

# ŠKOLICE

PLATFORM FOR LABORATORY EXPERIMENTS

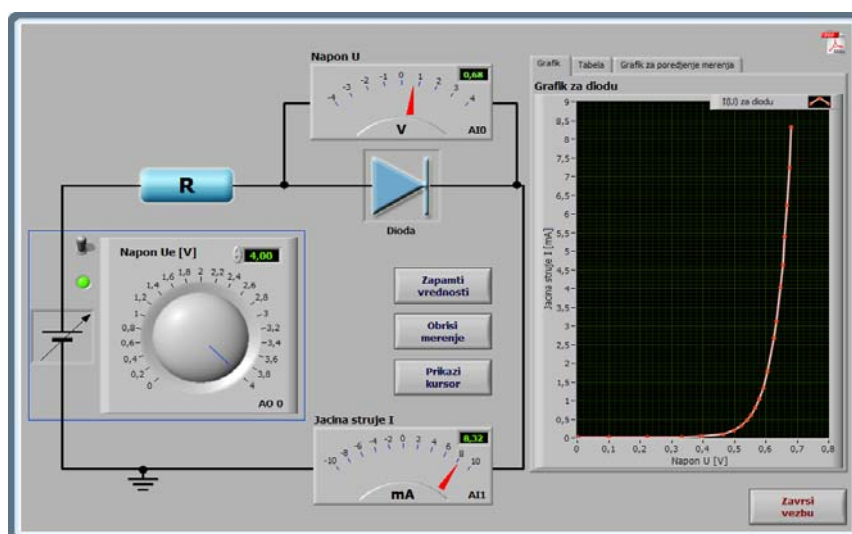
## ŠKOLICE I01 ELECTRICAL ENGINEERING, AC/DC SYSTEMS AND ELECTRONICS

Platform enable **students** to perform exercises **on their own**:

- ✓ simple – simple process of measurement
- ✓ focus on substantial – get conclusions from measurements, don't focus on techniques of measurement

and **teachers**:

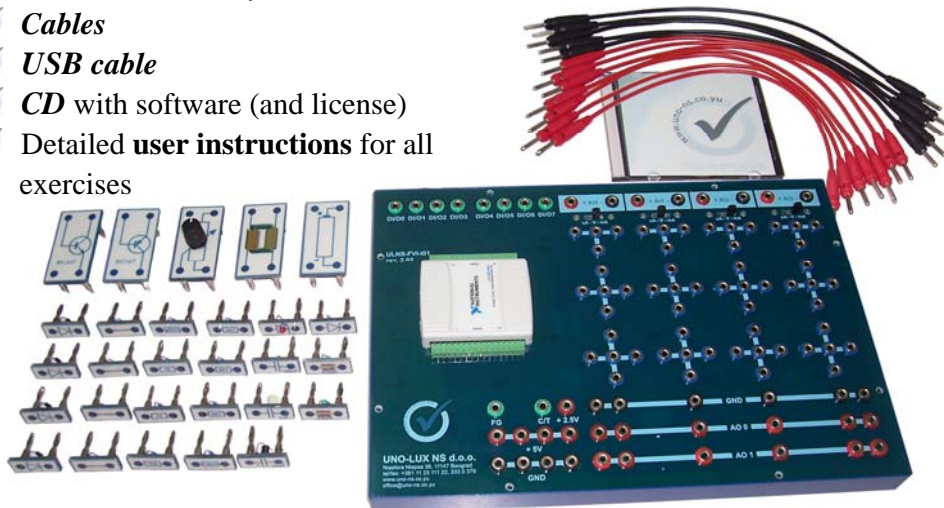
- ✓ extension and annex – realisation new exercises and demonstration experiments
- ✓ automatic archiving and report generation



**UNO-LUX NS** conceived and designed Školice I01, a platform for Lab experiments for Electrical Engineering and Electronics. The platform represents a prime example of applied virtual electronics, and is well suited for primary to high school educational level exercises.

Complete platform includes all elements necessary for organizing training practices:

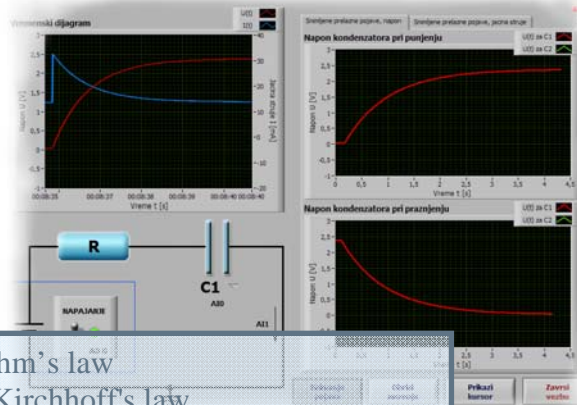
- ✓ **Main board** for implementation of schematic diagrams
- ✓ **Elements**: resistors, capacitors, inductors, diodes, transistors, potentiometer, battery, transformer...
- ✓ **Cables**
- ✓ **USB cable**
- ✓ **CD** with software (and license)
- ✓ Detailed **user instructions** for all exercises



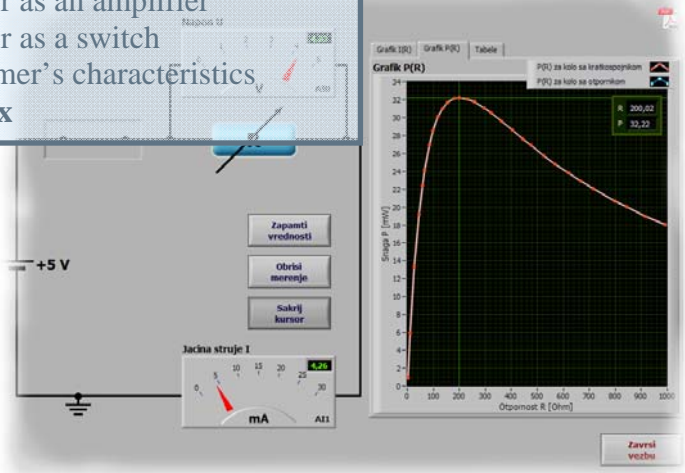
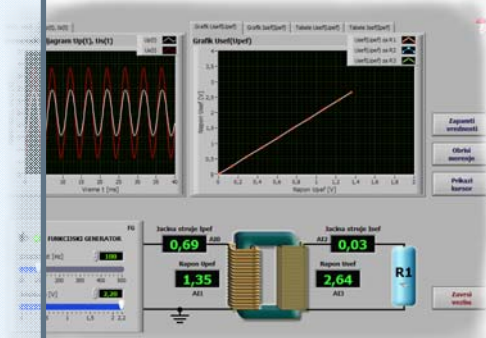
The main board contains data acquisition sub-system (standard industrial product) that is in charge of both generation and monitoring (acquisition) of all relevant signals. No other instruments are needed (no meters, scopes, function generators, etc.) thanks to virtual instrumentation concept on this platform.

The experiment is performed by starting a program – virtual instrument which has been realised in **LabVIEW** software development kit (industrial standard), controlling measurement process and recording results of measurement.

**Also, this platform is hardware based for additional experiments for physics, chemistry, biology and special areas which is in a phase of development.**



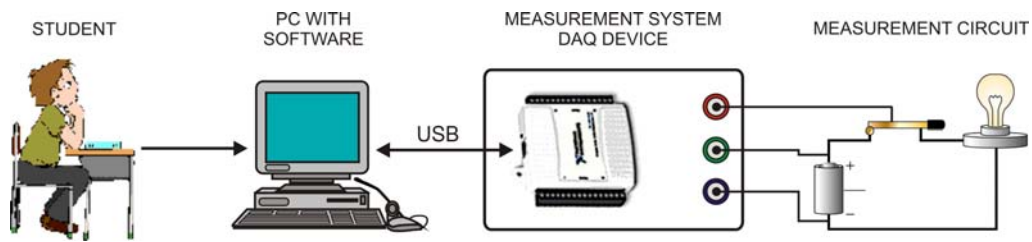
- 1) Ohm's law
  - 2) I Kirchhoff's law
  - 3) II Kirchhoff's law
  - 4) Resistors in serial connection
  - 5) Resistors in parallel connection
  - 6) Wheatstone bridge
  - 7) EMF and internal resistance
  - 8) Power dissipation of resistor
  - 9) Capacitor's charge and discharge
  - 10) Capacitor's characteristics
  - 11) Inductor's characteristics
  - 12) RLC circuit
  - 13) Phase difference in RC circuit
  - 14) Diode characteristics
  - 15) Diode as an rectifier
  - 16) Graetz circuit
  - 17) Transistor's characteristics
  - 18) Transistor as an amplifier
  - 19) Transistor as a switch
  - 20) Transformer's characteristics
- + **Appendix**



# ŠKOLICE

Lets learn together !

Improve teaching quality to the higher level!



- ✓ Connect electrical circuits to match predesigned configuration
- ✓ Control and present results on PC
- ✓ Generate reports in MS Word and Excel format for every student



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