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Technical Journal 5

Since my last journal, the team has discussed possible alternatives to the raspberry pi we had planned to use for gps tracking purposes. Originally, we had thought to go with the phone app for such purposes, but due to the illegality of a bus driver having their phone out while driving, the cost of data transfer, and the uncertainty of a bus driver having a phone they could use for such a purpose, we had decided about a month ago to focus our attention on using a raspberry pi to track gps instead of a phone. Now, we are reconsidering. After more research, and interviews with the Haysville school district as well as possible end users, we are questioning our decision to use the pi instead of a phone.

Another idea was brought up by Stallard during our interviews: using a cheap phone with an equally cheap data plan for data transfer and gps tracking. We have not done the full analysis as of yet, but with the new idea, we have to reconsider our choice to utilize the raspberry pi for gps tracking. The pi would allow us to circumvent any legal issues of a driver having a phone out, but then there are problems with attaching modules to the pi to get it to track gps coordinates, housing the whole system in a way that it would resist the highly variable Kansas weather, and then powering the system. On top of that, no one on the team has experience with hardware in any significant amount. On the other hand, if we were to use a cheap phone with a cheap data plan, we effectively pass the cost onto the school district. They had offered to pay for the pi module anyway, to avoid possible other legal issues, but this way if a piece of hardware breaks, they will have an easier time fixing it or simply purchasing a new one, whereas with the pi, a certain level of expertise is needed, especially when purchasing a new module.

The phone would already come equipped with all that we need, but there are still problems. We had originally leaned against multiple profiles and the need for a login system, which is one of the reasons we were opting for the pi setup. However, after interviewing Haysville school district, they seemed very supportive of such a system, and we may not be able to maneuver around that particular problem. There is still more research to be done, but for now, we are sticking with the pi, as there are only a few weeks before our end of semester presentation. We will continue to discuss and research, but will likely swap to the phone idea for next semester.

**Personal Product Reflection**

Both of the interviews we did with parents revealed similar information: the parents wanted to know where there child was and when they got home safely, and a lack of consistent technology use. In this regard, we want our app to be as simple to use as possible. Our UI should cater to the idea that not everyone that uses it will have a ton of experience. Thus, everything should be labeled clearly and simply, with little doubt for what everything means and does. Second, if possible, we want to implement the live bus tracking system. Looking back at our interview with the Haysville school district, they seemed to like that idea as well, however they also expressed concerns with the idea that anyone could see where all of the buses were at anytime, and preferred a login system where each user was only given permission to look at a limited number of buses depending on their needs. This system does add a considerable amount of work to us though, so it is not something we will be adding lightly.

That being said, from each person we interviewed, they expressed a desire for the proposed application, and all agreed that it was a good idea, and one they would eagerly use. So I do not believe we will have a difficult time selling the app to prospective parents. The other benefit is that there is no requirement for parents to even use the app, so if they don’t want it, they don’t have to download or use it. It is only a benefit to those who have a desire to keep an extra set of eyes on their kids without any drawback to those who do not have the same desire.