Time planning

The report

The report will focus on the two parts of the Adaptiv system that consider the algorithm controlling the pelteir (heat) elements and the algorithm that controls the light diodes. The system has a large amount of pelteir elements that shall be able to generate heat patterns. Each element corresponds to a pixel. An observer equipped with an IR-camera shall be able to see this heat pattern. The task for me, with the heat elements, will be to implement and evaluate a sufficient algorithm for controlling the pelteir elements and develop a software that allows the system to output any custom generated pattern. Apart from that, the system is also equipped with a large amount of light diodes (LEDs). These LEDs are mounted in a hexagon pattern and forms a display. The reason why the LEDs are placed in a hexagon pattern is because of the placement of the pelteir elements. This display shall be able to show both static and dynamic pattern to blend the system into the background and camouflage it for the human eye. My task, with the LED screen, is to implement and evaluate an algorithm that controls the LEDs and the software that allows custom patterns to be designed. A thing worth mentioning is that this is no ordinary screen since the pixels are placed in this odd hexagonal way.

Time planning

Allocated time in weeks	Task name
1	Learn the systems that shall be used and more specific problem formulation for the project.
0.5	Generation of the simulation environment for the platform.
2.5	Develop communication-link between the platform and the PC.
1.5	Develop extension of the simulation environment.
0.5	Literature study to find suitable algorithm for LEDs.
2	Implement chosen algorithm for the LEDs.
2	Implement software for designing patterns for the LEDs.
	Half time check in the early April.
0.5	Literature study to find suitable algorithm for heat elements.
2	Implement chosen algorithm for the heat elements.
2	Extend the software to support heat patterns.
1	Testing on hardware.
0.5	Demonstration.
4	The report will be written under the whole project but the larger part will be written at the end.

Checklist for the half time check

- Simulation environment working.
- Communication-link done.
- Evaluation of the algorithm for the LEDs done.
- Implementation of LEDs algorithm working.
- The software can generate custom patterns to be displayed on the LEDs.