



## SPRINT 7

# Sprint 7 - Epics and Stories

- ▶ **Stories for Epic - ComoNeo Analog Inputs**
  - ▶ **Send Data to SPI** (Story Points - 13)
  - ▶ **Analyze Memory Limit of PRU** (Story Points - 5)
  - ▶ **Interfaces Design** (Story Points - 13)
  - ▶ **PRU Shared Memory** (Story Points - 13)
  - ▶ **Create a test for ComoNeo analog input** (Story Points - ???)

# Story - Send Data to SPI

- ▶ Epic - ComoNeo Analog Inputs
- ▶ Story points - 13
- ▶ Description
  - ▶ As - a developer
  - ▶ I need to - send simple message to SPI interface
- ▶ Product owner acceptance criteria
  - ▶ Prepare a simple program to work with SPI interface - the program is compilable and possible to load into PRU
  - ▶ Enabled SPI and GPIOs which are necessary to control DAC in the device tree
  - ▶ Send simple message to SPI interface (possible to measure it by an oscilloscope)

# Story - Send Data to SPI

- ▶ Tasks Backlog
  - ▶ Send constant data to SPI interface
  - ▶ Test SPI without PRU
- ▶ Tasks In Progress
  - ▶ Compile and Run Simple SPI program (Filip Starý)
- ▶ Done Tasks
  - ▶ BBB for All (Rastislav Kováč)

# Demo - Send Data to SPI

# Story - Analyze Memory Limit of PRU

- ▶ Epic - ComoNeo Analog Inputs
- ▶ Story points - 5
- ▶ Description
  - ▶ As - a developer
  - ▶ I need to - measure the size limit of PRU message system
  - ▶ To -
- ▶ Product owner acceptance criteria
  - ▶ Measure PRU message size limit
  - ▶ Measure if we are able to write the whole curve to PRU

# Story - Analyze Memory Limit of PRU

- ▶ Tasks Backlog
  - ▶ ...
- ▶ Tasks In Progress
  - ▶ ...
- ▶ Done Tasks
  - ▶ Calculate if we are able to write the whole curve to PRU (Tomáš Bujna)

# Demo - Analyze Memory Limit of PRU



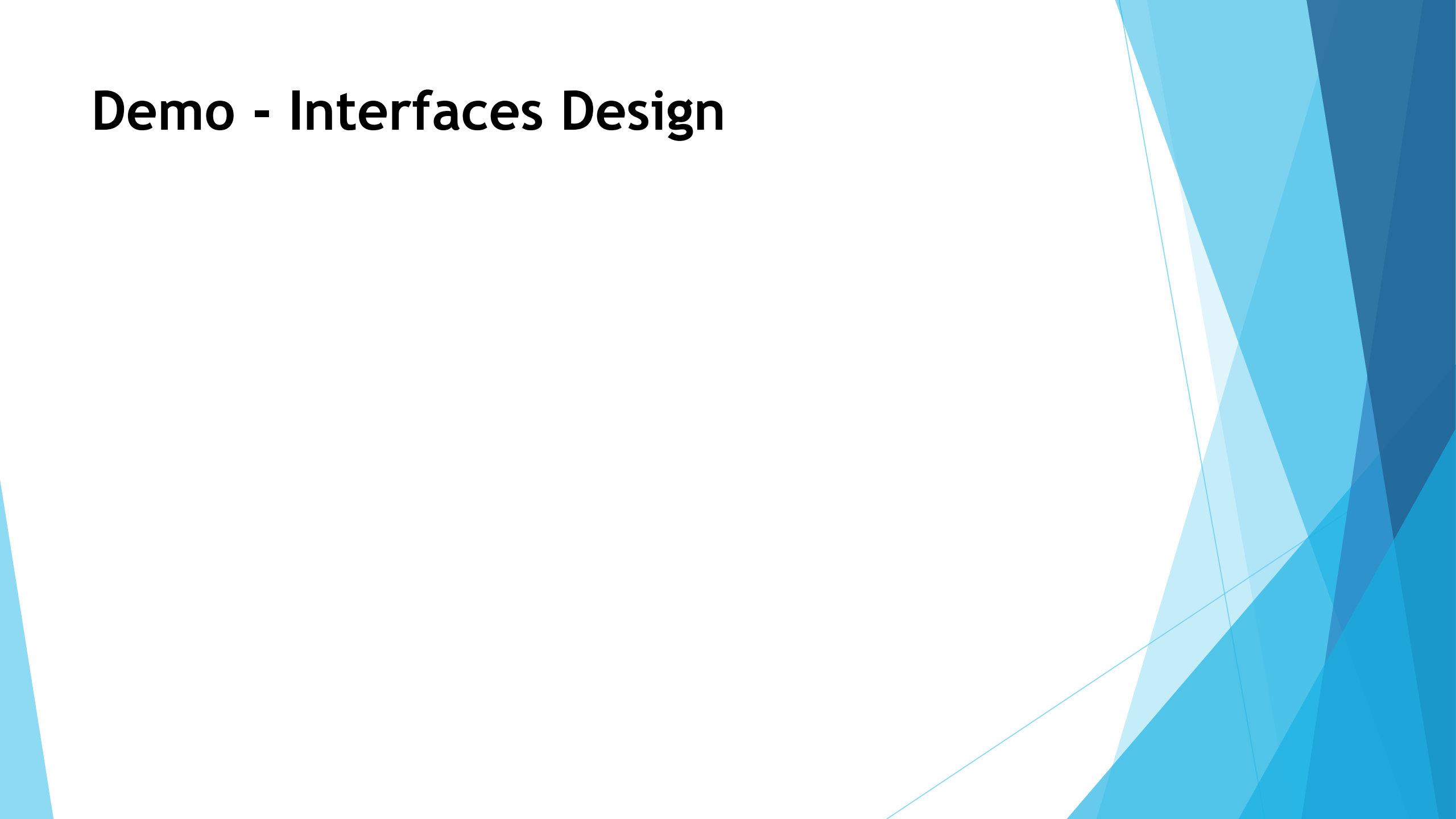
# Story - Interfaces Design

- ▶ Epic - ComoNeo Analog Inputs
- ▶ Story points - 13
- ▶ Description
  - ▶ As - a developer of IOTester
  - ▶ I need - a design of the communication message between PRU and CPU
  - ▶ To -
- ▶ Product owner acceptance criteria
  - ▶ Message should be easy to use for PRU (no parsing, no caching in PRU, ....)
  - ▶ Message will support all digital outputs and analog outputs usable on IoTTester
  - ▶ Documentation of the message - will contain reasoning
  - ▶ The basic idea how to create this message in CPU is described

# Story - Interfaces Design

- ▶ Tasks Backlog
  - ▶ ...
- ▶ Tasks In Progress
  - ▶ Design Interface between CPU and PRU (Igor Labát)
- ▶ Done Tasks
  - ▶ ...

# Demo - Interfaces Design



# Story - Create a test for ComoNeo analog input

- ▶ Epic - ComoNeo Analog Inputs
- ▶ Story points - ???
- ▶ Story Owner - Marian Ján Franko
- ▶ Description
  - ▶ As - a user
  - ▶ I want to - generate analog output on IoTTester
  - ▶ To - test the behaviour of ComoNeo firmware

# Story - Create a test for ComoNeo analog input

- ▶ Product owner acceptance criteria
  - ▶ Test sets the measurement start of the ComoNeo to a pin connected to IoTTester
  - ▶ Test sets the analog output values to the IoTTester (e.g. in 10 seconds sets 10 different values)
  - ▶ Test starts the measurement with digital output of IoTTester
  - ▶ Test checks the values using cursor in ComoNeo web application (see the attachment)

# Demo - Create a test for ComoNeo analog input

# Story - PRU Shared Memory

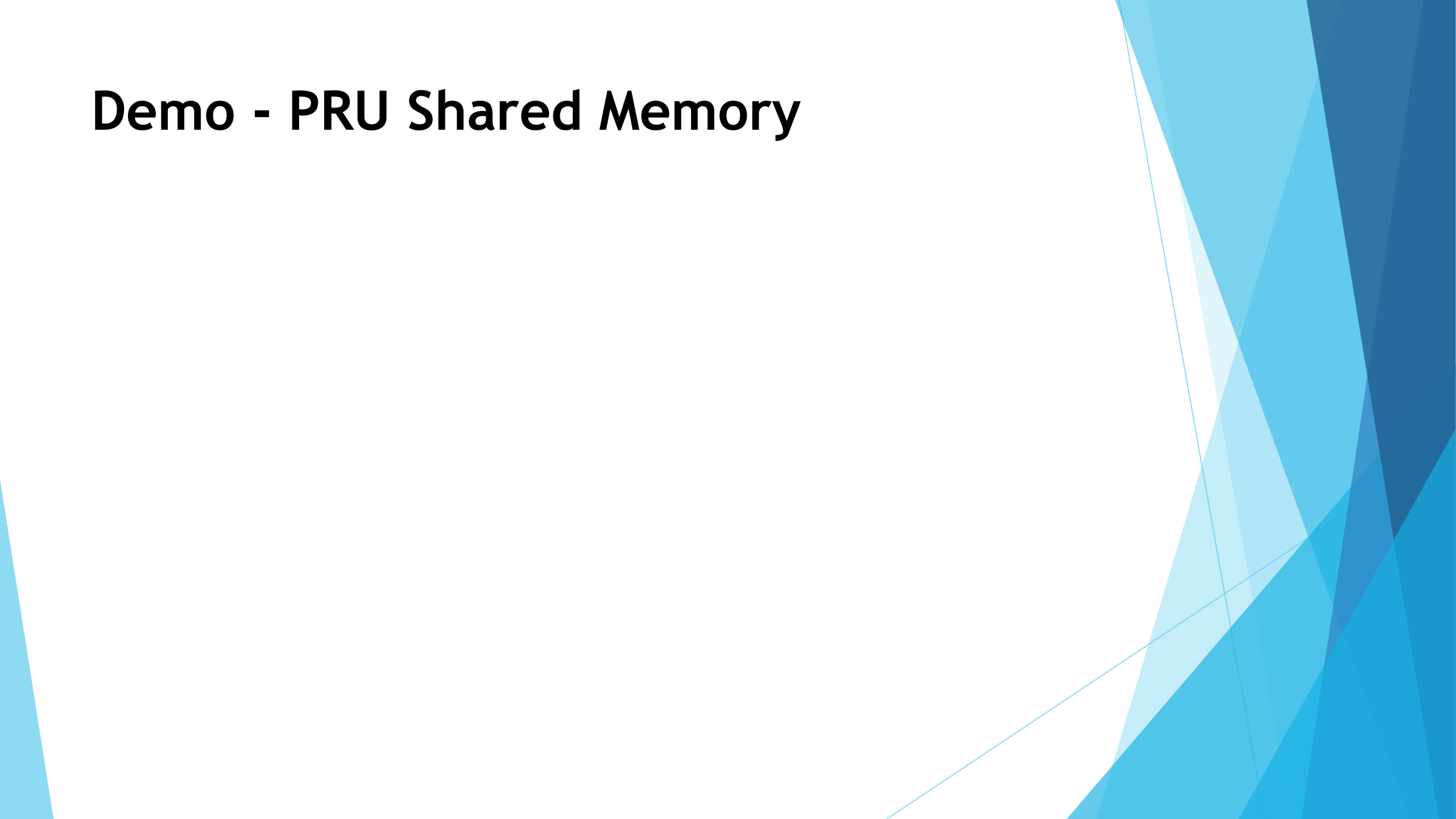
- ▶ Epic - ComoNeo Analog Inputs
- ▶ Story points - 13
- ▶ Story Owner -
- ▶ Description
  - ▶ As - a developer
  - ▶ I want to - write/read data into/from shared memory of PRU
  - ▶ So that - we can store data for signal generation
- ▶ Product owner acceptance criteria

# Story - PRU Shared Memory

- ▶ Tasks Backlog
  - ▶ ...
- ▶ Tasks In Progress
  - ▶ Run program for CPU and PRU communication (Tomáš Bujna)
  - ▶ Write data to shared memory from CPU (Tomáš Bujna)
  - ▶ Read data from shared memory from PRU (Tomáš Bujna)
- ▶ Done Tasks
  - ▶ Analyze shared memory (Tomáš Bujna)



# Demo - PRU Shared Memory



# Discussion Time

