Bachelor Thesis Review

Faculty of Mathematics and Physics, Charles University

Thesis author	Sára Goldscheiderová
Thesis title	Interactive pandemic simulation to encourage critical thinking
Year submitted	2024
Study program	Computer Science
Specialization	Programming and Software Development
Review author	RNDr. Jakub Klímek, Ph.D. Reviewer
Department	KSI MFF UK

Overall

	good	OK	poor	insufficient
Assignment difficulty			X	
Assignment fulfilled		X		
Total size *... text and code, overall workload*				X

The assignment of the thesis is vague as to the expected quality, complexity and scope of the result. It is stated that the underlying model does not have to be complex, and the simulation implementation should be simple and engaging. However, a simple model and a simple visualisation implementation taken from the D3.js library as presented in this thesis has insufficient scope compared to expectations for a bachelor thesis. Yet, technically speaking, it fulfils the assignment. If the model is to be simple, that is fine, but then it cannot be considered a contribution of the thesis. Therefore, the the main contribution of the thesis must be in the quality and scope of the implementation of the simulation itself. Unfortunately, this is not the case here, as the implementation is rather simple - it is 600 LoC, including comments, and including re-used code from the selected D3.js visualizations. The actual contribution is then the implementation of the 40 lines function `spreadInfection` and 70 lines of code for creating data for the simulation.

Thesis Text

	good	OK	poor	insufficient
Form *... language, typography, references*	X			
Structure *... context, goals, analysis, design, evaluation, level of detail*		X		
Problem analysis		X		
Developer documentation			X	
User Documentation			X	

The quality of the text itself is good, as is the problem analysis part, which nicely explains the qualities expected from a simulation, and what are the common problems. The documentation scope fits the scope of the software. Therefore, it is quite minimalistic.

Thesis Code

	good	OK	poor	insufficient
Design *... architecture, algorithms, data structures, used technologies*				X
Implementation *... naming conventions, formatting, comments, testing*				X
Stability		X		

The design of the simulation is, again, minimalistic. So, while the quality of the design as presented is OK, the scope is insufficient compared to the usual scope of a bachelor thesis. Moreover, the usage of constants directly in the code (e.g. in the `drawSimulation` function) instead of supporting their configuration is bad practice.

Overall grade Failed
Award level thesis No

Date 22.5.2024 Signature