**A5: Project Reflection**

**Your learning experience for the concept you focused on.**

When starting this course, we had no idea what OpenBIM, BlenderBIM, IFC, and Python were. For the last 13 weeks, we have been working a lot with these programs and figuring out how they work and talk together. We are now able to work with the programs in combination and individual. Other than that, do we now also know the differences and benefits between IFC and Revit files.   
In this course, we went from Level 0 (only experiences in MATLAB and Revit) to being critical with the information in an IFC-file and being able to solve some of these mistakes.   
We consider ourselves as above Level 1 OpenBIM Modeller and might be on Level 2 since we have worked with BPMN modeling but we are not a Level 3 OpenBIM Modeller.   
We also consider ourselves as OpenBIM Ontologist on Level 2 since we can change and apply some classification and information, however, here we still have a lot to learn since programming in Python still gives us issues.

**Your process of developing the tutorial**

The course provided exposure to data collection methods and experience with OpenBIM, which could potentially be beneficial for our thesis. However, compared to other study areas we have been through in our education, we might rather choose to explore these since we feel stronger about these topics.

**Would you have preferred to have been given less choice in the use cases?**

Concerning the use cases, we believe that providing a narrower range of options could potentially hinder our creative freedom and limit the opportunities for learning through trial and error. However, it could also enhance our understanding of the course material by providing more structured guidance, and not spending too much time on small obstacles.   
We have used a lot of time on the different cases, but we have also used a lot of time thinking ‘Have we done it all right?’ ‘Is this okay?’ which has been very frustrating when using so much time.

**Was the number of tools for the course ok - should we have more or less? - if so which ones would you leave out?**

The number of tools provided for this course was well-balanced for the learning objectives. Introducing too many tools at once could have been overwhelming and possibly detract us from understanding each tool's capabilities. The current selection of tools nicely covered the essential aspects of OpenBIM, allowing us to gain a brief foundation for this concept.

**Your recieved feedback on the tutorial**

The tutorial addressed the use case we identified, and the use case was well-structured. However, the explanation of the 10% rule, the primary objective of the tool, lacked clarity, leaving users unsure of its purpose and application. Additionally, the problem itself was not comprehensively explained, making it challenging to grasp the underlying significance. Despite these shortcomings, the tool's functionality and the target audience were conveyed. It would also be helpful for the user if the IFC model was shown in the video.

**Your future for Advanced use of OpenBIM**

Since this course is a master course, we will soon write our thesis. However, this is the first time we ever heard about OpenBIM which leads to a narrow knowledge of this topic. Since we feel like a lot of this has been learning by during and not that much teaching, we do not feel the skills to do our thesis on this, even though it is an interesting topic. If we have heard and learned about this in our bachelor’s, we think it could be a possibility to do our thesis on this topic.

We think OpenBIM will be used in our professional life, e.g., we think it will be much easier to design future structures. Here architects will be able to design the structure in peace and the engineer will easily be able to check for errors (with calculations) this could be done for materials, design, indoor climate, and more. We think this will reduce the number of meetings and optimize the production.   
If a huge difference in the model happens everyone will also easily be told and can be up to date.

**Wrap up**

Our overall thoughts for these assignments are that a lot of time has been spent on A1-A3. Most of the time has been used on coding which has been very frustrating when the purpose of the assignment was not directly connected to the coding. However, it has been nice to get to know Python and, in the future, we will not hesitate to use the program which is really nice.

We think the OpenBIM part has been tough and for future peers, could it be nice to have a ‘partner group’ where you are doing the course and do some OpenBIM ‘talk’ to get the real feeling of what OpenBIM is and get the feeling of how to use it instead of just hearing about it.

As mentioned before have a lot of the focus been on using Python which sometimes might have lacked our information for the OpenBIM part which is sad. For future peers, one way to avoid this is to give better examples of how to e.g., subtract some values from the IFC file.