Software-Engineering Design
with Prof. Dr. Wagner
SS15 Frankfurt University of applied Sciences

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Project: Elevator

1. Write down use cases to evaluate the requirements.
2. Please publish your organizational structure and name the selected Process Model!
3. Setup tools you plan to use during the development, e.g. SCM, programming language, etc., and give an explanation, why you made the selection!
4. Prepare a documentation structure!
5. Prepare a first Project Estimation

1. See Attachments (3 separate use case texts as .pdfs, we used Mr. Godehardts formular for it)

2. Positions in our team:
   - CEO Lars Sossenheimer
   - CTO Felix Hefner
   - Head of Sales Alexander K. Ochs
   - Marketing David Müller
   - Scrum Master Axel Ledwa

3. Process Model:V-Model
   We choosed the V-model because of its advantages in the flexibility. In fact that many projects need to make a few moves back to get a good and stable programm. Also there can be many changes during the development of the project and with the V-model we can implement them after a verification and validation step in one circle. It is also important that we have many tests because it is a safety critical system. Also we do not have pressure of tme so we do not need to use a fast model like extreme programming.

4. Our programming language will be Java because it has great libraries and it runs in the java virtual machine so it is platform independend. We are going to use Eclipse for the Java programming and Github for the version control. There is already a repository for the project and all of our team members created a account at github for joining it. We will use the programm GanttProject for creating a Gant chart, this is very usefull for getting an overview of the project. For creating UML class diagrams we will use a special plugin for Eclipse. If we need other diagrams like a use case diagram or a flow chart, we are going to do that with the open-source tool „dia“.

5. We did choose the following metrics out of the many possibilities you have for meassure SWE projects because these were the ones we found suitable and easy to judge:

    - Testability:
        - The project will be tested very often because of our choosed model.
    - Maintainability:
        - The project will be easy to maintain because the code will be not very complex and well structured.
    - Usability:
        - Since we have one button on each floor the user can not do anything wrong.
    - Reuseability:
        - The programm should also work on other Elevators with only two floors.
    - About the effort:
      Since the project is not very complexe yet, we can say that we might be finished with all the work of this feature set (including the implementation) in 2 or 3 weeks if all 5 team members are working well together. There are not huge risks (appart from that it is a safety-critical system, an elevator can hurt someone) during the development because all the requirements are as clear as it gets. Of course, there will be some changes during the project but nothing that you will have to change a lot but only additional features which do not change the already existing parst.