IDEA: VISUALIZATION HUB

FUTURE LEARNING INITIATIVE 2020
Technical University of Muncih

Motivation

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Visualization has always been of interest to educational and didactic research. And in the last years, start-ups, such as brilliant.org and many others have made visualization their very own unique selling point within the education industry. Afterall YouTube channels like 3Blue1Brown or NGOs like Khan Academy often convince for no other reason but better visualization of complex topics. The same goes for some scientific blogs.

This is where smart and modern universities can improve their teaching. Throughout our academic life at TUM, we have encountered numerous examples of good teachers with unnecessarily dull slides or blackboard sketches making their otherwise interesting lectures more than just improvable.

Especially in times of social isolation and public shut-down, where students and teachers are limited in their ways of communication, a visual component can underline the content of lectures.

Problem

Scholars and faculty employees are generally rather busy with their regular workload, so, unfortunately, aspects like the visual enhancement of slides and materials are often dropped in favor of more urgent tasks. More importantly, many lecturers don't have the expertise nor the proficiency to visualize content effectively. And while some at least manage to have some sort of visual representation, animation or at least interaction are widely out of scope, but would significantly improve the impact of their teaching

Proposal

There are many ways to tackle this issue. In our opinion, the most efficient one would be to implement a centralized service hub for visualization and presentation. This hub would consist of a small number of employees that would take in tasks from teachers and researchers to visualize e.g. a certain algorithm or data structure. These jobs can also easily be done remotely and would be a suitable opportunity for students to earn money. The respective teacher could sketch how the visualization or animation would have to look like and might hand over pre-existing files, such as graphics or icons. They would ideally do so way ahead of any deadline, and the hub would subsequently queue that task into their list and work it off dynamically. There could be one single hub for TUM, but single departments could even host their own services, if the need is given..

Synergy and Outlook

As visualization itself is relevant to teaching content as well, we suggest exploring possible synergies throughout TUM's curriculum. There could be an opportunity to offer new modules or to cooperate with existing modules, e.g. at the Chair of Architectural Informatics, which used to offer software-specific training in illustration and rendering.

Overall, we think, well-visualized teaching is essential for modern education and thus more than a trend or mere aesthetic. It is even more critical for remote ways of teaching and it makes every part of science verifiably more accessible. Thus, we encourage you to have a look into it and to reach out to us for further questions. We'd be happy to work with you on this initiative.

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