Name: JOANY ANAK JORES

Course: DESIGN VI HW3 02/14/2012

I pledge my honor that I have abided by the Stevens Honor System.

Below is the list of potential projects that I might join:

(The list is scaled from the most interested project to less interested project)

- Project 1: Global Positioning System with Parking Availability Detection by Mohd Razemi, Mohd Danial.
- Project 2: Global Positioning System with Local Map and Parking Aid by Muhammad Amir Mohd Azmi.
- Project 3: Micro Air Vehicle by Afiq Izzat Mohammad Fuzi
- Project 4: Rear End Collision Warning Device by Dan Tipaldo
- Project 5: Piezoelectric Tracking Device by Sean Wilson

Project 1

Project definer: Mohd Razemi, Mohd Danial.

Project name: Global Positioning System with Parking Availability Detection

Potential contribution to the project:

The project is about parking area detection system by using the current GPS technology. Basically the idea is to detect availability of the parking spaces on local area. The detection is used to assist vehicle user to park their car. This project comes to my attention because the idea is quite similar to my idea that I think it would be beneficial to join. His project is to detect the availability of the parking area but my project is to supply information about the parking spaces. Both ideas are somehow dependent in such a way that my product will assist his product. Therefore, my potential contribution to his project is to provide this kind of information to his system by using sensor modules implemented in my product.

Suggested possible adjustment:

There is not much possible adjustment to his system. The only adjustment that could be necessary is an add-on application so that it could stream information provided by my product.

I am willing to work on the project over the semester.

Project 2

Project definer: Muhammad Amir Mohd Azmi.

Project name: Global Positioning System with Local Map and Parking Aid.

Potential contribution to the project:

The project is about locating the parking spaces in a building or in a small local area. His project is somehow similar to my project but his idea includes all application of a GPS. His product would be able not only to function as direction informer but also could be transformed to tell the parking space in a building. While my project concentrates more on the availability of free parking spaces in a building, his idea of providing direction to that empty spaces is something that I have interest on. It could be possible that I use his idea or his knowledge on how to implement such system by using a GPS. Therefore, I am depending on some new ideas by him as we move along as a group. Therefore, the potential contribution to his project would be in the term of sensor and information system.

Suggested possible adjustment:

There is no possible adjustment I could see in his system because both of us roughly have the same idea. However, I am looking for how adjustment in term of ways to implement the product in the targeted area.

I am willing to work on the project over the semester.

Project 3

Project definer: Afiq Izzat Mohammad Fuzi.

Project name: Micro Air Vehicle.

Potential contribution to the project:

The project is about autonomous flight system which may be used by military for special purposes. His idea is brought to my attention because to operate such device remotely utilizes most of the telecommunication techniques. Therefore I am interested to gain the idea on how those telecommunication techniques are implemented. The knowledge is useful for my project since I am lacking the skills in communication system and implementation. It could be useful to my project in such a way that it would bring my project into the next level. Hence, I will not be relying much on single form of wireless communication such as GPS but also relying on the technique from his project. I am looking forward to learn the new skills if we were be able to make a group.

Suggested possible adjustment:

The device that he would be inventing utilizes the autonomous technology. This includes flight control and local area detection. It would be nice if the device can work as a group in a more systematic way. One example is to analyze the behavior of ants. Ants are well known creature to implement systematic way of life which includes communication, detection, defense and cooperation. If he could implement such systematic way of life into the product that he would be inventing, then the product is much useful to serve as remotely-controlled device especially for military purposes.

I would probably work on the project over the semester.

Project 4

Project definer: Dan Tipaldo

Project name: Rear End Collision Warning Device.

Potential contribution to the project:

The project is about a device that is used to prevent rear end collision on vehicle. The device basically calculates the distance between two cars so that the separation is within the safety limit. By implementing the device in the car, driver will be warned when the car gets too near. His idea is brought into attention because the device that is used could be implemented in my own project. There will be minor modification to the current device that he will be inventing but the idea is still preserved. Therefore, such device would be useful if it can also calculate the distance between the rear of the car to the walls or to other car in the parking lot. In addition, the device could also be attached to the parking system so that it would assist the drivers when they park their cars.

Suggestions of possible adjustment:

There is minor adjustment needs to be consider. The device should be able to detect obstacles from a reasonable distance and not only to calculate the distance between two cars. Obstacles detection is also important to be considered because it would also reduce the possibility of rear end collision with not only cars but also probable obstacles during driving. For example, animal crossing or falling trees where your headlight cannot reach for long distance at night.

I would probably work on the project over the semester.

Project 5

Project definer: Sean Wilson

Project name: Piezoelectric Tracking Device.

Potential contribution to the project:

The project is about a small tracking device that will be used in many applications. The tracking device is unique because it is powered by piezoelectric material. Therefore there is no need for non-lasting power source such as battery. The tracking technique is somehow similar to any tracking system but the circuitry would be more efficient and energy saving. Those are the key aspect which brought my attention to. If I were to work on the project, I am interested in expanding the use of piezoelectric material and low powered circuitry in our everyday usage.

Suggestions of possible adjustment:

Possible adjustment would be in term of circuitry of the current device. The circuitry should consume less power but with higher degree of reliability. The design of better circuitry along with the piezoelectric material would take the product to a higher level.

I would probably work on the project over the semester.