Brainstorming 1: factors to be considered before a project

Brainstorming 2: rules for teamwork

Brainstorming 3: accompanying training

Brainstorming 4: interim presentation

Brainstorming 5: presentation medium and oral presentation

case 1: the one-week-projekt

Task: Evaluate the work process with the given evaluation table

Project name:	Robotics
Subect:	IT
Grade/orientation:	10 I (technical-mathematical)
Duration:	Spring -7 weeks

Peter,Fynn and Gina are working together in a group.

Peter should evaluate the importance of the information and sources.
All of them looked for information at the library. At home, Gina surfed the Internet while Peter and Fynn played football. The next day, Fynn and Peter summerized the information at school. Gina brought her documents which were already prepared and was starting with the presantation layout. Fynn and Peter were working very slowly so that Gina had to summarize their parts to be able to put it into the presentation. She had to write five mails until they finally sent her their parts at midnight the day before the presentation. In the end, Gina sent the E-Mail at 3 am in the morning of the presentation date. Gina came up with the idea of putting a little film clip into the presentation which shows which steps had to be done to programm the lego mindstorms. She did the programming and created the clip.

In the diary, they wrote: Peter 33%, Fynn 33%, Gina 33%

Case 2:

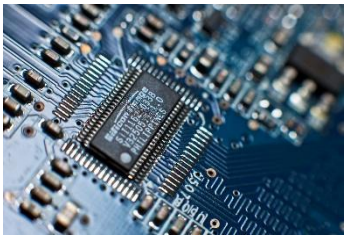
Project name:	Robotics
Subect:	IT
Grade/orientation:	10 I (technical-mathematical)
Duration:	Spring -7 weeks

Compare and evaluate the following two documents.

Document 1:

The document was uploaded in time

Group: how to program a robot date:
Names:



Robotics

Information: (good information)
etymology: robota: slave,servant
(all information, too much text, no structure)

History: too much detail, too long, unimportant aspects
robotic aspects: construction (very detailed) – electrical components – computer programming code
Human-robot interaction:
-speec recognition -gestures -artificial emotion - social intelligence
-robotic voice - facial expression - personality
programmes used: (good information)
-C/C++
-Python
steps of programming: (good information)
-
-
problems during programming:
-hardware problems and their solution
-software problems and their solution

Source:
https://en.wikipedia.org/wiki/Robotics#Human-robot_interaction
picture source :
https://upload.wikimedia.org/wikipedia/commons/f/f3/Computer_Circuit_Board_MOD_45153624.jpg
Book 1
Book 2
Book 3

Document 2:
The document wasn't sent in time. They passed the handouts in the moment of the presentation and forgot the title page.

Group: how to program a robot
Names:

Robotics

Roubot derives from the slavic „robota" and mean slave or servant. Historically... First of all **Robotics** is an interdisciplinary field that integrates computer science and engineering.[1] Robotics involves design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans. Robotics integrates fields of mechanical engineering, electrical engineering, information engineering, mechatronics, electronics, bioengineering, computer engineering, control engineering, software engineering, mathematics, among others.

Robotics develops machines that can substitute for humans and replicate human actions. Robots can be used in many situations and for many purposes, but today many are used in dangerous environments (including inspection of radioactive materials, bomb detection and deactivation), manufacturing processes, or where humans cannot survive (e.g. in space, underwater, in high heat, and clean up and containment of hazardous materials and radiation). Robots can take on any form but some are made to resemble humans in appearance. This is said to help in the acceptance of a robot in certain replicative behaviors usually performed by people. Such robots attempt to replicate walking, lifting, speech, cognition, or any other human

activity. Many of today's robots are inspired by nature, contributing to the field of bio-inspired robotics.

Certain robots require user input to operate while other robots function autonomously. The concept of creating robots that can operate autonomously dates back to classical times, but research into the functionality and potential uses of robots did not grow substantially until the 20th century. Throughout history, it has been frequently assumed by various scholars, inventors, engineers, and technicians that robots will one day be able to mimic human behavior and manage tasks in a human-like fashion. Today, robotics is a rapidly growing field, as technological advances continue; researching, designing, and building new robots serve various practical purposes, whether domestically, commercially, or militarily. Many robots are built to do jobs that are hazardous to people, such as defusing bombs, finding survivors in unstable ruins, and exploring mines and shipwrecks. Robotics is also used in STEM (science, technology, engineering, and mathematics) as a teaching aid.[21]

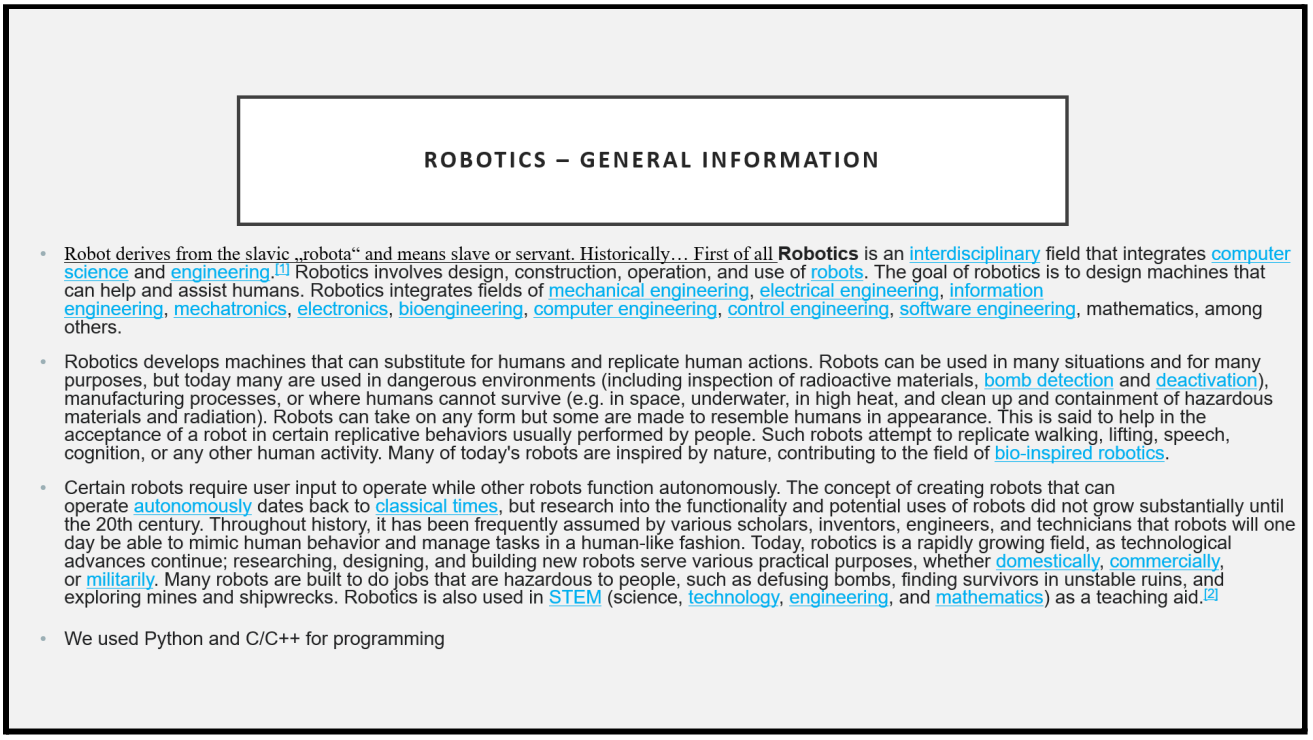
We used Python and C/C++ for programming

Source: https://en.wikipedia.org/wiki/Robotics#Human-robot_interaction

Case 3: Evaluate the presentation

The three group members set up a extensive presentation with 50 slides. The presentation is very filled. Every element is animated, every word flies over the screen seperately. There are a lot of pictures but there are no sources. Animations are acompanied by exagerated sound effects. Pictures are animated franatically. The PowerPoint slides are full of text and everything is read out literally. Nothing is highlighted. The group used the wrong powerpoint template.

Example of a slide:



ROBOTICS – GENERAL INFORMATION

- Robot derives from the slavic „robota“ and means slave or servant. Historically… First of all **Robotics** is an interdisciplinary field that integrates computer science and engineering.[1] Robotics involves design, construction, operation, and use of robots. The goal of robotics is to design machines that can help and assist humans. Robotics integrates fields of mechanical engineering, electrical engineering, information engineering, mechatronics, electronics, bioengineering, computer engineering, control engineering, software engineering, mathematics, among others.
- Robotics develops machines that can substitute for humans and replicate human actions. Robots can be used in many situations and for many purposes, but today many are used in dangerous environments (including inspection of radioactive materials, bomb detection and deactivation), manufacturing processes, or where humans cannot survive (e.g. in space, underwater, in high heat, and clean up and containment of hazardous materials and radiation). Robots can take on any form but some are made to resemble humans in appearance. This is said to help in the acceptance of a robot in certain replicative behaviors usually performed by people. Such robots attempt to replicate walking, lifting, speech, cognition, or any other human activity. Many of today's robots are inspired by nature, contributing to the field of bio-inspired robotics.
- Certain robots require user input to operate while other robots function autonomously. The concept of creating robots that can operate autonomously dates back to classical times, but research into the functionality and potential uses of robots did not grow substantially until the 20th century. Throughout history, it has been frequently assumed by various scholars, inventors, engineers, and technicians that robots will one day be able to mimic human behavior and manage tasks in a human-like fashion. Today, robotics is a rapidly growing field, as technological advances continue; researching, designing, and building new robots serve various practical purposes, whether domestically, commercially, or militarily. Many robots are built to do jobs that are hazardous to people, such as defusing bombs, finding survivors in unstable ruins, and exploring mines and shipwrecks. Robotics is also used in STEM (science, technology, engineering, and mathematics) as a teaching aid.[2]
- We used Python and C/C++ for programming

Source: https://en.wikipedia.org/wiki/Robotics#Human-robot_interaction (wasn’t mentioned in the presentation)

Case 4: Evaluate the oral presentation

Rita can't get her eyes off her moderation cards and hides herself behind them. They were printed out on A4 paper. She literally reads out every word and unnecessary details. Her notes are written in whole sentences. She doesn't look at the audience neither does she greet them nor present herself and the subject in an interesting introduction. She talks about 30 minutes. As every teammate had prepared just 10 minutes,the others had to shorten their parts so that they got through in time. Rita wasn't able to answer the questions from the teacher nor explain complicated facts she read out. After 10 minutes she sat down and hid behind the laptop screen which affected the intelligibility of speech. That's why the last rows weren't able to hear anything. She was repeating the same syntactical structure and the same words during the whole speech moving constantly from one leg to another. Lots of points haven't been clarified.

Her teammates prepared 10 minutes each but shortened their part spontaniously so that the can finish the presentation. They spoke freely and in easy words. When questions were made, they answered them in an easy way. They didn't seem nervous at all and had a logical structure. They used small flash cards with just important keywords written on them. They constantly hold contact to the audience by asking questions and implementing a crossword puzzle to activate them in the end.