist in MSOE Learning Resource Center

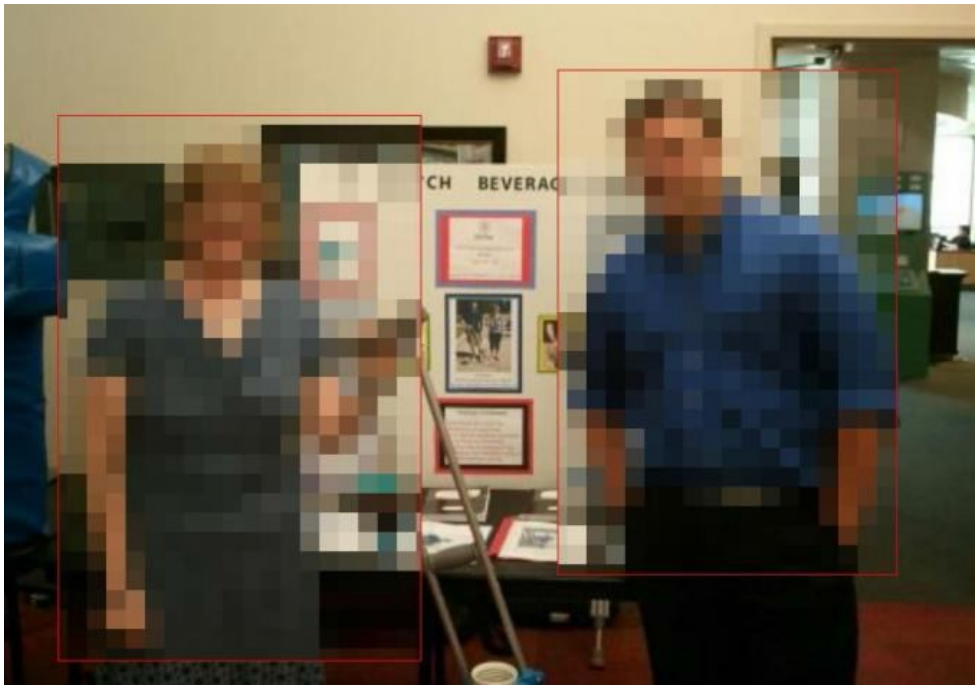
*Ray Erbe* – President of Electro Kinetic Technologies, LLC

*Jerald Martocci* – Lead Staff Engineer – Wireless Communications, Johnson Controls

*[instructor name redacted]* – BS/MS Chemical Engineering , [teaching title redacted]

[instructor name redacted], CPC - LEED (R) Accredited Professional, Program Director - Construction Management, [school name redacted]

We received feedback in 2 forms: verbal and written. Verbal feedback was given at the end of the presentation during the formal question and answer period, and received during the "trade show" portion of the presentation. The questions we were asked were:

1. *How would the part be manufactured?* Our one-piece design was great for our prototype made in the rapid-prototype machine, but it will not be feasible for common manufacturing processes. We would have to design some type of pin mechanism that would allow the assembly of the cup ring into the cup holder. We realize that this is a required design modification for manufacturing, but given our 9 day project completion, we did not investigate this.

2. *Has our crutch user tried the prototype?* Given our time constraints, our crutch user did not have an opportunity to test our prototype.

3. *What is our next step.* Our team decided that we will not pursue this idea further. Given the costs of a patent, and our current family situations and jobs, we have no interest right now in taking this design any further.

4. *Do you think your prototype is overdesigned?* Yes, our prototype is definitely overdesigned. Our goal was to get a prototype that worked. We did not know how this design would function in a test, and we only had one chance at a prototype, so we did not give any thought to the idea that our cup holder was overdesigned.

Written feedback was on a form that had both a number scale to rate our presentation from 1 to 5, with 5 being the best. Our average score across all areas based on 52 different values was a 4.67. There were a variety of written constructive comments falling into the main categories of:

-not enough users to give input

- failure to read the claims of the current patents of similar products

- lack of prototype testers

We agree with all these comments. Given our time constraints, we did not feel it was feasible for us to get more user input or more prototype testers. The comment regarding failure to read the patent claims was appreciated. No one of the team even considered to read the many claims, we simply looked at the drawings to see if it would appear to do what we wanted to do. This is very valuable feedback for the future. Many of the comments did not relate back to our design specifications. This was due in part to the fact that we had only nine days to complete this entire process.

We had many positive comments, the best ones being:

- "Great prototype"
- "Use of personal stories gave validity to problem"
- " I liked the idea of going back to the user for input multiple times"
- "I would buy it"

The external review panel was very supportive and gave our team valuable feedback, both verbal and written.