



User Manual

FPGA Web Project

2025/03/13

v.0.4

A step-by-step user guide to getting started

Realized by the Team 1

ALGOSUP

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The website

This website is focused on helping you teach or learn how the FPGA board system works. It combine a realistic 2D representation with a dynamic signal propagation over time. The aim is to create an interactive and intuitive platform that allow you to observe and analyze signal propagation.

For simplicity, we will represent the FPGA system with different view to understand the FPGA system through animations that symbolize signals transfers.

This includes integrating the layout resulting from the synthesis and P&R processes with timing simulation data. You can analyze using a test bench and a timing netlist, both written in Verilog.

What can you do?

Subtitle

Content

Definitions

Here are the definitions of words whose meaning is important to know:

Word	Definition
FPGA	A Field-Programmable Gate Array is an integrated circuit with basic elements and preconfigured electrical signal routes between them.
netlist	A netlist is like a recipe for building an electronic circuit. It tells you what components you need and how to connect them together to create a functioning circuit.
P&R	Place and Route is the packing of the netlist component in the FPGA available BEL (Place). Then a route for signals between each BEL is selected (Route). A timing netlist is created and can be exported in Verilog.
test bench	A test bench is a crucial tool in the design and verification process, helping to ensure that digital circuits and systems function correctly before they are manufactured.
Verilog	Verilog is a language used to program a system using the FPGA layout. It use to writting instruction to the system.

Word	Definition

Warnings

Subtitle

Content

Q&A

Here are the most frequently asked questions:

Questions	Answers

Ressources

How to code in Verilog?

To have more documentation about Verilog, you can search on the following site: www.nandland.com or buy "Getting Started FPGAs" from Russell Merrick

What is FPGA?

To have more information about FPGA, you can search on the following site: www.wikipedia.org/wiki/FPGA

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