

1 Situation of freshmen in general:

- Start of studies = complete new period of life
- Suddenly responsible for themselves
- Have to structurize and organize themselves
- Have problems to prepare exams efficiently
- Struggle with performance requirements. [2]

2 Start under Corona pandemic:

- Hardly any face-to-face events at the university because of pandemic restrictions.
- Many students feel lost and lonely sitting in front of their online lectures and digital exercises. [1]

3 Aims of the project:

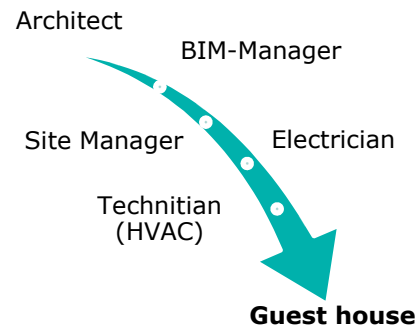
- Provide a good start especially for freshmen in demanding courses of Engineering.
- Get the students into contact with each other actively in small teams.
- Training of important student competencies like teamwork, communication skills and self-organization.
- Increase of motivation to deal with complex technical questions.

4 Requirements of the teaching concept:

- First impression on the challenges and solutions in complex building projects with many different technical trades.
- Understand the relevance of a good coordination of the individual contributions for the success of a construction project.
- Promote students' creativity and contacts.
- Project folder and model replaced the written exam at the end because of social distancing.

5 Design of the roleplay:

- Task should be complex enough so that all aspects of a complex building project occur realistically, but leave enough room for creative solutions and not overwhelm the freshmen with its scope and complexity.
- Should allow several creative solutions.
- Each team member had to take a certain role with a specific task.
- Could only be solved successfully if all team members work together and meet regularly for digital meetings (minutes).

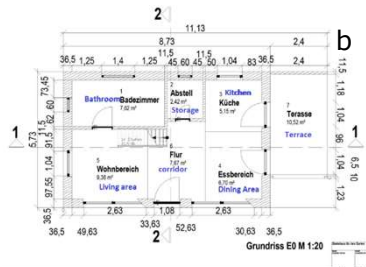


6 Implementation and results:

- Freshmen formed 8 teams and signed up via E-Mail up to a deadline.
- All the required specifications and the task definition were made available online.
- Students had 4 months to work on the project and to put together a project folder.
- The submissions were graded and all group members together received the same grade for this module.
- Possibility to contact three peers, but just very few teams needed further help.

7 Outlook:

- Freshmen who took part in the project gave consistently positive feedback.
- Good start to their studies based on the required cooperation in their teams.
- More interesting to actively deal with typical problems during a planning and construction process than simply listening to a lecture.
- Better understanding of the goals of this interdisciplinary course.
- More precise idea of their possible future professional life.



Figures: a: Front view of the 3D model b: floor plan with functional areas c: open top view of the 3D model of one of the groups [3].
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Literature:
 [1] Raillon, Philip "Erstsemester leiden unter digitaler Corona-Uni", Westdeutscher Rundfunk (WDR), Köln, 21.01.2021
<https://www1.wdr.de/nachrichten/erstsemester-einsamkeit-universitaeten-104.html>, retrieved 22.02.21
 [2] Bundesministerium für Bildung und Forschung (BMBF), "Studiensituation und studentische Orientierung – Zusammenfassung zum 13. Studierendensurvey an Universitäten und Fachhochschulen", Bonn, 2017
 [3] Bahnert, M.; El Tohami, J.; Fischer, D.; Karahan, E., "Projektmappe Integrales Planen und Bauen BIM-Projekt Gästehaus für den Garten Wintersemester 20/21", Aachen, FH Aachen, 2021