Laboratory for Parallel Programming

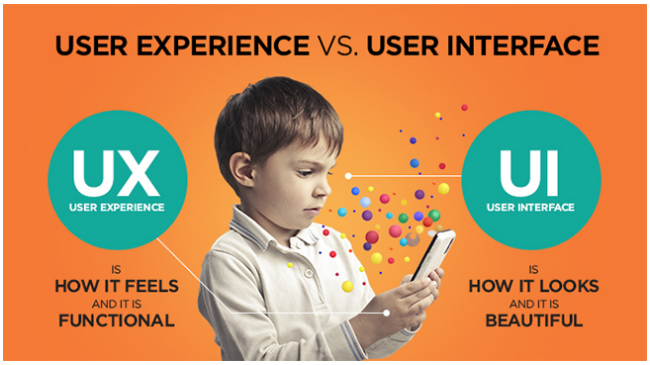
TECHNISCHE UNIVERSITÄT DARMSTADT

Bachelor's or Master's Thesis

<Designing a User Interface (UI)/ User Experience (UX) for a Parallelism Discovery Tool>

Motivation

The Laboratory for Parallel Programming has developed a tool called DiscoPoP which identifies parallelism opportunities in sequential programs. We have tested the tool on various benchmarks and large applications. At the moment, DiscoPoP is based on the command line to analyze programs. Also, it reports the parallelization opportunities in a text file. For more information about DiscoPoP, please have a look over the web site [1] or its Github repository [2].



Desinging a UI/UX for DiscoPoP.

Task

In the thesis, first we would like to collect user experiences and research user interface designs for the interaction with DiscoPoP. Based on the experiences and the studies, we would like to design a graphical user interface for DiscoPoP. We would like to implement the interface as an extension of Visual Studio Code because it provides many features for compiling programs and debugging them.

- A survey on user experiences and user interfaces in the interaction with DiscoPoP
- Integration of the GUI into the VSCode Task system
- Showing the identified parallelism opportunities in the source code

Requirements

- Must have: C/C++
- Plus: Javascript / Type script and Nodejs

Contact

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References

[1] http://www.discopop.org

[2] https://github.com/discopop-project/discopop

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