INFO9016-1 Advanced Databases

Project and Assignment 4

Project: Creating a 1-hour lecture

The project's objective is to create a 1-hour lecture on a subject from a list available on eCampus. The research you conduct for this lecture will be repurposed for a tutorial or report in which you present the subject differently (e.g., focussing on details you could not include). Groups may also propose their subject, but these will have to be approved by the lecturer. Ensure that you inform the lecturer of your chosen subject and meet with them to discuss the scope of your lecture. **To make the PDF of your presentation available to the others, you will need to send it at least the day before (COB—close of business day).**

Assignment: Create a Tutorial or a Technical Report

Depending on your chosen topic, you may submit a tutorial or a technical report. For technical report requirements, please refer to assignments 2 and 3. For the technical report, you will need to present the topic based on your research based on several sources.

- If you choose a topic, then you write a technical report. Your report should be approximately 4 to 6 pages long[1] and written clearly, concisely, and objectively. You should also cite papers and other sources you consulted at your report's end. The report should be structured as **a technical paper** and include a title section (title, names, date), an introduction, a "middle," an end (e.g., conclusions or summary), and references. You may include appendices after the references. **Appendices are not included in the page limit as long as their presence makes sense and is reasonable.**

- **If you choose a technology, then you create a tutorial.** Your tutorial should be approximately 6 to 8 pages long[2] and written clearly, concisely, and objectively. You should also cite papers and other sources you consulted at your tutorial's end. The tutorial should be structured as **a technical report** and include a title section (title, names, date), an introduction, a "middle," an end (e.g., conclusions or summary), and references. You may include a preamble for setting up the Jupyter notebook; e.g., all the libraries that need to be installed or things that need to be configured for the tutorial. The preamble(s) are not included in the page limit.

In both cases, dedicate one section to the process, including how tasks were distributed and who was responsible for what task.

Evaluation Criteria

The goal of the fourth assignment is to *repurpose the research you conducted for the 1-hour presentation to prepare a technical report or tutorial*, but that could not be included given the time constraints of the lecture.

- For example, a group conducts research on a topic for a 1-hour lecture. They find 5 interesting use cases but only have time to discuss 2 in more detail for the lecture. The technical report could describe all five in more detail.
- For example, a group conducts research on a technology for a 1-hour lecture. The technology supports several queries, but the group only has time to provide a detailed example of two types of queries. The tutorial could provide examples of all types of queries. Another example could be that students focus on a query language for the lecture but spend more time on another aspect (e.g., transaction management or the setting up of clusters) for the tutorial.

For the evaluation criteria of a technical report, the following grid is used:

[1] You can use document class article with default settings in LaTeX, for example.
[2] Jupyter Notebook pages without outputs.

Criterion	Weight Technology	Weight Topic
The paper accurately and concisely presents the topic and demonstrates an understanding of its content. The report should include compelling examples if the group chooses a technology over a topic. The report should include examples that appear outside the lecture.	50%	30%
The paper should critically evaluate the topics: strengths and limitations, advantages and disadvantages, applicability in certain use cases, etc. These depend on the chosen topic.	15%	15%
The report presents the topic's relevance to current database research and/or practice. The paper provides examples of how other researchers or practitioners have used the topic in the field. If the group chooses a topic over a technology, then the group should demonstrate significant research on the impact and relevance of the topic.	15%	35%
The report should be well-written and free of errors. It should be organized and easy to follow and should use an appropriate citation style.	10%	10%
The paper includes content that did not appear in the lecture in an in-depth manner.	10%	10%

For the evaluation criteria of a tutorial, the following grid is used:

Criterion	Weight
The tutorial should cover all the required sections and provide a comprehensive overview of the database technology.	20%
The tutorial should be aimed at people with a background in relational databases. The example that has been found, curated, or created for this tutorial is compelling (i.e., "make sense for the chosen database technology"), described, and used throughout the tutorial.	20%
The tutorial itself should cover the most important aspects of the chosen database technology. The tutorial should start with a simple example (i.e., a "Hello World" query) and provide examples of more advanced features and functionalities. Each function that is presented should be introduced and motivated. Ideally, the demonstrated features provide evidence for the information presented to the reader in the various sections. You may also provide examples of things that are difficult or impossible to do.	40%
The tutorial should be well-written and free of errors. It should be well-organized, easy to follow, and should use an appropriate citation style. You may use hyperlinks instead of references when writing tutorials, but avoid plagiarism. In other words, make sure you adequately cite or paraphrase sources.	10%
The tutorial presents topics, examples, and details, … on aspects that did not appear in the lecture.	10%

For the evaluation of the 1-hour lecture, the following grid is used:

Criterion	Weight
Language: - Is the language used clear, professional, and scientific? - Is the language used clear and concise?	05%
Lecture's objectives and scope: - Did students formulate the objectives of the lecture? To what extent did the lecture fulfill the objectives? This includes covering the required subject matter, addressing specific learning outcomes (What will students have learned?), and adhering to the approved scope of the lecture. - Was the scope appropriate for a 1-hour lecture? (Did students discuss and communicate a scope before the lecture?)	15%

Attitude and presentation style: - Do the students have a caring attitude appropriate for scientific presentation? - Is the argument clear and straightforward? - Were the correct audiovisual instruments used? - The quality of visual aids, such as slides, graphics, or multimedia elements, used to enhance the lecture. Attention should be given to these materials' visual appeal, relevance, and effectiveness.	15%
Structure: - Are the subject and the literature clearly formulated and summarized adequately so that a non-specialist academic audience understands this presentation? - Did students cover the subject in (sufficient) depth and accurately? This includes relevant theories, concepts, and supporting evidence. - Did students effectively communicate ideas, concepts, and information to the audience? This includes the organization and structure of the lecture. - Did students incorporate relevant and credible supporting materials, such as academic references, research findings, or real-life examples?	40%
Defense: - Can the students answer the questions put to them appropriately and correctly?	20%
Time Management: - Do students demonstrate the ability to effectively manage time within the 1-hour lecture (which includes time for questions and answers)? The lecture should be appropriately paced, allowing sufficient time for each topic while ensuring the presentation stays within the time limit. **- Students will be cut off and have no mark for Q&A (defense) if they exceed the time limit, leaving no time for questions.**	05%

Each criterion is graded on a scale from 0 (non-existent) to 5 (excellent). *Half points are rarely rewarded* and will be motivated. At the lecturer's appreciation, aspects may be rewarded a 6/5 (exceeds expectations), but *these are rarely given*. The paper's or tutorial's overall grade is computed as a weighted average multiplied by four. This grade will not be rounded and will be considered as-is for your final grade.

You are encouraged to ask questions on eCampus and in class. You are encouraged to discuss your work with peers, and you are encouraged to acknowledge your peers in your paper or tutorial. Make sure you correctly cite and paraphrase other sources. Plagiarism and academic misconduct are not tolerated. If you are not sure about something, **ask the lecturer**. If you need help with academic writing, Justin Zobel's Writing for Computer Science is highly recommended.