

EE4: Plan of approach

1. Introduction

The plan of approach is the document in which the task and the deadline are defined, also who will execute the task and who the task is executed for will be defined in this plan. It will give a detailed view of how the team will succeed in this task, what problems can occur and which assumptions are made.

Cause

The cause for this project was given by the Umicore solar team, they want a miniature solar powered vehicle as a prototype for the real umicar. This prototype has to be able to finish a certain trail and has to meet to certain criteria.

Approval & adjustments

This plan of approach is given to Tan Ye on Monday the 20th of February 2012. He will give his approval or request to adjust in week 2. If this plan is incorrect or incomplete, the team will adjust it until it is approved.

If during the project changes occur in relation to the definition of the task, the team will adjust the plan of approach and attach a comment in which the reason of this change is explained.

Word about the build of the plan

In the next chapter the targets, the possible problems and the assumptions are discussed. A work breakdown structure, a gantt chart and a cooperation contract are an addition to this plan.

2. Project description

Originator

The originator is the Umicor Solar Team, they want the team to develop a miniature solar powered vehicle that can function as a prototype and create budget for the real umicar.

Executor

The nine students at Group T: Joren Van Laethem, Seppe Asma, Tessa Aerts, Nathalie Andries, Robin Wauters, Vincent Peeters, Mathias Vanduffel, Victor Tamarit en Jeroen Belis are a team, they will cooperate together to reach the goals.

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Starting situation & backgrounds

This project is a part of the education “industrial sciences” at Group T, the students have to complete this project successfully in order to terminate their second bachelor year. The conditions that have to be met by the students are: inscription at Group T and having a basic knowledge of: electricity, strength of materials, mechanics, math and project work.

Goals

Main goal

The goal of this project is to build a solar powered race car that:

- Can finish the trail as fast as possible
- Has an innovative concept
- Is build as beautiful as possible

It is the choice of the team which of the targets they favor the most.

Side goals

It is also, this is also the goal of the originator, essential for the team that they get a better insight in the electricity, mechanics, strength of materials and math that are related to building this vehicle. This in combination with an exercise in cooperation, planning and organizing should give the team a better feeling of how theoretics are converted into practical situation

Problems

The most predictable problem is a lack of knowledge and skills. If this problem occurs the team will attempt to solve this by searching information their selves, if this still doesn't solve the problem they can ask the current solar team one question.

Another problem might be the lack of material, in this case the team has to search the material their selves, if they don't find the material or if it doesn't fit in their budget they have to search a creative solution to the problem.

A third problem could be to few time to make the deadlines, this has to be avoided by planning and organizing. This happens mainly by the work breakdown structure and the gantt chart.

Also the cooperation in the team can go wrong, this should be avoided by the coöporation contract. If something does go wrong this will be immediatly discussed and dealt with and this way preventing an inefficient cooperation.

In case of sickness or absence these persons can work from distance. If it becomes an issue tasks will be redivided.

Expected result

The team will build a vehicle which can, as described above, finish a certain trail as fast as possible with an as innovative and beautiful possible design. The team will always comply to the

deadlines.

Engineering

For this part of the task the team will build an adjust the vehicle in this way that the vehicle will finish the trail as fast as possible, and be as innovative and beautiful as possible. The team will also make a 2D drawing of the vehicle and make a sankey-diagram for top speed and half of the topspeed.

Enterprising

The team will make a strategical marketing plan for a real miniature model of the umicar. All the expenses and their origin will be added to the report in a clear table.

Communication

The cooperation will be accurately documented by the meeting reports, the cooperation contract, the work breakdown structure and the gantt chart. These will be added to the report. The team will also build a report in which the engineering and enterprising goals will be accomplished. An online process report, that complies with certain conditions, will be kept up to date.

Limitations

The team is limited in their assignment by the originator. The extra expenses are paid by the team and have to be under 200 euros.

By signing the underneath persons declare that they agree with this plan of approach, to execute the described tasks and to accept the described product.

Project leader Tan Ye

Team leader Aerts Tessa