What application would you write to exploit the capabilities of the MyoBand, CyberGlove and the Kinect? Use 5 lines to quickly provide a title and summarize the project.

In 15 lines or less, Indicate how you would orgainize a team of CS, EE and MechE employees and how you would allocate sections of the final project to each team.

**Title:**

Sign Language Assistant for Teaching (SLAT)

**Summary:**

These technologies could be used for a comprehensive sign language learning/feedback system without the need for a teacher to be present. The CyberGlove (or similar fairly-high-precision finger-tracking technology) could be used to quickly and accurately compare finger positions and motions to whatever was expected. The MyoBand could be used to track more general/broad arm and hand motions inexpensively and on the go (good for students), while the Kinect could be used instead of the Myo for more precise and less cumbersome arm tracking in a stationary location (good for recording movements by instructors or content producers).

**Work Allocation:**

I do not believe that there would be a ton of work for MechE employees to do for a project like this, especially if off-the-shelf hardware were used for the sensors. That being said, I am not entirely sure how the CyberGlove works or how comfortable it or the Myo bands are over a prolonged period, so any efforts to ensure that they were comfortable for long durations, lightweight, durable, and inexpensive would certainly be useful.

The circumstances are similar for the EE side of things; with prepackaged products, I am not sure how much additional work would need to be done. The human-borne devices should certainly be wireless, and should probably use Bluetooth or some other cell phone compatible interface so people can learn on-the-go and flexibly. They should be fairly low-latency in order to allow the command device (phone, computer, etc.) to provide feedback about how correct a given attempt at a letter/word/phrase was; haptic feedback mid-sign might be cool and useful.

The bulk of the work would likely be in the CS aspects of the project. A phone or computer app would need to be able to interface with any/all of the mentioned devices, and process the signals out of them into an understanding of what signs, motions, and gestures were being made. That would then need to be compared to a "master" rule, perhaps generated by an instructor or expert in sign language. Then visual and/or haptic feedback would need to be issued to the student to indicate success or express how they could improve. A web interface and website would allow content producers/consumers to interact easily worldwide.

A significant portion of this project would involve testing and evaluation, after capturing confirmed examples of signs to ensure the comparisons work properly. That could be a slow, iterative process that anybody could assist with.