Co-funded by the
Erasmus+ Programme
of the European Union

System for feedback of school lunches

Countries:	**Slovenia** 	**Slovakia** 
Suitable for grade:		**3 - 4**
Specialization:		**Technical lyceum Electrotechnics**
Responsible teacher:		**Michal Copko**

Project description:
Goal is to build system for feedback of school lunches, that will consists of two parts – voting terminal and server collecting and displaying data. Voting terminal should have buttons for feedback (positive, neutral, negative) and light for showing that vote was accepted. Server part will have database for collecting data and part for displaying results as table or graph. System should limit or avoid fake votes (e.g. if one student will vote multiple times).

Project tasks:
Student #1 (SI):

- Design circuit for voting part of feedback system
- Design PCB for microcontroller with connected buttons (or other input method) and Ethernet/WiFi module
- Prepare microcontroller program for reading student response, send it to server and show that vote was successfully accepted
- Test the functionality of system

Student #2 (SK):

- Prepare database for storing data of votes
- Prepare script for receiving vote, send it to the database and respond with successful or unsuccessful writing to the database
- Prepare website for displaying results of votes for this day and days in past

Optional:

- Voting terminal can have display (LCD display, RGB LED, LED bar, …) to show average results
- Web results can download name of meal from canteen menu website

Success criteria:
Project will be successful after construction of working voting system that will accept students votes for lunches, store them in database and display results in user friendly interface. Project should also follow safety rules according to possibility of placement in moist area (steamy environment). All project parts should be cost efficient and software code should be well designed (time and memory efficient, without bugs). Project documentation has to be prepared based on given template in the range of 15-25 in English and native language.

Developed hard skills: Programming, debugging, electronic measurement, working with optoelectronic parts, working with datasheets, programming, working with network protocols, computer graphics, computer networks, CAD systems, design of PCB, soldering, using encryption and/or data integrity check
Developed soft skills: Cooperation, working with computer, planning, teamwork, tracking progress, communication in foreign language, responsibility, compliance with agreements, respect deadlines, problem solving, finding and processing information, design thinking, following safety and ergonomic rules