ARIES-GPS Payload
Inter-American University of Puerto Rico Bayamon Campus
May 2013 monthly report

I. Activities of the team members

We will describe the activities that the members of the ARIES-GPS Payload are working at this point of the project.

- **Electrical system**
  - During this month the prototype version of the power board was tested. The line of the 30V/3.3V and 30V/12V was successfully achieved but the 30V/5.0V was having problems, possibly because the converter was damaged. We are trying to fix that line so we can test the payload with the prototype version of the Novatel GPS and Power Board. Also we are finishing testing the inrush current of the available power lines with a simulated load that is greater or equal than the actual payload load for the respective line. As soon as the 30V/5.0V is repair the next step is to start soldering the boards PCB's and start to hook everything up for the final test.

- **Mechanical system**
  - In the month we check the points described in the PSIP and we address all those points by now, It is an essential for our team to meet the HASP team requirements. As that we included all measurements in our formal documentation for future references.
  - In addition we finished the construction of the design in the mechanical improvements and start testing the whole systems together. The new improvements have accelerated the integration process and still remains to check how the new improvements could affect the thermal design previously created.

- **Software System**
  - During the present month the software team started to interface with the SBC running our applications. However several problems has been faced trying to interact the TS-7260 with our GPS board. The TS-7260 had installed in its flash memory a minimialistic Linux which eliminate most of the common Linux features. Due to that constraint the team has been working on changing the kernel and installing a Technologic Systems -Debian Linux distro on it. The Debian Linux will be running from our current SD-card, relaying the USB modules as storage units.
    Also, we are currently working on the creation of our own Linux drivers modules to interface and run the MBS-GPS board. They will be used for interfacing the PC-104 board in multiples platforms, offering a secure and permanent device in the root file-system for interfacing the GPS board.

II. Issues Encountered During Payload Design

  - The TS-7260 had installed in its flash memory a minimialistic Linux which eliminate most of the common Linux features

IV. Current Team Members and Leaders

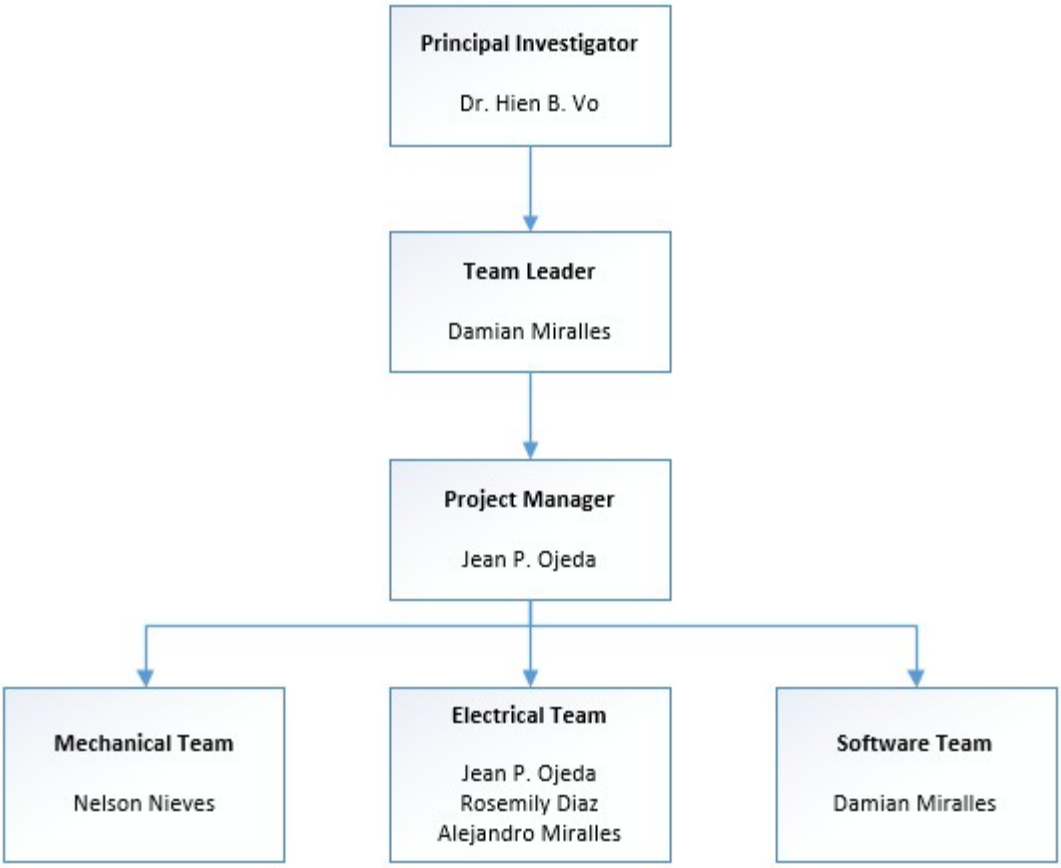

Figure 2 – Structure of the current team leaders and members of the GPS Payload

GPS Payload Students and Tasks

Students	Task
Damian Miralles	Processor Programming
Nelson Nieves	Thermal Analysis/Mechanical Structure
Rosemily Diaz	Power Board/PCB design
Alejandro Miralles	Power Board/PCB design
Jean Ojeda	Power Board/PCB design

Table 1 – Team names with the respective tasks