

# PV284 Colloquium Projects Topics Examples

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Here you can find a list of project topics proposals. The list is not exhaustive and you are encouraged to bring your own project idea.

Project topic proposals:

- Simple Bluetooth Usage Example. The client node reads sensor data and sends it to the Server node for processing and presentation.
- Interactive menu for STM32. The client node reads the rotary encoder to navigate through a menu. The selected item is sent via Modbus protocol to the Server node to switch output.
- Smartphone controlled application example. The smartphone application sends a command to the IoT node via BlueTooth. The IoT node displays the command on LCD monitor.
- Historical sensor data analysis. The sensor node sends gathered data to the broker node via Canbus. Broker nodes based on RockPi S module forward data to the Grafana in the cloud at [stratus.fi.muni.cz](http://stratus.fi.muni.cz).
- Simple Canbus example. The client grabs data from the environmental sensor and sends it to the Server node via Canbus. The server node displays data on the LCD display.
- Simple OLED display example. The client node reads data from the sensor and sends it to the Server node via pure RS-485. The server node displays data on the OLED display.
- Simple timer application. The client node sets the timer using the rotary encoder and starts the countdown. It triggers a signal when counting to zero.
- OLED display, rotary encoder, and environmental sensors connected to the ESP32 MCU. Data gathered from the sensors are displayed on the OLED and the output is controlled by the rotary encoder.