WHO OUR CUSTOMERS ARE

PREPARING THE FUTURE WORKFORCE

Educational and training facilities all over the world rely on Real Games state-of-the-art training software. Spanning many different levels of education, our products can be found at vocational schools, research labs and industrial plants. The one thing all our customers have in common is the drive to lead their educational and training experience to excellence.

TRY OUR SOFTWARE

TAKE IT FOR A TEST DRIVE

WWW.REALGAMES.PT

PRODUCT CATALOG 2015

FACTORY I/O
Automation Sandbox

HOME I/O
Bringing Home Automation

CONNECT I/O
Connect Technologies

CONTACT US

Our distribution network is currently spread over 35 countries. If you want to join our team, contact us at info@realgames.pt

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**FACTORY I/O**

**AUTOMATION SANDBOX**

FACTORY I/O is a real time automation sandbox where you can build and simulate industrial systems and use them with the most common automation technologies. It uses an innovative technology that allows an easy and quick creation of 3D industrial systems through a drag and drop approach. Any of the built systems can be controlled in real time by external technologies, hardware and software.

FACTORY I/O is a valuable teaching tool for training future technicians and engineers in several programs and courses such as Industrial Automation, Mechatronics, Electrical Engineering, Mechanical Engineering, Instrumentation and many more.

**HOW IT WORKS**

FACTORY I/O communicates with an automation technology (software or hardware) through an I/O driver - for example through the ADVANTECH USB 4750 driver, a DAQ board can be used as an interface between a PLC and FACTORY I/O. The output values (actuators) are read by FACTORY I/O and the input values (sensors) are sent to the controller.

**SENSORS**
The sensor’s values are sent to the controller.

**ACTUATORS**
The values of the actuators are read from the controller.

**OPEN SOFTWARE**

FACTORY I/O includes an SDK that allows it to be virtually integrated with any kind of technology. The SDK is a .NET Framework 2.0 assembly, which includes documentation and samples to help you getting started.

**AVAILABLE NODES**

FACTORY I/O is shipped with several nodes. It presents a modular design which allows new nodes to be implemented with plugins. All the development tools are free and we provide all the necessary documentation and samples.

**ADVANTECH USB 4750**
Discrete I/O interface for PLC. I/O points: 16DI/16DO.

**ADVANTECH USB 4704**
Discrete and analog I/O interface for PLC. I/O points: 8AI/2AO and 8DI/8DO (TTL).

**MHJ SOFTWARE**
Low cost Siemens PLC simulator (S7). I/O points: 8AI/8AO and 16DI/16DO.

**AUTOMGEN TCP/IP**
Exchange data with AUTOMGEN through a TCP/IP server. I/O points: 8AI/8AO and 24DI/24DO.

**MODBUS TCP/IP**
MODBUS protocol (client and server). I/O points: unlimited.

**SIEMENS S7-300**
Interface directly with Siemens S7-300 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS S7-400**
Interface directly with Siemens S7-400 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS LOGO!**
Interface directly with Siemens LOGO! 0BA7/0BA8 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS S7-1200**
Interface directly with Siemens S7-1200 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS S7-1500**
Interface directly with Siemens S7-1500 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS S7-300**
Interface directly with Siemens S7-300 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS S7-400**
Interface directly with Siemens S7-400 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**SIEMENS S7-1500**
Interface directly with Siemens S7-1500 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

**OPC CLIENT DA**
Data access with OPC DA I/O points: unlimited.

**FUNCTION BLOCKS**
IEC 61131-3 Standard function blocks.

**DATA ANALYSIS**
Integration with the application Live Graph (freeware), used for real time data analysis.

**“MY NODE”**
We provide all the documentation, samples and all the development tools are free.

For detailed information about each Plugin, please visit the wiki section in our website.
INDUSTRIAL SYSTEMS
Build and edit industrial systems. Includes pre-built systems based on what’s commonly found in typical industrial plants, completely editable.

OVER 60 PARTS
Build your scene from a large selection of sensors, conveyors, buttons, switches, etc. Most of the parts allow different configurations, such as, discrete and analogue values, weight scale, etc.

INSTRUCTOR MODE
Lock several options from trainees with an instructor password. Challenge students to come up with solutions, complete partially built systems or find failures and malfunctions.

TROUBLESHOOTING
Easily inject failures in sensors and actuators. This allows the user to induce malfunctions which can be open circuit or short circuit failures.

DISCRETE & ANALOG I/O
Parts include discrete and analog I/O points.

TEST WHILE BUILDING
Test your systems during the building process with just one click. Switch from Edit mode to Run mode to immediately control your systems.

SHARE YOUR SYSTEMS
Easily share any created or edited system. Students can easily share content with teachers and teachers can easily prepare content for the classroom.

CONNECT TECHNOLOGIES
CONNECT I/O is a visual programming tool in which a diagram is drawn with nodes and links. It can be used as a SoftPLC or as an I/O interface with external technologies. Works out of the box with FACTORY I/O or HOME I/O, with no configuration needed.

SIMPLE AND INTUITIVE
CONNECT I/O is a visual programming tool where data flows are drawn by connecting nodes with links. Get a live visualization of data flows and on the fly debugging.

HARDWARE NODES
DAQ nodes included, supporting digital and analogue I/O points. Check a complete list of available nodes at www.realgames.pt.

SOFTPLC PROGRAMMING
Use most of the IEC 61131-3 Standard function blocks with CONNECT I/O. Easily draw any controller algorithm.
LICENSING

FACTORY I/O LICENSING

STANDARD
Intended for professional use. This licensing option is available for government, academic, commercial, or other organizational use.

HOME
Only available for personal use. It may not be used in the classroom or lab for instructional purposes, or for commercial or for-profit purposes.

STUDENT
Only available for personal use and for current students at educational institutions with active standard licensing. It is available as a 6 or 12 month subscription and includes the Open (SDK) I/O driver.

LICENSES TYPE

STAND-ALONE
After your purchase, you will receive an activation key which allows you to fulfill your licenses. At any time, the license can be deactivated and moved to a different computer. It's the perfect solution for individuals or small groups. They do not require network connectivity to run and cost less than floating licenses.

FLOATING
With floating licenses, a limited number of licenses are shared among several users. When a user wishes to run the application, a license is requested from a license server. When the user terminates the application, the license is returned to the license server and will become available to another user. It's the ideal solution for schools, universities or any large organizations that require many licenses.

Notice that a floating license server can be setup on any standard computer running Windows (e.g., a teacher's computer).

I/O DRIVERS
Compatible with the most common automation technologies through I/O drivers.

ADVANTECH USB 4750
Discrete I/O interface for PLC. I/O points: 16DI/16DO.

ADVANTECH USB 4704
Discrete and analog I/O interface for PLC. I/O points: 2AI/8AO + 8DI/8DO TTL.

MHJ SOFTWARE
Low cost Siemens PLC simulator (S7). I/O points: 8AI/8AO + 16DI/16DO.

MODBUS TCP/IP
Enables data exchange through a Modbus TCP/IP server/client. I/O points: 8AI/8AO + 16DI/16DO.

SIEMENS S7-1200
Interface directly with Siemens S7-1200 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

SIEMENS S7-1500
Interface directly with Siemens S7-1500 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

SIEMENS S7-PLCSIM
Interface directly with Siemens S7-PLCSIM (v5.4/5.5). I/O points: 8AI/8AO + 16DI/16DO.

SIEMENS S7-300/400
Interface directly with Siemens S7-300/400 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

SIEMENS S7-1500
Interface directly with Siemens S7-1500 PLC through TCP/IP. I/O points: 8AI/8AO + 16DI/16DO.

OPEN (SDK)
Develop your own driver with an unlimited number of I/O points. Alternatively, use CONNECT I/O as an I/O interface or SoftPLC.

AUTOMGEN
Low cost GRAFCET simulator. I/O points: 8AI/8AO + 16DI/16DO.

For detailed information about each I/O Driver, please visit the wiki section in our website.

OPEN (SDK)
With the Open (SDK) driver you get unlimited access to all drivers and the SDK, a .NET Framework 2.0 assembly, which enables inter-process communication (IPC) between FACTORY I/O and the user's own applications. With the Open (SDK), you can develop your own drivers and use CONNECT I/O, a visual programming tool which can be used to control FACTORY I/O or as an I/O interface.
BRINGING HOME AUTOMATION
HOME I/O is an educational software which simulates a smart house, allowing students to learn and improve their skills in home automation, heat transfer, energy efficiency and much more. It can be as simple as controlling any of the available devices, or as advanced as setting up a network to enable centralized control of the entire house. HOME I/O is more than a simulation – it's a serious game that offers students a new and motivational experience.

A REAL TIME EXPERIENCE
Select different dates and locations, try out different weather conditions and see how everything reacts in real time as well as observe astronomical phenomena like day and night cycles, equinoxes, etc. HOME I/O also works in a faster than real time mode so you can simulate a day go by in 17 seconds.

CONNECT EXTERNAL TECHNOLOGIES
Use CONNECT I/O to interface HOME I/O with external technologies, like PLC, microcontrollers, data analysis tools, etc.

HEAT TRANSFER
HOME I/O includes a simplified heat transfer model, which allows the exchange of thermal energy between the house and the external environment.

ENERGY EFFICIENCY
Change any parameter at any moment and learn about energy efficiency. Analyze the energy consumption or cost per hour, day, week and month.

HOME AUTOMATION CONSOLE
Create scenarios in the automation console for situations like Vacations, Security & Monitoring, Energy Management, among many others.

OPEN SOFTWARE
HOME I/O includes an SDK (Software Development Kit) that can be used to integrate it with any type of external technology. The SDK is an easy to use .NET Framework 2.0 library (dll), for which we provide all the documentation and examples so you can start right away.

WEATHER CONDITIONS
Change the simulation by setting dynamic weather conditions.

LOCATION
Set the house at any location by specifying geographic coordinates.

DATE AND TIME
Easily jump to any date or set the desired simulation time.

LEARN AND PLAY
HOME I/O is an educational software designed for STEM (Science, Technology, Engineering and Mathematics) education that targets students over 12 years of age. From initiating high school students in technology classes and courses, up to community colleges and university research labs.

174 CONTROLLABLE DEVICES AND MORE THAN 400 I/O POINTS
Interact with all the lighting, motorized, heating, intrusion security and domestic safety devices available in three modes: Wired, Console and External.