

Design of a smart emotion-aware reflection system for teachers.

Supervisors: Kshitij Sharma and Sofia Papavlasopoulou

Place: Trondheim

Introduction

The focus of the thesis is to develop an intelligent system that helps the teachers understand their students in the classroom, specifically when they are engaged in programming activities. We want to use the facial expressions and hear-rate of the students along with the position of the teacher in the class to design a reflection tool that will inform the teacher about their activities and students' emotional states during the programming sessions.

Thesis Description

In a first step, the student(s) will design and implement the reflection tool. Afterwards, they will conduct a small user study in order to test the usability of the system with a 2-3 teachers. Once the usability of the system is established (with the last changes in the system), the student(s) will conduct a larger user study to evaluate the effectiveness of the system. Finally, the candidate(s) will analyse the collected data and write up his/her thesis.



Requirements

The ideal candidate will have a background in system design. Solid programming skills and an interest in hands-on development and experimentation is also a requirement.

Programming skills: Python.

Expected Project Work Packages

1. **WP:** Literature review on reflection systems for teachers.
2. **WP:** Iteratively develop and test the system.
3. **WP:** Conduct a usability study of the system and finalize the development.
4. **WP:** Conduct a user study to test the effectiveness of the system.
5. **WP:** Write-up the thesis.

Thesis grading scheme

Grade	Description of the evaluation criteria
A	The candidate demonstrates excellent judgement and a high degree of independent thinking. Significantly exceeded expectations with original contribution.
B	The candidate demonstrates sound judgement and a very good degree of independent thinking. A very good performance, the candidate has exceeded expectations.

C	A good performance in most areas. The candidate demonstrates a reasonable degree of judgement and independent thinking in the most important areas, the expectations are met but not surpassed.
D	A satisfactory performance, but with significant shortcomings. The candidate demonstrates a limited degree of judgement and independent thinking.
E	A performance that meets the minimum criteria, but no more. The candidate demonstrates a very limited degree of judgement and independent thinking.
F	A performance that does not meet the minimum academic criteria. The candidate demonstrates an absence of both judgement and independent thinking.