September 25, 2007
Met with Jean-Paul at the IEEE office which he decided to work on one part of the solar charging circuit report. Did more research on charging circuit for MCU 22 drone.

September 27, 2007
Completed the report written by Jean-Paul Davet with the research I made on Solar Charging Circuit. The first part of the report was received via email to all team members on September 27, 2007.
Possible Solar Charging Circuit

\[ R_1 = 8.2 K \]
\[ R_2, R_3 = 7.5 K \]
\[ R_4 = 1 M \]
\[ D_1, D_2 = 1N5817 \]
\[ L_1 = 100 \mu H \]
\[ U1 = MAX639 \]
\[ C_1 = 100 \mu F / 40 V \]
\[ C_2 = 47 \mu F / 40 V \]
September 28, 2007

Lin's asked for progress so far and plan, then
JCP is talking about the solar power
consideration.

1. Optional way to progress

2. Procedure of how you will get to the end,
what to see at the end, which will be a
powerpoint.

3. 6 slides powerpoint every week.

4. PDF format of weekly log book progress is needed.
   Individual log book is needed sent before next meeting;
   Presentation will be shown on lab, and email will also
   be sent.

5. From the minute, assignment should be given
   to each team member.

6. Report should contain progress & progress

7. Don't send a minute and no reply then it is OK.

8. General slides containing the repetition of previous
   slides. Need a timetable of progress.

9. Individual & team assignment for next week.
DNS asked why we are not using Lithium instead of NiCad and if the chip is switching or linear.

* DNS said switching is better than.

Text: Efficiency of the chip. Solar cells, battery.
Model of efficiency in excel is needed.
Get number 3 data gotten with detailed
Comment should be put on excel, and can
also be put in the power point presentation.
Motor has such energy, fuel tank,
Solar cell efficiency.
JP said fly wood is needed for some parts of
the plane, like the landing gear.
DNS said wood prevents movement of air.
JP said the team would make a motor from
the tail to improve it in landing.
DNS asked for solar cell and the team said
we are buying one to test it.
Solar power consideration should be power point
presentation.
Power point presentation for all energy flow chart.
Conclusion should have how long it will last.
* DNS said we should beautify the project by:
  * Efficiency of the pilot battery.
  * Justification of NECAD battery.
  * Copy of presentation, PDF file of big book and more are needed each week.

www.ee.uta.edu/online/stolmak/lec4349

* DNS said all teams should have intermediate event for NEXT milestone.
* Install the servos, and all other hardware.
* Testing on ground.

Goal is to fabricate the plane

* INTERMEDIATE MILESTONE IS NEEDED
  1. Mechanical - motor
  2. Control - servos
  3. Landing gear
  4. Solar panel - Charging - milestone
October 2 2007
Meet with team members, Jean-Paul, Tai, Mohammed and discussed on presentation and week assignment to be completed by Friday, Oct 5, 2007. As a result of the meeting, Mohammed Shalud handles logbook email, Tai Quach handles creating the powerpoint, Valentine Okonkwo handles minutes and Jean-Paul and Valentine will ensure the motor is installed.

October 3 2007
Jean-Paul and Valentine installed the motor, and decided where the servos and some of the hardware will be placed on the drone.
9/21/07 The team sanded the whole plane to smooth the surface for the aerokote covering.

9/22/07 Worked on the ailerons and made them straight because they were warped very badly. Sanded them for the aerokote covering. Assembled the motor and carburetor. Motor does not yet fit in place. The motor wood mount is plane will need to be ground and blind nuts will need to be implanted on the mount for the four bolts that will hold the motor in place.

9/23/07 Assembled the wheels to the main landing gear frame.

9/24/07 Researched the types of nicad chargers. Researched the important basics of charging nicads.

4.5 x 1.5 in
Actual size
of solar cells
1.14 oz. weight
0.12 mm thickness
* Week 5 (09/29 - 10/04/07)

* Friday (09/29)

   We have meeting with Dr. Stelnakh. From (9:00 am - 11:00 am), we show him all the parts, turn in the report about Solar System. We also show him the plane which we just do sand papering to make smooth. However, Dr. Stelnakh require to proof the efficiency of solar cell, battery and chips. He request 6 slides of power paint every week.

   We also need make wood smaller in order fit install the motor. Therefore, we target for next week as requested by Dr. Stelnakh. We need to set out wind stone try next meet 6 slides power point presentation every week. Need a timetable of progress and also install some hardware.
**Invoice**

**Billing Address:** Tai Quach  
2674 Gray Rock Drive  
Fort Worth, TX 76131

**Shipment Details:**  

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**Total:** $12.90

**Warranty:** We provide a limited warranty on each Solar World product for a period of 120 days from the date of purchase. This warranty covers material and workmanship. Products damaged due to misuse are not covered under warranty. All returns for credit must be received within 30 days of purchase. All have the required RMA number and may be subject to a minimum 20% as a stock-taking fee. Shipping Charges are NON-refundable.

**Return Authorization:** If returns must have a Return Authorization number clearly marked on the outside of the package. Contact Solar World for this RMA number.

**Terms:** See "Terms" above. Solar World may defer shipments to customers with a past due balance. A finance charge of 1.5% per month (18% APR) will be added to past due invoices. Purchaser is responsible for all legal fees and costs incurred by Solar World in collection of this invoice in defaultness.
09/31 Sunday

After the meeting on last Friday, we divide the work for team members. I am responsible for the PowerPoint. Every week, we research, and also for the download. For the chips, we choose the RC-72-75 Star Cell to test. I also try to order the SMP3-37 chip to test in order to compare these chips.

10/02 (Tuesday)

I just received the SMP3-37 chip. I saw the weight is right. It's good idea to try. But we still to test.

10/04 (Thursday)

We plan the tasks for the next week. The team needs to determine how the sensor should be mounted. Should more area for the servos? In addition, a firewall should be implemented to separate the motor components and other components, because we need support to mount the front wheel control system. The firewall will be used to provide support to mount the servo and level system.
Meet with Dr. Stekhmalka on Friday, 28th September 2007 at 9:00 am to discuss the details about the project. Researched about NiCd charger and battery types. Also discussed about the details of the Solar fluoro and starter. Dr. Stekhmalka asked us to make a PDF for the log book and also said to record the meetings in MP3 format and also make the power point of weekly work. Power point will be the progress of the time and a timeline of progress.
* We discussed about the efficiency of the batteries.
* We discussed model of efficiency is better than a linear.
  * We also discussed about making a rotor from the tail of the plane in order to improve the landing of the plane.
* We planned to install the hardware in the coming weekend which is Oct 5, 2007.
* Meet with team members JPaul, Valentine & Tai and discussed the details about the solar details.
* We took some pictures and video clips of our work.