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Project: SMS Machine

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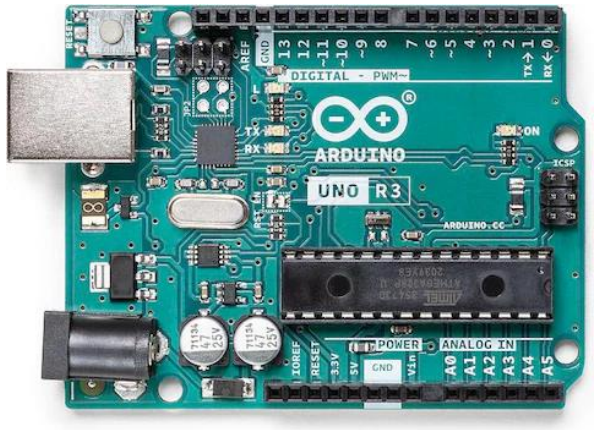
1. Original Project Goal

Build a functional SMS sender that allows a user to input a message and a phone number, then send the SMS.



Sources:

https://www.digitec.ch/de/s1/product/arduino-uno-rev3-entwicklungsboard-kit-5764177

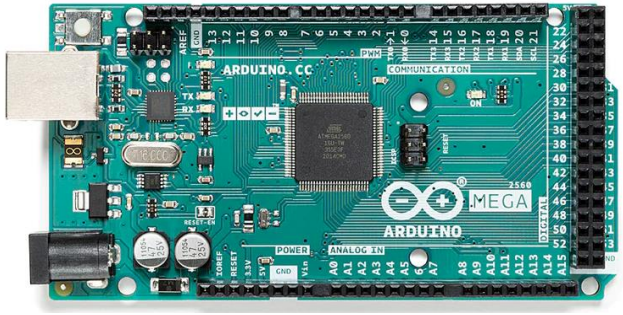
https://www.elecbee.com/de-17647-SIM800L-GSM-GPRS-Module-Board-MicroSIM-Transfer-Card-Core-Board-Quad-band

2. Achieved Project

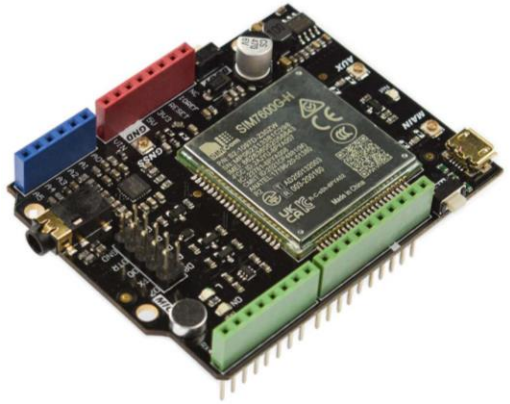
- Created a functional SMS sender and expanded its capabilities to include receiving messages in real-time
- Messages are displayed on a touchscreen for easy reading
- Integrated a keyboard to enable efficient typing for sending messages

3.1 Requirements Hardware

- Arduino Mega 2560 Rev3



- SIM7600G-H CAT4 4G (LTE) Shield



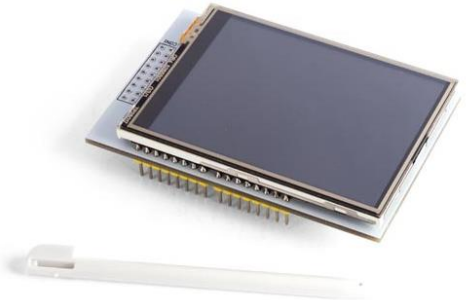
Sources:

https://store.arduino.cc/products/arduino-mega-2560-rev3?srsltid=AfmBOorwEeYy7s2qcTzN5GOUxc-M-CN5Xt0ytvwaoTFtpRNmSHgr4l-g

https://www.dfrobot.com/product-1834.html?srsltid=AfmBOoqXN7ZD3WUtkvBUQ24M8wrbbQ90RmFUz0Me_Q6Ze3wHn84OU3M8

3.2 Requirements Hardware

- Touchscreen Display: Whadda WPSH412



- Speaker: Piezo Buzzer

- PS/2 Keyboard

Sources:

https://whadda.com/product/2-8-inch-touch-screen-for-uno-mega-development-board-wpsh412/

https://www.digitec.ch/de/s1/product/rnd-piezo-summer-durchgehend-75db-29khz-18v-20-70c-elektronikmodul-52637838

https://www.digitec.ch/de/s1/product/logilink-id0019a-de-kabelgebunden-tastatur-12343508

4. Requirements Software

Standard Arduino and C-Libraries:

- Arduino.h
- stdio.h
- stdlib.h
- string.h

Libraries used for the touchscreen and SD-card:

- MCUFRIEND_kbv.h
- Adafruit_GFX.h
- TouchScreen.h
- SPI.h
- SdFat.h

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5. DEMO

6. Challenges and Learnings

- Hardware Conflicts with Wiring and Connections
- SIM Card Issues and Integration
- Sim Module Connection Problems
- Short Circuit in MP3 Player
- Component Testing and Integrations
- External Factors

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Thanks for your Attention!

Questions?