

DH2321 2022 Information Visualization Course Analysis

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Description of the course analysis process

The course instructor and examiner, Mario Romero, together with the course teaching assistant, Marko Petrovic, together analyzed the results of the course evaluation. They synthesized the main topics and included them in this report.

Changes introduced in 2022

1. We returned to giving the course as on-site lectures and presentations with the ability to attend online through zoom and we ended the recording of lectures and publishing Zoom-recordings as an encouragement to attend physically as per school guidelines.

Comparing results with previous years

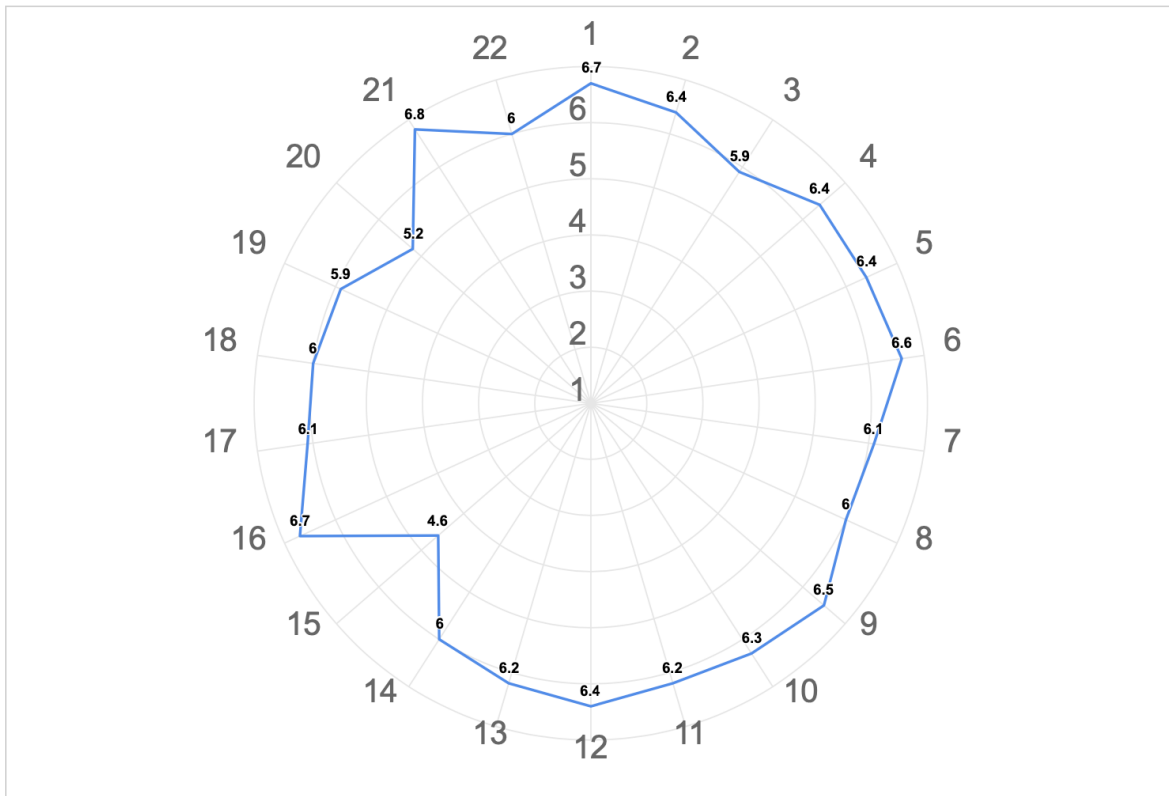
The students' results/grades were not at the exceptional level of the year before though still with an average of just under a B. Though in and of themselves higher grades should be considered better, the average grade sliding somewhat away from the top indicates there being room for nuance in the grading.

Analysis of the course evaluation with planned developments for the next round of the course

This offering's course evaluation participation was quite low at eight responses out of 43 course participants. This in and of itself is something to be addressed, probably by devoting class time to give students a better opportunity to fill out the evaluation form.

The course is a 6HP course. Using 27 hours of work per credit, that amounts to 162 hours of work which distributed over 9 weeks from week 3 to 11 gives 18 hours of work per week. Students on average reported working 18.3 hours per week. Two students felt the initial project was the more demanding one in terms of time, this will be monitored for the coming year.

Average response to LEQ statements - all respondents



All the LEQ survey statements were above 4.0, meaning all average entries are positive. The three statements we will focus on to analyze are 15, 19, and 20, which received the lowest scores last years' offering as well as this year. All three categories are improved.

Statement 15 is "I could practice and receive feedback without being graded." We gave the students the opportunity to practice and receive feedback without being graded but we asked the students to schedule time outside of class to do this. We also provided scheduled open office hours. Yet, most students did not take advantage of this opportunity. They seem to be under the impression this practice should happen within the course hours. This year, we attempted to schedule time with individual groups on a voluntary basis to provide feedback without grading. Student participation was negligible, the students opinion on the matter has improved a bit and this may even be a disagreement on the interpretation of the issue whereupon looking at the mandatory assignments the students do get graded on every one. We will contemplate scheduling mandatory short 15-minute meetings with the students and make sure that at least half of the team members are present and take copious notes to share with students that are not there. The main point is that the students have an opportunity to share their work without being evaluated or graded.

Statement 19 is "The course activities enabled me to learn in different ways". We designed the course to allow people to learn from different perspectives and enhance different skills. Some key members will focus on programming, some members will focus on graphic design, and yet another group of students may focus on evaluation. From the beginning we state that the students may choose and mix from skills they want to develop and focus on that. It is possible for them to learn different sets of skills. Maybe what we can do here is provide a

structure or a template that allows the students to pick and choose different skill-sets which they want to develop from the beginning so that they can choose the profile of the professional they wish to become through the acquired skills in the course. In the course we ask the students to perform a set of tasks that include programming, reading, criticizing, communicating, designing, doing graphic design, doing interaction design, evaluating, discussing, and presenting.

On this topic the survey results went up from a 5.2 to a 5.9 which is almost on par with the students opinions of the course in general and this topic will be monitored in order to evaluate if more effort in this topic is to be prioritized in the future.

Statement 20 says: "I had opportunities to influence the course activities". We designed the course carefully to be structured in such a way that we can fit relevant activities that are structurally aligned with intended learning outcomes from the beginning. There are very few opportunities to have a flexible structure of activities supporting the students' learning. Yet, we think that we can engage the students in thinking about different activities that they can do that relates to their learning both as part of the regularly scheduled meetings and as part of events which students handle on their own as team members. It is important to note here that we aim at enhancing the richness of activities at the students to to learn without increasing the responsibilities of and time required from the instructors.

The split averages by gender and by nationality of the students is not significantly different from the overall average and, thus, will remain marginal to this course analysis document.

To the general question "what was the best aspect of the course?", we received a number of replies. Here's a representative sample directly quoting the students:

- Project and the demos and presentations we had to hold ourselves
- The practical side of the course was great. Having the chance to work in a group and learn from others.
- Getting back to campus and meeting with other students was the best part of this course. But, in regards to actual course content, everything in relation to the projects were awesome, and I really liked the lectures, they were never boring. I really liked that the lectures discussed fundamental concepts within information visualization, and that the learning of visualization libraries etc was left to the student. Of course, this is reasonable, since it promotes varied implementations of project ideas.
- Final project and the fact that you are not limited in your choice.
- presentations, fun to try others projects and hearing their ideas
- To develop one online visualization tool using own idea.

For the question "What would you suggest to improve?", we have a number of answers which we synthesize below.

The feedback was very distributed. a selection of quotes:

- The lectures could be more [structured and] clear. I was confused about what the lectures would be about and sometimes the lectures actually didn't give me much knowledge.
- More Assistance and help with technical aspects programming etc.

- I wish we had more interactive lectures and some labs to learn more about the implementation part.
- **the quizzes need to be more reliable and stable.** One of the infographic sites crashed during the quiz for example. (Don't know how that could be seen in foresight)
- Sometime it would be stressful because of the limited time, especially the first project.

For the question “What advice would you like to give to future participants?”, we list all answers as we find they are valuable.

- Learn from your classmates. They know so much you could learn from
- Find a good group early
- Try to include different skills in your group!
- Make sure you have the data for the project **AS SOON AS POSSIBLE**. Make sure everyone on the team has a clear vision of what the end goal is (regarding the project).
- Spend another time, collaborate with other students and be prepared that your initial idea for the project can be modified in the future
- enjoy the course, and take the time to listen to the chapters a couple of times to grasp the material.

Finally, to the question “is there anything else you would like to add?” Oh, we included all replies as we found them particularly encouraging.

- Great course. One of the best I've had.
- I liked this course and the best point that distinguishes this course from others is the great collection of literature and examples available on Canvas. You can read about the course before taking it.
- This course brought back my energy and motivation to study after staying at home for such a long time. Thank you.

Proposed changes for 2023

- Re-structure the lectures to give more time to visual perception.
- Redesign the tests to give the students more time and have more questions that are stable. For example, for the tests where students use online visualizations, we can't use live data.
- Re-introduce external offers for final projects.
- Re-define first project to be individual.
- We introduce a voluntary tutorial of D3.