## Slovenská technická univerzita v Bratislave Fakulta informatiky a informačných technológií

Ilkovičova 2, 842 16, Bratislava 4

## Tímový projekt



Export úloh z nástroja JIRA

Vedúci projektu: doc. Ing. Tibor Krajčovič, PhD.

**Spolupráca**: Ing. Lukáš Ondriga, Kistler Bratislava, s.r.o.

Názov tímu: TEST.IOT

Členovia tímu: Bc. Tomáš Bujna

Bc. Marián Ján Franko Bc. Rastislav Kováč

Bc. Igor Labát

Bc. Miroslav Sabo

Bc. Filip Starý

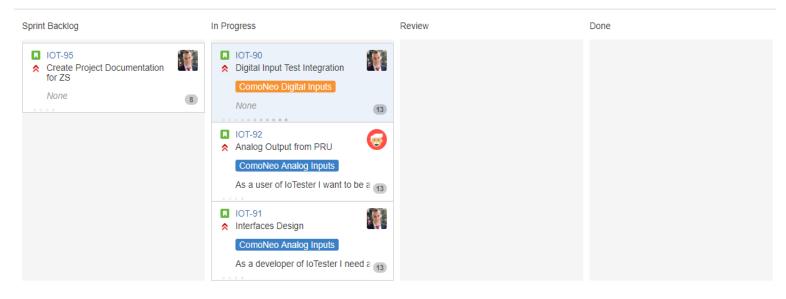
Bc. Stanislav Širka

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Akademický rok: 2018/2019

## IOT Sprint 5

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Summary	Issue key	Issue Type	Status	Assignee	Description	Epic Link	Epic Name	Sprint 1	Sprint 2	Sprint 3	Sprint 4	Sprint 5	Story	Task type
Create Project Documentation for ZS	IOT-95	Story	To Do	Stanislav Širka								IOT Sprint 5	8.0	
Close Sprint 3 Create First Document	IOT-94	Task	Closed	Stanislav Širka							IOT Sprint 4			other
for Project  Analog Output from PRU	ЮТ-92	Story	Closed  In Progress	Stanislav Širka  Rastislav Kováč	As a user of loTester I want to be able to generate analog outputs with defined timing to be able to test the ComoNeo.  Acceptance criteria:  * simple analog output example is compilable and possible to load into PRU  * team understands how the DAC chip is connected to the board (SPI, GPIOs)  *SPI and GPIOs necessary to control DAC are enabled in the device tree  * team has basic understanding of used DACsÅ [http://www.tt.com/lit/ds/symlink/dac8734_pdf]  * team understands dissy-chain concept [https://www.maximintegrated.com/en/app-notes/index.myl/dis/3947]  * team understand how to send data over SPI from PRU (what is the data format, how the address is stored in the data)-basicaly to understand what this code means: Â ((uint32_t) Data. Channel[iCount].iCurrentValue)& 0xFFFF]   (((10x0_t) + (int)[iCount / DAISY_CHAIN_DEVICES)] << 16)	ЮТ-36					IOT Sprint 4	IOT Sprint 5	13.0	
Interfaces Design	ЮТ-91	Story	In Progress	Stanislav Širka	As a developer of IoTester I need a design of the communication message between PRU and CPU.  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 IoTester  "documentation of the message - will contain reasoning  "the basic idea how to create this message in CPU is described	ЮТ-36					IOT Sprint 4	IOT Sprint 5	13.0	
Digital Input Test Integration	IOT-90	Story	In Progress	Stanislav Širka		IOT-2					IOT Sprint 4	IOT Sprint 5	13.0	
Deployment  Jenkins pipeline for installation image	IOT-89	Epic Story	To Do		As a user I want try the latest changes of the loTester firmware.  Acceptance criteria:  * Jenkins pipeline which will be trigerred by the change in a gitt  branch and will compose the loTester firmware	ЮТ-89	Deployment							
Installation image build	IOT-87	Story	То Do		As a developer/fester/user I want to try the latest changes in the IoTester firmware.  **Acceptance criteria:  ** script which will integrate parts of the IoTester firmware (web server, PRU binary,)	IOT-89								
Enable multiple digital and analog outputs	ЮТ-86	Story	То Do		As a user I want to use all analog and digital outputs of IoTester to be able to control ComoNeo.  Acceptance criteria:  * Rest AP Is extended so that it allows configuration of all digital and analog outputs  * RTU executes the configuration according defined timing	IOT-40								
ComoNeo simulator data conversion	IOT-85	Story	To Do		As a ComoNeo tester I want to be able to take the data for ComoNeo simulator and configure with the IoTester Acceptance criteria:  * Robot framework keyword which will load configuration from ComoNeo figgs simulator and configures IoTester via Rest API ComoNeo Simulator input data description:  [https://git.ksitler.com/comong/comong-software/tree/master/Core/lib/Fpgp/Simulator]  ComoNeo Simulator input data examples:  [https://git.ksitler.com/comong/comong-software/tree/release-3.0/Testing/RestApi-Robot/Setupy_Fondis/ApplicationFiles/Simulator]  [https://git.ksitler.com/comong/comong-software/tree/master/Testing/RestApi-Robot/Setupy_Fondis/ApplicationFiles/Simulator]  A  A	ЮТ-40								

As a user I want to generate a defined digital output in real time.  Asceptance criterio:  *PRI process a message with values of digital output and analog output and analog output and sets that according timing defined in the mossage  As a user of forester I want to be able to set the analog and digital output.  As a user of forester I want to be able to set the analog and digital output.  As a user of forester I want to be able to set the analog and digital output.  As a user of forester I want to be able to set the analog and digital output.  As a user of forester I want to be able to set the analog and digital output.  *To To Do analog output of olderer  * To the heard I want to generate analog output or in of return and test the behaviour of comotes firmware.  As a user I want to generate analog output or in of return and test the behaviour of comotes firmware.  As a user I want to generate analog output or in of return and test the behaviour of comotes firmware.  **To To Do  **To To Do  **To To Do  **To To Do  **To To T
REST API for analog output of IoTester  IOT-83  Story  To Do  Acceptance criteria: * IoTester Rest API provides a call which allows to set digital and analog output of IoTester * the RestAPI handler sends the data as a message to RTU  HINT:  The handler can prepare the data in a "RTU friendly" form.  As I user I want to generate analog output on IoTester and test the behaviour of ComoNeo firmware.  Acceptance criteria: * Test sets the measurement start of the ComoNeo to a pin connected to IoTester * Test sets the measurement start of the ComoNeo to a pin connected to IoTester * Test sets the help output values to the IoTester (e.g. in 10)  IOT-36
the behaviour of ComoNeo firmware.  Acceptance criteria:  * Test sets the measurement start of the ComoNeo to a pin  ComoNeo analog input  10T-82 Story To Do  * Test sets the measurement start of the ComoNeo to a pin  connected to loTester  * Test sets the analog output values to the loTester (e.g. in 10
secondsA sets 10 different values)  * Test starts the measurement with digital output of loTester  * Test checks the values using cursor in ComoNeo web application (see the attachment)
As a user I want to be able to install IoTester software to a new
BBB.  Acceptance criteria:  * 50 card image IOT-81 Story To Do  Acceptance criteria:  * 50 card imageA which installs the toTester firmware into internal memory of BBB  * document how to install the new BBB
Installer SD card image IOT-81 Story To Do Acceptance criteria:  * SD card imageA which installs the IoTester firmware into internal memory of BBB  * document how to install the new BBB  Model Architecture for IOT-80 Task Closed Stanislav Side
BBB.   Acceptance criteria:   **SD card image   IOT-81   Story   To Do   Acceptance criteria:   **SD card image   Not-81   IOT-89   IOT-89   IOT-89     **Model Architecture for   IOT-80   Task   Closed   Stanislav Sirka   IOT Sprint 3   IOT Sprint 4   document   Presentation for Sprint 3   IOT To   Task   Closed   Stanislav Sirka   IOT Sprint 3   IOT Sprint 4   IOT Sprint 3   IOT Sprint 4   IOT Sprint 5   IOT Sprint 5   IOT Sprint 6   IOT Sprint 6   IOT Sprint 7   IOT Sprint 7   IOT Sprint 8
Installer SD card image IOT-81 Story To Do Acceptance criteria:  * SD card image A which installs the IoTester firmware into internal memory of BBB  * document how to install the new BBB  Model Architecture for Project  Presentation for Sprint 3 IOT-79 Task Closed Stanislav Sirka  End IOT-79 Task Closed Stanislav Sirka  Document how to use IOT-64 Group Group  Out-64 Group  Ou
Installer SD card image   IOT-81   Story   To Do   Acceptance criteria:
Installer SD card image IOT-81 Story To Do Acceptance criteria:  **SD card image A which installs the IoTester firmware into internal memory of BBB  **document how to install the new BBB  **Model Architecture for Project IOT-80 Task Closed Stanislav Sirka IOT-97 Task Closed Stanislav Sirka IOT-989  Document how to use IoTester for ComoNeo Document how to use IOTe
Installer SD card image IOT-81 Story To Do Acceptance criteria:  **SD card image Awhich installs the IoTester firmware into internal memory of BBB  **document how to irristall the new BBB  **Model Architecture for Project To Projec
Installer SD card image IOT-81 Story To Do Acceptance criteria:  *SD card imageA which installs the IoTester firmware into internal memory of 888  *document how to install the new BBB  *Model Architecture for Project  Presentation for Sprint 3 IOT-80  Document how to use IoTester for ComoNeo IoTester Group  Document how to use IoTester for devices other than ComoNeo  Tests integration into Continuous integration into Continuous integration into Continuous integration into Continuous integration  System  Test examples implementation  RObot framework  IOT-55 Group Group  Group Group  G
Installer SD card image IOT-81 Story To Do Acceptance criteria:  "SD card imageA which installs the IoTester firmware into internal memory of 888  "document how to install the new BBB  Model Architecture for Project IOT-80 Task Closed Stanislav Širka IOT-59 Task Closed Stanislav Širka IOT-69 Tocument how to use IoTester for ComoNeo IoTester for ComoNeo IoTester for ComoNeo IoTester for Group IOT-60 Group IOT-60 Group Group IOT-60 Group Group IOT-60 Group IOT-60 Group Group IOT-60 Group Group IOT-60 Group Group IOT-60 Group I
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Installer SD card image  IDT-81  Story  To Do  Acceptance criteria: * SD card imageA which installs the lofester firmware into internal memory of BB * document how to install the new BBB  * document how to install the new BBB  IDT-80  Task  Closed  Stanislav Sirka  IDT-80  Task  Closed  Stanislav Sirka  IDT-81  IDT-85  Group  Group  Group  Group  Test seamples integration into continuous integration system  Test seamples implementation  Robot framework  IDT-86  Group  Group  Group  Group  Group  Group  Group  Group  Group  IDT-66  Group  Grou
BBB.   Acceptance criteria: *SD and image   IOT-81   Story   To Do   Acceptance criteria: *SD and imaged which installs the lof ester firmware into internal memory of BBB *document how to install the new BBB   IOT-80   Task   Closed   Stanislav Sirka   IOT-5print 3   IOT-5p
Installer 5D card image  IOT-81 Story  To Do  Acceptance criteria:  **SD card imageA which hotalis the loTester firmware into itema managery class  **Gocument how to Install the new 888  **Model Architecture for DOT-80 Task Closed Stanslaw Sirka  **Presentation for Spirit 3  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **IDT-80 Task Closed Stanslaw Sirka  **Document how to install the new 888  **Document how
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REST API	IOT-75	Group	Group		On the basis of ComoNeo analysis create a REST API interface.								
Housing	IOT-61	Group	Group		3D printer housing models is designed.								
Implementation	ЮТ-62	Group	Group		The goal of the implementation is to provide several working automated tests of the ComoNeo device.								
Software Hardware	IOT-59	Group	Group		Harware consists of reusable part and device specific part (e.g. ComoNeo connectors).								
Design	IOT-74	Group	Group										
Environment	ЮТ-71	Group	Group		First prototype of the device is used to test ComoNeo:Ä [https://www.kistler.com/en/applications/industrial-process- control/plastic-process-monitoring/injection-molding-process- control/process-monitoring-with-comoneo/]								
Project goal	ЮТ-78	Group	Group		The goal of the porject is to enable automatic testing of measuring devices. For this purpose it is necessary to develop a device able to generate various analog and digital signals which will simulate sensors and device states.								
Project goal  Port IoTester specification to Jira	IOT-57	Group Task	Group	Lukáš Ondriga						IOT Sprint 3			
Manage Kistler resources for PCB design	IOT-53	Task	Closed	Lukáš Ondriga						IOT Sprint 3			
Create Document for Tasks Managment	IOT-52	Task	Closed	Stanislav Širka						IOT Sprint 3			documentation
Create Document for Jira Changes	101-51	Task	Closed	Stanislav Širka						IOT Sprint 3			documentation
Close Sprint 2  Prepare Document for Board Design	IOT-50	Task Story	Closed In Progress	Stanislav Širka Miroslav Sabo	As a hardware engineer, IÂ want to create document for board design, so that we can use it as a guideline for creating final design of our new board.Â	IOT-1				IOT Sprint 3		8.0	
Close Sprint 1	IOT-48	Task	Closed	Stanislav Širka	Close sprint 1. Create sprint 2. Export tasks from Jira.				IOT Sprint 2				other
Print User Stories Export Data From Jira -	IOT-47	Task Task	Closed	Stanislav Širka Stanislav Širka				IOT Sprint 1					other other
Sprint 1 Start  Create Methodic for  Methodics Document	IOT-45	Task	Closed	Stanislav Širka				IOT Sprint 1					documentation
Methodics	IOT-44	Story	Closed	Stanislav Širka	Create methodic for:  * Meeting Documentation  * Tasks managment - done  * Methodics - done  * Code versioning - done  * Web - done			IOT Sprint 1	IOT Sprint 2	IOT Sprint 3		3.0	
Implement REST API	IOT-43	Story	To Do			IOT-40							
Design REST API	IOT-42	Story	To Do		As a user of IoTester I need the documentation of REST API to be able to use this interface.  Acceptance criteria:  **REST API is not ComoNeo specific  **REST API is not ComoNeo specific  **REST API enables to set digital and analog outputs of IoTester  **Documentation of REST APIÄ  Å  Hint:  Analyse the data used in ComoNeo software simulator:  [https://git.kistler.com/comong/comong- software/tree/master/Core/lib/Fpga/Simulator]  Various configurations of software simulator are available here in ApplicationFiles/Simulator folders:  [https://git.kistler.com/comong/comong- software/tree/master/Testing/RestApi-Robot/Setups]  Å	107-40							
Analyze, design, implement REST API	IOT-40	Epic	To Do				REST API						
Test analog inputs on ComoNeo	ЮТ-36	Epic	To Do		As a user I want to be able to test an analog output on IoTester to be able to test analog input of ComoNeo.  Acceptance criteria:  * test in robot framework:  ** configures IoTester to send an analog signal  ** checks if the signal was measured by ComoNeo		ComoNeo Analog Inputs						
Study Story Points Study Poker Cards	IOT-35 IOT-34	Task Task	Closed	Stanislav Širka Stanislav Širka									other other
Study SCRUM Write TP1 Requirements	IOT-33	Task Task	Closed	Stanislav Širka Stanislav Širka									other other
write if I nequirements			Closed	Stanislav Širka									

Create Team Website	IOT-30	Story	Closed	Tomáš Bujna			IOT Sprint 1				8.0	
Decide on Our Guidelines		Task	To Do	Tomas Bajna			101 Sprint 1				0.0	other
Kistler VPN Access	IOT-28	Task	In Progress	Lukáš Ondriga			IOT Sprint 1	IOT Sprint 2				other
Decleration Documents  Create Team Poster	IOT-27	Task Task	Closed									documentation documentation
Create Project Specification	IOT-25	Task	Closed	Lukáš Ondriga								documentation
Share Google Drive	IOT-24 IOT-23	Task Task	Closed									other
Create Team Chat Decide on Continuous	IOT-22	Task	Closed									other
Server Create Team GIT	IOT-21	Task	Closed									other
Add Tasks to Jira	IOT-20	Task	Closed	Stanislav Širka	Subtasks left:  * Create Sprint - done  * Add tasks to Sprint - done  * Add task owners - done		IOT Sprint 1					other
Call Program on RTU from CPU	IOT-19	Task	Closed			IOT-2						implementation
Analyze Communication	IOT-18	Task	Closed			IOT-2						analysis
Between RTU and CPU  Load Program to RTU	IOT-17	Task	Closed	lgor Labát	As a user I want to be able to set digital output from RTU to be able to test ComoNeo digital input.  Acceptance criteria:  Running RTU program which sets the digital output of IOTester according configuration from CPU.	IOT-2	IOT Sprint 1	IOT Sprint 2	IOT Sprint 3			implementation
Choose Simple Program for RTU	IOT-16	Task	Closed			IOT-2						analysis
Choose Web Server Technology	IOT-15	Task	Closed	Rastislav Kováč		IOT-2	IOT Sprint 1					other
RTU and Web Server Compatibility	IOT-14	Task	Closed			IOT-2						analysis
Analyze RTU  Create a Test	IOT-13	Task	Closed	Marián Ján Franko	As a user I want to test the ComoNeo digital input.  Acceptance criteria:  Test configures IoTester (library for IoTester configuration will be implemented in different user story)  Test checks the ComoNeo web application if the digital input was set.  Â	IOT-2	IOT Sprint 1	IOT Sprint 2	IOT Sprint 3		13.0	analysis
Robot Framework LIB	IOT-11	Story	Closed	Marián Ián Franko	As a test developer I want to have a library to use IOTester  Acceptance criteria:  * python module  * keywords to set Como digital inputs are implemented  HINTTÂ implementation of the keywords are POST requests to  the IOTester  POST request is implemented  in A http://jira.kistler.com/browse/IOT-10	IOT-2			IOT Sprint 3		5.0	
REST API Prototype	ЮТ-10	Story	Closed	Tomáš Bujna	As a user of IOTester I want to have interface to set the Como digital input to be able to configure IOTester.  Acceptance criteria:  * working webserver on beagleboard  * implemented simple post request with value of digital input (0 or 1)  * post request execution is logged to the console	IOT-2			IOT Sprint 3		3.0	
Program for RTUexe Configuration	ІОТ-9	Story	Closed	Filip Starý	As a user I want to be able to set digital output from RTU to be able to test ComoNeo digital input.  Acceptance criteria:  Running RTU program which sets the digital output of IOTester according configuration from CPU.	IOT-2				IOT Sprint 4	8.0	
RTU and CPU Communication	IOT-8	Story	Closed	Filip Starý	As a user I need to configure real time simulation to run various simulations.  Acceptance criteria:  RTU and CPU prototype is running on Beaglebone Linux console.	IOT-2	IOT Sprint 1	IOT Sprint 2	IOT Sprint 3		5.0	

Load RTUexe	IOT-7	Story	Closed	lgor Labát	As a user I need to do a real time simulation to be able to simulate sensor measurements.  Acceptance criteria:  Loading of the program to the real time unit will be shown on Linux console.	IOT-2		IOT Sprint 1	IOT Sprint 2	IOT Sprint 3		13.0	
Technology for Linux (Web Server)	IOT-6	Story	Closed	Rastislav Kováč	As a developer I want to select frameworks/technologies to be able to write REST API for BeagleBone Black real time unit configurations.  Acceptance criteria:  Document 3 alternatives with pros and cons.	IOT-2		IOT Sprint 1				5.0	
New Housing Design	IOT-5	Story	To Do	Miroslav Sabo		IOT-1						3.0	
Design Boards as modules	IOT-4	Story	To Do	Miroslav Sabo	As a hardware engineer, I want to design board in modules block, so that each module has a particular function and could be possible to replace it with extended function. Acceptance criteria:  # Detail block schematic of modules and connection between them  # Created design user stories for each modules	IOT-1						13.0	
					As a hardware engineer I need to analyse the current board to be able to make the final design.			IOT Sprint 1	IOT Sprint 2			8.0	
Analyze Board	IOT-3	Story	Closed	Miroslav Sabo	Acceptance criteria:  Document the current design of the board.	IOT-1		IOT Sprint 1	101 Spriit 2			8.0	
Analyze Board  Testing digital inputs on ComoNeo	IOT-3	Story	Closed To Do	Miroslav Sabo		IOT-1	ComoNeo Digital Inputs	IOT Sprint 1	TOT Sprint 2			8.0	