1 Projektvereinbarung

Verfasser/innen: Joel Schaller **Klasse:** BEN21
Titel: CircuitVoyager pre1

1. **Thema** (Hintergrund, Überblick, gegenwärtiger Wissensstand)

Develop a tiny extension Board for the STM32H747i-Disco Board, to allow it to act as a DMM. Additionally, a software, that measures the DMM Values and displays them on the Touch Display. If there's more time I could extend the Project with Measurement Logging via a SD-Card or over USB to a Desktop application.

2. **Eigene Fragestellung / Untersuchungsgegenstand**

2.1 Eigene Fragestellung (Leitfrage)
How to implement the following functions / protocols? (QSPI Flash, SDRAM, TouchGFX, Mipi DSI) and if the time is sufficient: (FAT with SDcards, Bootloaders)

2.2 Hypothese (Vermutung über das Ergebnis)
I want to learn, working with High Speed MCUs and implement such protocols.

2.3 Methoden und Vorgehen (mindestens 2 Methoden müssen angewendet werden)
HW-Dev (Altium), SW-Dev (STM32Cube with HAL), Documentation in LaTeX

2.4 Hilfsmittel
Internet, literature

2.5 Kontaktpersonen, Informationsstellen, Institutionen
Teachers, Instructor at ETH, Dad

3. Persönlicher Bezug / Motivation

In the next 2 Years I want to develop my own DMM, because I think there's much to improve with standard DMMs as Fluke. For Example: Touch Display, Rechargeable Battery…

4. Bewertungsform

This Project will only be done by me. Time: about 28 lesson and unknown time at home.
Project delivery on: 12.01.2023

5. Besprechungstermine mit Lehrperson (vorgeschrieben sind zwei Besprechungen)

Termin 1: 27.10.2023
Termin 2: 01.12.2023

Datum: 15.09.23 Die Lernenden: .....

Datum: 15.9.23 Die Lehrperson: .....

DMM = Digital Multimeter
TouchGFX = Graphical Designer for Embedded Touch Displays