01.Project summary (2023-2024-S019-S020-S021)

P003-2023-2024 CO2 Monitor

TEAM	**Team members:**	S019 Krajčovič Matúš, Bc.
		S020 Kretinin Mykyta, Bc.
		S021 Langová Anetta, Bc.
	The team vision:	Our team vision is to make a device that measures the indoor CO2 concentration - air quality - with visuals and sounds to alerts people when the CO2 concentration is too high. Each room that often contains multiple people is in danger of high CO2 concentrations - schools, workplaces healthcare facilities and many more. Thus, anyone can be the end customer for our device.
	The team mission:	To create a team where are we are united toward the same specific goal. To cooperate with each other and create something from the thought to the object.
	The team resources:	• 01.ABOUT ME (2023-2024-S019) • 01. ABOUT ME (2023-2024-S020) • 01. ABOUT ME (2023-2024-S021)
PROJECT	**The project purpose:**	To define business, system and technical layers in order to create product CO2 sensor.
	The strategy:	1. analysis of the existing solutions, available sensors 2. 3D model for CO2 sensor 3. integrating the CO2 sensor with micro:bit 4. building a functional prototype
	The main project goal:	Our main goal is to make a fully functional CO2 sensor prototype with documentation - what did we create and how did we accomplish it. At the end, device capable of detecting the CO2 concentration in the room and notifying people if the concentration get under defined threshold will be the solution.

	The project roadmap:	• Week 8, 9 - gather sources about micro:bit and CO2 sensors integration • Week 9, 10 - design the 3D model • Week 11 - print the 3D model • Week 12 - integrate CO2 sensor to microbit, make a functional prototype, assemble the solution
	The project resources:	• project summary 03.PROJECT SUMMARY (2023-2024-S019) • Bitbucket Project_003_SensorCO2_STHDF_2023-2024
	The product purpose:	The purpose of CO2 Monitor, as the name suggests, is to monitor the indoor air quality to ensure proper ventilation and fresh air circulation, which is vital for occupant comfort, productivity, and health.
	The expected effort on project:	2h per week per team member
	The used SW systems	• draw.io • Enterprise Architect • LemonTree • TinkerCad • PrusaSlicer • micro::bit Python Editor • BitBucket
PRODUCT	**The product costs (estimation):**	• Micro:bit 28,70€ • Micro:bit Breakout 5,43€ • CO2 sensor 7,88€ SPOLU: 42,01€
	End customer (user base):	Persons who work inside (students, teachers, scientists, engineers, …)
	The product functions:	• measure CO2 concentration • inform about CO2 concentration
	The product success criteria:	Sensor is easy: • to be held in normal environment (home, work, …) • to use • to understand the needed information
	The prototype results:	The prototype meets the requirements and product success criteria. In the future it is possible to create the product based on created prototype.