UNIVERSITY OF LOUISIANA AT LAFAYETTE

STEP Committee

Technology Fee Application

Automation Studio Software for Industrial Technology

Title

Dr. Shelton Houston

Name of Submitter

(Faculty or Staff Only)

Industrial Technology Department

Organization

Title:	Automation Studio Software for Industrial Technology	Date:	07/22/2020

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Department/College/Org: Industrial Technology, College of Engineering

ABSTRACT (250 words or less):

This proposal will allow the Department of Industrial Technology to acquire thirty dynamic seats of state-of-the art software for Multi-Technology Simulation called Automation Studio. Automation Studio is the tool of choice for teaching, training and learning automation, electrical and fluid power engineering technologies. This software helps students better understand the behavior and interaction of technologies with an intuitive visual learning approach before moving on to the hands-on experience.

ITEC is the second largest department in the college and important for industry in the area. Not having access to the lab creates a huge challenge for the department which has a large percent of its curriculum with hands-on activities. This initiative will impact approximately 346 undergraduate and graduate students in the Industrial Technology Department and the Systems Technology Program.

Automation Studio includes subjects related to hydraulics, pneumatics, electrical engineering technologies, PLC and control technologies. It offers intuitive design, animation, simulation, and circuit analysis functionalities in a user-friendly environment.

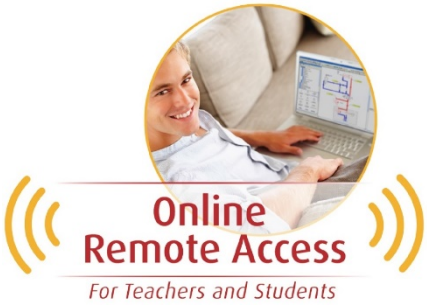
The maintenance portion offers online remote access licensing which allows the instructor to prepare and simulate courses and homework remotely. The course content is interactive and animated live by the software's simulation and can be customized.

This software can immediately be implemented into ITEC 207 Fundamentals of Hydraulic/Pneumatic Technology, ITEC 307 Fluid Power Systems, and ITEC 407 Advanced Hydraulic/Pneumatic Systems Technology. This software would also directly address remote lab issues currently present in these courses. Having this software would give ITEC the ability to develop advanced electives in the curriculum as well.

Purpose of Grant and Impact to Student Body as a Whole

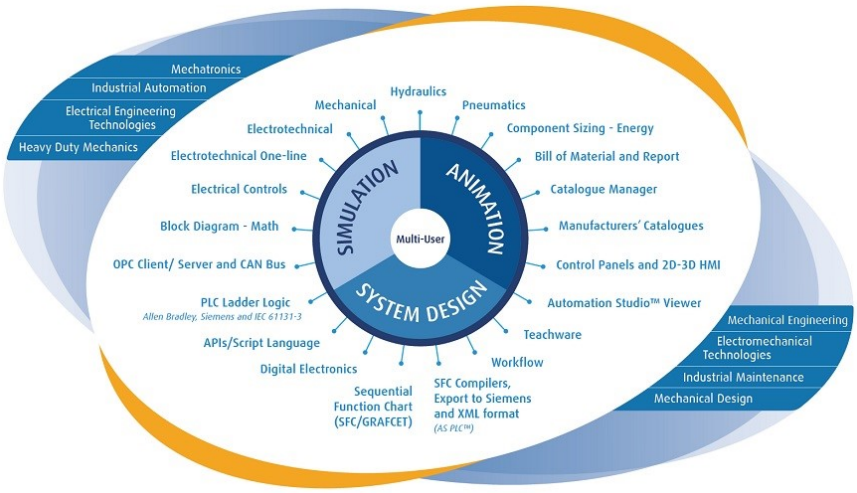
The purpose of this grant is to enhance the educational experiences and opportunities of UL Lafayette students by giving an access to a leading-edge tool commonly used in the industry for design and simulation. Automation Studio includes subjects related to hydraulic, pneumatic, electrical, PLC and control technologies. It offers intuitive design, animation, simulation, and circuit analysis functionalities in a user-friendly environment. It allows instructors to expose more content in less time, improves students' understanding of concepts and diagnostic capabilities.

One of the goals the Department of Industrial Technology is to ensure that alternative delivery methods maintain the quality and culture of engineering and technology education. In this unprecedented time where the college is following state guidelines and university safety rules which require social distancing as well as Hyflex and remote courses for those which are typically hands on and on campus, we are having to expand our arsenal of software and tools available to students, so they can complete their project work as if they were on campus in the computer labs. Automation Studio offers the ability to access all content remotely without a VPN connection.



This software can be utilized by the students and professors of the Department of Industrial Technology and can be incorporated to other departments (such as Electrical Engineering and Mechanical Engineering). This software comes with several modules and libraries. All modules and libraries interact with each other during simulation, therefore allowing students to create complete systems that behave as they would in reality. Each library contains hundreds of symbols compliant with ISO, IEC, JIC, and NEMA standards. After dragging and dropping the appropriate components into the workspace, students can quickly recreate and simulate systems. Students can also customize their libraries and arrange them as needed for specific exercises, therefore saving time in searching for components. These modules include:

- ✓ Hydraulics
- ✓ Proportional Hydraulics
- ✓ Pneumatics
- ✓ Electrical Controls
- ✓ Programmable Logic Controller PLC Ladder Logic, Allen Bradley, Siemens and IEC 61131
- ✓ Sequential Function Chart (SFC/GRAFCET)
- ✓ Digital Electronics
- ✓ 2D-3D HMI and Control Panels
- ✓ Mechanical Links
- ✓ Fluid Power Component Sizing
- ✓ Electrical Component Sizing
- ✓ Automatic Bill of Materials and Report Module
- ✓ Interfaces to Programmable Logic Controllers (PLCs) and Equipment



Automation Studio allows instructors to cover more content in less time. It facilitates the demonstration of systems' interactions and allows creating flexible, dynamic, and interactive teaching material. This simulation tool provides secure teaching and learning by working on virtual systems and offers a smooth transition between theory and practice.

Realistic measuring tools, such as a multimeter, clamp meter, oscilloscope, hydraulic tester, thermometer and manometer, can be used to reproduce real-life measuring and fault-finding experiences enhancing student's troubleshooting skills.

Automation Studio offers comprehensive sets of libraries with components that can be used to teach a wide array of subjects related to hydraulics /pneumatics (ISO), electrical (NEMA, IEC, SAE, JIC), PLCs (Allen Bradley™, Siemens™, LSIS, IEC) and other control technologies, which enhance students Blue Print reading capabilities.

ITEC is the second largest department in the college and important for industry in the area. Not having access to the lab creates a huge challenge for the department which has a large percent of its curriculum with hands-on activities. This initiative will impact approximately 346 undergraduate and graduate students in the Industrial Technology Department and the Systems Technology Masters Program by

1. Increases safety during remote delivery and social distancing
2. Improves knowledge retention
3. Validates theories studied in class
4. Illustrates systems' behavior dynamically and in full color
5. Reinforces the understanding of systems' interactions
6. Exposes students to a wider range of technologies
7. Allows to virtually test all types of systems
8. Allows working in a safe environment (simulation).

All technologies can be linked together and component interactions can be seen during simulation to create complete systems which reinforces students understanding of system's interactions. The software allows the instructor to easily reproduce any lab equipment or complete system to simulate, analyze and troubleshoot before the hands-on experience.

This software can immediately be implemented into ITEC 207 Fundamentals of Hydraulic/Pneumatic Technology, ITEC 307 Fluid Power Systems, and ITEC 407 Advanced Hydraulic/Pneumatic Systems Technology. This software would also directly address remote lab issues currently present in these courses. Having this software would give ITEC the ability to develop advanced electives in the curriculum as well.

Projected Lifetime of Enhancement

The license agreement requested in this proposal is for 24 months.

Person(s) responsible for

1. Implementation
   Dr. Shelton Houston, Department Head and Mr. Harvey Ozbirn, Master Instructor and IT Manager for the College of Engineering.

2. Installation
   Mr. Harvey Ozbirn, Master Instructor and IT Manager for the College of Engineering.

3. Maintenance
   Mr. Harvey Ozbirn, Master Instructor and IT Manager for the College of Engineering.

4. Operation
   Mr. Harvey Ozbirn, Master Instructor and IT Manager for the College of Engineering as well as several faculty in the ITEC Department.

5. Training (with qualifications)
   Initially, faculty in ITEC will teach students how to access and use the software. While Automation Studio is user friendly and can quickly be learned, Famic Technologies, offers free personalized online training.

Budget Proposal

1.	**Equipment**	**$0**
2.	**Software**	**$11,523.00**
3.	**Supplies**	**$0**
4.	**Maintenance**	**$5,185.35**
5.	**Personnel**	**$0**
6.	**Other**	**$75.00**
TOTAL:		**$16,783.35**

Budget Narrative:
Software covers the cost of 30 dynamic student licenses for Automation Studio. The software is owned by UL Lafayette and the only recurring cost is the maintenance fee. Maintenance costs include maintenance and extended support for 2 years to include remote access, software updates, services releases and new versions as well as unlimited access to technical support. Teachware is included and offers instructors essentials for preparing course curriculum which is interactive and animated live by the software's simulation. Other covers shipping and handling.

Previous Funded STEP Projects

I have received a STEP grant in 2008 {STEP G29808} for AV equipment.

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Proposal # : 2020072205-LO-0
Date : 2020-07-20
Presented by : Christian Proteau

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ANNUAL MAINTENANCE IS REQUIRED TO ENABLE REMOTE ACCESS OPTION.

Automation Studio 6.4 Educational

Software Product(s)

Item	Qty	Description	Unit Price	Discount	Price
1	30	Automation Studio Educational 6.4 Fluid Power Package + Allen Bradley - Hydraulics - Proportional Hydraulics - Pneumatics - Proportional Pneumatics - Mechanical Links - Component Sizing Module - Electrical Controls (JIC & IEC) - Digital Electronics - SFC Grafcet IEC 61131 - PLC Ladder Logic Library (Allen Bradley™) - OPC Client - Diagnostics & Troubleshooting - Sequence Diagram - Embedded View NOTE: By default, our software is shipped as follows: - Download link,, 1 Protection Device (USB) or more. - For two or more users: there will be supplied one USB protection key (dongle) for Single-Station installation AND one USB dongle for Network installation programmed for the remaining number of users. For any other configuration, additional fees apply per additional dongle. ***End user : University of Louisiana at Lafayette***	384.10		11,523.00
1.1	2	Software Maintenance & Extended Support Program Educational Edition Duration: 1 year from purchase date Includes: - Manufacturers Catalogues - Remote Access Licensing (WAN1) for Network Configuration with 3 licenses or more throughout its period of validity - Software updates, services releases, new versions - Online Training Session (2 hours) - Unlimited Access to Technical Support (Phone, Fax, Email, Technical Support Portal) - Teachware for Hydraulic, Pneumatic and Electrotechnical - Access to already made 3D virtual system - The price is equivalent to 25% of the current software cost prior to any discount ***End user : University of Louisiana at Lafayette***	2,592.68		5,185.35
Currency : USD				SOFTWARE SUBTOTAL	**16,708.35**

Global Sub-Total	16,708.35
Shipping & Handling	75.00
Sub-Total	16,783.35
Total (USD)	**16,783.35**

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Condition(s)

-All orders are prepaid unless otherwise specified.

-All orders are subject to credit approval.

-Sales taxes, Import taxes (VAT for European countries), Duties and Customs clearance are NOT included.

-This Proposal, the purchase and the use by end users (clients) of Automation Studio™ license(s) are subject to the terms and conditions mentioned in the Automation Studio™ End User Software License and Maintenance Agreement (EUSLMA). See www.famictech.com or contact Famic Technologies Inc. in order to obtain a copy of this EUSLMA.

-Free hosting of Automation Studio™ licenses on Famic Technologies' Server: customer must have an active Annual Maintenance Plan and have accepted our Automation Studio™ Software License Hosting Agreement (SLHA). See www.famictech.com or contact Famic Technologies Inc. to obtain a copy of this SLHA.

Information

-Customer must specify network version and transfer protocol on the official purchase order. We currently support TCP/IP only. A minimum of 2 users must be ordered to obtain a network installation.

-Quote pricing is based on stated quantities, modules and options - Please contact us for pricing concerning any individual item selection. Purchase orders produced with other quantities based on the above prices may be refused.

-The educational versions of Automation Studio are specially priced for qualifying educational institutions according to relevant authorities standards. They feature limited and restricted performances compared to industrial licenses. Please contact Famic Technologies or your local distributor for further information.

-The proposal in its original version, and as used on the Internet, is protected by the authors' rights law.

-For proposals in currencies other than USD Dollars, prices may vary according to the exchange rate at the time the order is received by Famic Technologies Inc.

-A 3% surcharge will be added to your invoice if paid by credit card.

Minimum Requirement(s)

-EDUCATIONAL EDITION: Automation Studio™ minimum requirements: • Operating System Professional Edition (32-bit or 64-bit): Windows 7 SP1, 8, 8.1, 10 or Windows Server 2008R2 SP1, 2012, 2012R2 and Server 2016 - It is not recommended to install Automation Studio™ on a server machine. • Microsoft Office is not required, but if present, must be 32 bit for 32-bit installation of Automation Studio™ or 64 bit for 64-bit installation of Automation Studio™. • CPU: Intel® Core™ I5 or equivalent. Automation Studio™ takes advantage of multi-core processors. • Memory: 4 GB. • Graphic Card: Video memory 1 GB and up with support for OpenGL 2.0 and Direct3D 11 is required for the 3D module. • Disk space: 5 GB of free space is recommended. Additional space might be required for the catalogues.

Expiration

-This offer is valid for a period of 30 days unless otherwise specified in writing.

Shipping

-Shipping and handling included.

Product

-UNDER NO CIRCUMSTANCES WILL FAMIC TECHNOLOGIES INC. BE LIABLE TO CLIENT OR ANY THIRD PARTY FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES, EXPENSES, COSTS, LIABILITY OR LOSS WHATSOEVER, RESULTING FROM THE SERVICES RENDERED AND/OR THE PRODUCTS SUPPLIED, AND INCLUDING BUT NOT LIMITED TO LOST PROFITS, LOST REVENUE, LOST DATA, REPLACEMENT COSTS, LOSS OF USE OF ANY CIRCUIT OR INFORMATION SYSTEM, FAILURE TO REALIZE EXPECTED SAVINGS OR ANY OTHER COMMERCIAL OR ECONOMIC LOSS, WHETHER ARISING IN TORT, NEGLIGENCE, STATUTE, EQUITY, CONTRACT, COMMON LAW, OR ANY OTHER CAUSE OF ACTION OR LEGAL THEORY EVEN IF FAMIC TECHNOLOGIES INC. HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH LOSS OR DAMAGE.

Applicable Laws

-This Agreement shall be governed by and construed in accordance with the Laws of the Province of Quebec, Canada. The parties agree that any dispute arising out of or in connection with this Agreement including any question regarding its existence, termination or validity thereof, will be submitted to and finally resolved by the competent Court in the District of Montreal, Canada.

Intellectual Property

-Famic is the owner of Automation Studio™ and all titles, interests or moral right and Intellectual Property Rights attached to the Products. These Products and all titles and interests of Intellectual Property Rights attached to them are and remain the property of Famic. This Agreement does not confer any moral right, interests or ownership of Intellectual Property Rights attached the Products or other proprietary rights of Famic.

Contact

-To place your order, please send your purchase order by email to: orders@famictech.com

-For all inquiries regarding an invoice, a payment or to set up a supplier's account, please contact our accounts receivable's department by email at: ar@famictech.com