◁◁VICILOGIC

Cook your own Silicon Chips in 10 minutes using hardware in the Cloud

Presenter   Dr Fearghal Morgan, National University of Ireland, Galway
Duration   Collaborative presentation (30 minutes), workshop (max 2 hours)

viciLogic and viciLab are available. Simply register, select a course and "Get started"

Part 1 Collaborative Presentation: application of viciLogic and viciLab (30 mins)
- viciLogic, developed in the National University of Ireland Galway, is a next generation, online learning, assessment and prototyping platform for basic-to-complex digital integrated circuit (IC) design.
- viciLogic uses a scalable array of reconfigurable hardware devices (FPGAs) in the Cloud, accessing all internal IC signals in real-time to animate any graphical view* of the behaviour of the IC.
- We embed this interactive animation within viciLogic self-paced, directed online courses to aid learning, perform user knowledge checks, direct the user to control the IC through specified states (and optionally measure user understanding).
- viciLogic uncovers "What's inside" modern digital technology for engineers, programmers, university students, and ultimately secondary level teachers and students.
- Currently available viciLogic course: Fundamentals of Digital Systems
  Available Mar16: "FPGA Data Processing Applications", "Introduction to Computer Architectures"
- viciLogic provides the viciLab application to perform repeated practical prototyping of hardware applications operating on FPGAs in the Cloud, with real-time Graphical User Interface (GUI) control and visualisation of the hardware operation.

Part 2 viciLab Workshop, Duration (2 hours)
1. Within 10 minutes, a first time viciLab user can
   a. download the viciLab application
   b. select a component from a viciLab device library
   c. implement the component on an FPGA hardware device in the Cloud
   d. control and visualise its operation and the behaviour of any internal signals, in real time.
2. Build and test FPGA prototypes$^{\overline{T}}$ using viciLab and free industry standard CAD tools, with real-time interactive GUI control and visualisation.

Requirements:
- PC/laptop and network access
- Xilinx PlanAhead Electronic Design Automation toolsuite (installation instructions, workshops 2/3)

* Views include component block diagrams, timing diagrams, state machines, truth tables, FPGA internal devices and their operation, webcam stream of operating remote hardware

$^{\overline{T}}$ Prototype every medium-scale, synthesisable VHDL model you have ever created, and animate its behaviour using a GUI.
Build the most powerful hardware imaginable

OÉ Gaillimh
NUI Galway

Contact Fearghal Morgan, Ph.D
fearghal.morgan@nuigalway.ie, +353 86 3585544
https://ie.linkedin.com/in/fearghalmorgan

ENTERPRISE IRELAND
where innovation means business