Research assignment1

Deadline: 16.5.2021

Points: 15

Material requirements: PC or Laptop (no Tablet), Browser

Topic description

As future scientists, it is important to learn how to approach topics scientifically, which means asking yourself questions and trying to answer them in a structured way. Try to write your results in English so that scientists from all over the world can benefit from your findings.

We wish you a lot of fun with this and the following tasks!

Task description

- **Look for a suitable question**

Asking questions is something we've been doing since our earliest childhood, but it seems extremely difficult when it then suddenly comes to formulating a "scientific question." Essentially, it is about thinking about a question that you can test well (whether by reading different literature or by testing on your own) and then formulating it in such a way that it can be answered with "yes" or "no" or with "under the conditions ...".

A little help (if you can't think of anything suitable, you can use the following ideas as a guide):

o Robotics competition: while preparing for a competition, you may have certain questions or (by chance) come up with solutions that you would like to share with the community to further improve the competitions in the future.

o Engineering: What engineering concepts have you applied or are you planning to apply in the competition? Of course, you can also tell us about other projects you have been involved in.

o STEM projects: STEM stands for science, technology, engineering and mathematics - all (scientific) projects in this field are welcome.

If you are unsure about your selection, please feel free to contact us.

● **Describes the actual and target state**

Good, now you have hopefully found your question that you want to answer. Now you should deal with what is already known or can be done about this question (actual state) and what you want to know or be able to do after your research (target state). Especially for the description of the current state, a literature research is recommended - please indicate your sources accordingly in your document.

In the scientific world, the principle is that it is important to take already existing information into account and not to reinvent the wheel over and over again - at the same time, it is important to indicate from whom these ideas that you describe in your work originally came, since it is forbidden to sell other people's ideas as your own (in this case, one would speak of plagiarism).

● **How can you answer the question?**
Now try to answer your question, noting everything another person would need to replicate your experiment and be able to confirm your results.

Evaluation criteria

- Your submission is written in English
- Question is formulated in an understandable and meaningful way
- Actual and target state are sufficiently described and literature has been used
- The approach to answering the question is wisely implemented
- Jury evaluation: The jury evaluates the quality and creativity of the submission.