Reflection 2

I am in group B. Our project is LifeBand, a monitoring system for high risk patients.

Most of the feedback was concerns about how the system would function in unusual situations. We were asked if the wearable sub-system was waterproof, since wet areas can often be high risk places for frail people. The feedback also included concerns that the system would alarm the emergency contact too frequently; this could result in a “boy who cries wolf” situation. For example, some students questioned whether exercise on the patient side would trigger emergency notifications on the emergency contact’s side even though there was no emergency. Finally, there were questions about how the patient’s safety would be ensured if they lose connection to the internet.

All of the feedback was constructive. For some of the questions, we had answers for how we planned to approach the issues. As for the rest of the feedback, the questions gave us new ideas and highlighted situations we need to consider. Criticisms about how the system would perform in difficult circumstances were constructive because it helped us develop a more complete solution. For example, the question about how the system would handle loss of connection to the internet was constructive because it made us ask ourselves whether our system should be designed for patients who are healthy enough to leave the grid or not. Furthermore, the feedback then spawned the question within our team, of how we should handle power loss situations.

The amount and quality of the questions shows that the audience understood the technical aspects of the project. The feedback was not questions about how the system worked, for example, which pi hosts the server, or, does the wearable pi contact the authorities directly? Instead, the questions were about how the system, which they understood, reacts in difficult situations. For example, the question, “will the wearable unit alarm the emergency contact if the patient it exercising”, shows that the student understands the technical aspects because they understand that there is a wearable unit which monitors the patient, and a phone application which allows the emergency contact to track the patient’s vital signs remotely.

The scope is the part of the project that we primarily want to update. During the presentation it became apparent that there were many situations we would have to consider if the LifeBand system supports not only the most critical patients but also somewhat active patients. By refocusing our scope to bed ridden patients who at most, will maneuver their homes independently, we eliminate the need to consider situations like driving cars, exercising, and losing connection to the internet from going off grid. Furthermore, the change does not impact the usefulness of the heartbeat sensor, the respiration belt, or the accelerometer (bed ridden patients still face the risk of falling: out of bed, down stairs, in kitchen). The change also does not remove all the most difficult challenges, as we still face the problem of identifying a sleeping patient vs a patient in need of assistance.

Another change is to be more specific about what is expected of the system. LifeBand is not expected to save lives in case of fires, something which was not clarified before the presentation. Furthermore, although a commercial unit would have to be waterproof, since showers and baths are a critical time for the system to save lives, our prototype will not be waterproof nor will it be tested in wet conditions.