Group Project

**AMIV UX: From API to UI**

Recent advances in the *application programming interface (API)* of the AMIV [1] significantly facilitated the implementation of common use-cases which the AMIV faces in their day to day business. Even though the majority of people working at AMIV have a tendency to favor the lower levels of the application stack (e.g., hardware, or hardware near protocols), using the API directly for a longer period of time turned out to be rather cumbersome. It has therefore been suggested [2] that a *user interface (UI)* should be developed that increases the *user experience (UX)*.

It has been noted on many occasions, that a simply having a user interface does not mean that said user interface satisfies users. Thus, the term user experience was coined, which addresses common issues, and focuses on a satisfying user experience, rather than exposing the underlying mechanisms in a 1 : 1 fashion. The difference between UI and UX is illustrated in Figure 1.

We therefore claim that it is time to address these issues, and to develop a new, user-friendly user interface, which works on top of the existing AMIV REST API.

The goal of this project is to analyze the functional requirements of the AMIV frontend, to select appropriate tools for development, and also for documentation, and to implement the required features.

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**Figure 1**: Simply allowing a user to interact with a service does not automatically lead to a good user experience.

[1] [http://www.amiv.ethz.ch](http://www.amiv.ethz.ch)


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Detailed Project Outline

In the following, we outline the tasks of the students.

- Analyze the functional requirements of the frontend, and categorize them.
- Search and evaluate tools for successful developments, including: Project planning, project documentation.
- Search and choose an appropriate development environment, including: Programming language, libraries, ... 
- Design a responsive user interface.
- Implement the required functionality.
- Test the required functionality.

The Students’ Duties

- One meeting per week with the advisors.
- A final presentation (15 min) of the work and results obtained.
- A final report (English or German), presenting work and results.