WiMotics

NOTIC.



Pasquale Guarino – Project WiMotics

PRODUCT FAST-TOUR

Web Site: http://www.wimotics.net

Product Description

WiMotics is a Cloud, SaaS, Multitenant Application with unified Web Interface for

Smart integration and managing of Sensor Networks and R-IoT Real-Internet of Things network devices.

- Report Sensors measurement
- Plan and execute actions Actuators
- Rule and Workflow Engine
- Notification Events/Warning/Alarms (SMS, Email)
- Schedule Commands/Groups of Nodes

View on Google Maps

- WSN secure and encrypted communication
- Geospatial data exposed via standard WMS, WCS and WFS directive UE 2007/2/EC "INSPIRE" compliant
- Graphs and Reports

Problems and Needs







Hydrogeological instability (landslides, floods)
Fires

Parameters of Agricultural Crops
Plant and pipelines Liquids / GAS



Monitoring Fleets of vehicles and / or Watercraft
Tracking of Goods / Container

Location, Geolocation of corporate assets

LED Lighting

Messaggi

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Avvisi:

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Anagrafiche

Invia Comando

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dell'alimentazione

TI 32

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AY 21

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D

del sistem di controllo Temepratura nel

sistema di

flusso luminoso.

Misurazione della

controllo Regolazione del

luminosità

ACCELEROMETRO Accelerazione

ambientale

lungo asse X

Accelerazione

lungo asse Y

Agg. a Gruppo Allarmi

WIMN-00002

LIVELLO BATTERIA

TEMPERATURA

DIMMERAGGIO

LUMINOSITA

ASSE X

ASSE Y

ACCELERON

INTERNA

Amministrazio

Stato Rete

VIMN-00002



Projectors Road - Industrial - Tunnel - Shed – Offices Buildings - Monuments - Stadiums - Gyms - Theatres

supAdmin Cliente: Wildotics Rusle: Ammin > Energy saving up to 70-80% (Green) than the old incandescent lamps or halogen lamps.

> Save even more with Regulation "intelligent" luminous flux, light intensity (DIMMER) and measurement of power (kW) and energy consumption (kWh) of single lamp or groups of projectors, according to external light or commands (Monitoring and Remote Control).

Longer life and therefore less maintenance (between 00:13:a2:00:40:69:17:ad! 30,000 and 50,000 hours of continuous operation per LED) Uniform light, clear and bright with the colors you want Increased security because working with low voltage Wiring with flat cables under the painting >No acoustic noise, heat (cold light) and light pollution

Smart Cities

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Weather Stations - Air quality – Presence Detection Traffic Monitoring - Access Control - Shook - Collapses



Weather Stations and Urban air quality(Smart Cities)
Detecting presence in proximity of sensors
Monitoring of traffic and pedestrian crossings
Access control or proximity to established areas, this information can be used by other applications for the presentation of contextual content in an interactive way (advertisements or touristic informations)
Vibration monitoring (earthquakes), shock, cracks and discrepancies in the structures for the prevention of collapse and detachments

Plants and Pipelines



Gas pipes - Pressure fluids - Industrial equipment Water pipes - Flooding - Floods – Home appliances



Detection of electrical consumption (kWh)
Sensing pressure of liquids and gas in the pipelines of household or industrial installations (leak detection)
Actuators for valves closing pipelines
Detection gases in the air

Level detection of liquids in rooms and roads to flooding and / or flood

Remote control switches for operation of lights, shutters, doors, gates and appliances (Home Automation)

Fleets of Vehicles and Watercraft

Fleets of vehicles - Passenger transport - Dangerous Goods Fleets of boats - Trucking - RFID Goods Tracking



Geolocation on map of vehicles and / or Goods

- ➢Fleets of Bus, Truck of Goods
- Fleets of boats near the port

Establishing parameters of vehicles or crafts (position, speed, elevation above sea level)

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- speed, elevation above sea level)
- Possible interface with on-board system for operating

parameters (oil, fuel, rpm, temperature)

Identification of Goods / Container depots / port via RFID

Agricultural Crops

Parameters Crops - Plants Greenhouses Irrigation systems - Climate and Environmental Parameters



 Remote irrigation crops / greenhouses
Stations for environmental parameters temperature, humidity, rain mm, UV and Solar Radiation Control panels for protection from hail or blurring
Measuring the diameter of the fruit
Measuring water level in tanks of irrigation
Orientation solar panels roof greenhouse

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Fluid Web Ribbon Ul



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Solution - Architecture



http://www.wimotics.net

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Login

Access WiMotics ®
Account Information
Enter your user name and password.
Username
Password
Stores Account

http://www.wimotics.net

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Management

From this TAB you can manage, Customers, Users, Roles and Payments.

Every Customer can see only their own Users, Gruops, Rules, Schedules and Sensor Nodes.



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Master Data

From this TAB you can manage sensor networks, logical groups of nodes, profiles and command templates.

The nodes of a selected group are marked with a circle on the map.

You can alse execute some functions function directly on the map.

Some user profiles can drag and drop customers or nodes on the map to modifiy positions and data.



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Node Parameters

The node parameters define the sensors, actuators connected to the node and their Analog/Digital value ranges.

Node Properties

Parameters Node: WIMN-00002

Select the parameters with the next check, or by choosing a profile add all of its parameters, then for them to enable or disable the events and then the button with the two arrows are added or removed from the selected list. WARNING : it is the responsibility of the person making the configuration, which correspond to the parameters added sensors / actuators actually installed on the node.

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	Accensi	oneLuci				
SIGNAL LEVEL	Enable Events	1		PAYLOAD	Enable Events	
CONTACT 4	Enable Events			HARDWARE	✓ Enable Events	
CONTACT 2	Enable Events			FIRMWARE	Fnable Events	
CONTACT 1	Enable Events			PACKETS RECEIVED	Enable Events	
		•	•	III		•

Monitoring

In this view you can see the real-time status of the node parameters and details for the selected node.

User: SupAdmin Custor User: SupAdmin Customer: WiMotics Role: Administrator Master data Schedules Management Monitoring Posts Network Status F Ę, [Log Out] Network Monitoring Sensors Management Master data Monitoring Posts Schedules Rules Events Report Configurations

Network Statu

User: SupAdmin Customer: WiMotics Role: Administrator

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[Log Out] A

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Configurations

Rules

Events

Report

Messages

In this context, you can view messages sent by the nodes to the server and the commands sent from the Server to the nodes or logical group of nodes.

Is also possible reply a received message, to send directly a command to the sender node of the message.

User: S	lese ▼ <mark>▲</mark> ₍₀ SupAdmin) ⁽³⁾ (0) Customer:	WiMotics	Role: Admir	nistrato	r					[<u>Log C</u>	<u>) (1</u>	۵	
Management	Master data	Monitoring	g Posts	Schedules	Rules	Events	Repo	rt Configuration	s					
Received	Outgoing	Sent												
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Sender	MA Addr	.C ess	IMEI	Date		Text		Description		Customer Name	Customer Name	1	III	
	-	*	-	2013-07-25T1	-		+		+	•	-	•		
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Schedules

Commands and parameters for a node or Groups of nedas can be scheduled for a single time or repeated, suspended, resumed or deleted.

User: SupAdm	in Customer: WiMo	t ics Role: Adminis	strator					
lanagement Master d	ata Monitoring Po	osts Schedules	Rules Events Re	port Configurati	ons			
Schedules	endar							
lý lý lí	Managing Schedul	Resume Sched	uling					
Start Date	Description	Node	Group	Command	1	īme	Repeat	
2013-07-25T11:5 -	-		-	-	•		false	
2013-07-30T18: 06:19	Try Group		ProiettoriWiMotics	D # 75	0			6
2013-07-24T10: 26:08	Try Periodic	WIMN-00002		D # 50	24		7	0
2013-07-16T17:	Try dimming	WIMN-00001		D # 50	0			0
			T					and in
Scheduling Details				a mar	2		Map Sa	atellite

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Calendar

There is also a Calendar view of the active schedules, details of the schedule are viewed in the Details Panel by clicking on the calendar event.



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Rule Engine

Is possible ti manage Rules, create, edit, suspend, reactivate or execute a Rule.



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Rule Editor

With the graphical Rule Editor, the user can directly modify Rules, by selecting the partecipating nodes and node properties to be evalueted.

Properties can be set and actions can be executed (like set Alarms or Warning for specific nodes).

Parameters and nodes are automatically suggested from the Editor.



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Events (Alarms and Alerts)

Specific TABs are reserved for Alarms and Alerts views, generated by the rule execution on properties change of the nodes.

The node icon on the map and in monitoring TAB change to RED if the node is Alermed or YELLOW if the node is Alerted.



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Reports and Graphs

•The collected data from the sensor nodes can be viewed in reports and

graphs.	Parameter Node 🗙
	Graph Parameters
	I select the node, the parameter of that node I want a graphics path and the range of dates between which take the values.
	Node Chosen WIMN-00002
	Parameter Node
	Type Chart
	Area Spline
	06/11/2013 18:00: -
	Final Date
	06/11/2013 19:00: 🔻
	Crea Grafico



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http://www.wimotics.net

or more information visit http://www.wimotics.net

Reports and Graphs



http://www.wimotics.net

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Configurations

•General and specific Customer application configuration parameters can be managed (number of Rows per Grid page, time notifications interval etc...).



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WiMotics Mobile





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WiMotics Mobile

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🗊 List 🛛 🖗 Details		Alarms 0	0 Warnings
		Node	Date
Nodo: WIMI	N-00002	WIMN-00001	2013-09-14T15:08:00
Parametro	Valore	WIMN-00001	2013-09-14T15:05:39
CONTATTO 1	OFF	WIMN-00002	2013-09-14T15:03:54
	50 60	WIMN-00001	2013-09-14T14:50:08
		WIMN-00001	2013-09-14T14:47:13
BATTERIA		1 2	3 4
	10 100	Graphs	

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Rule Name

Incendio

Incendio Livello

Segnale Livello

Segnale Livello

Segnale

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► 🏥 Map
► der Sensors
F Events
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Parameters Graph
Nodo: WIMN-00002 Temeperatura nel sistema di controllo. (°C 32 31.8 31.6 31.4 31.2 31 30.8 30.6 30.4 30.2



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