

The background of the slide is a spiral-bound notebook with a light beige, textured cover and a silver metal spiral binding on the left side. The notebook is open, showing a blank page with faint horizontal lines.

Introduction

Design and Design Automation
in the Undergraduate Curriculum

Education Through Design

- ✓ Learn by Doing, not by Memorizing
- ✓ Motivation for Principles Becomes Clear
- ✓ Reinforce Lecture Material
- ✓ Integrate Isolated Lecture Topics

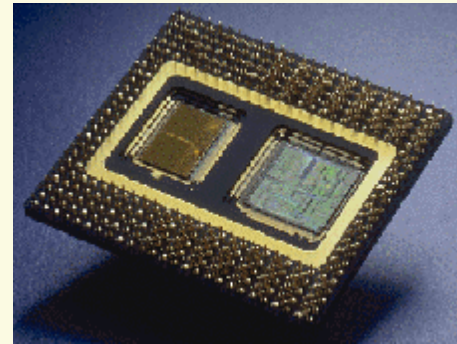
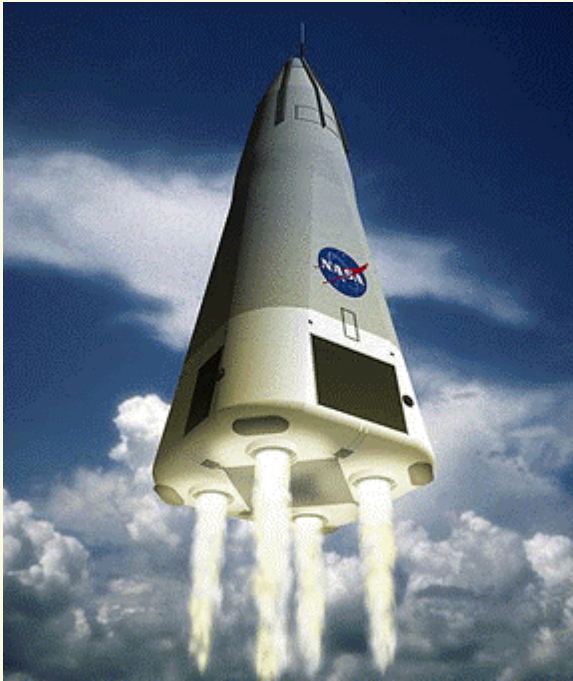
Integrating Design

- ✓ Simulation is Needed to Reduce the Time Required for Individual Projects
- ✓ Some Re-Orientation of Course Material is Required
- ✓ Design Automation Software is Required
- ✓ Some New Courses Should be Offered

Essential Areas in Hardware

- ✓ Logic Design
- ✓ Computer Architecture
- ✓ Digital System Design
- ✓ FPGA Design
- ✓ CMOS Design
- ✓ PCB Design
- ✓ Design Automation

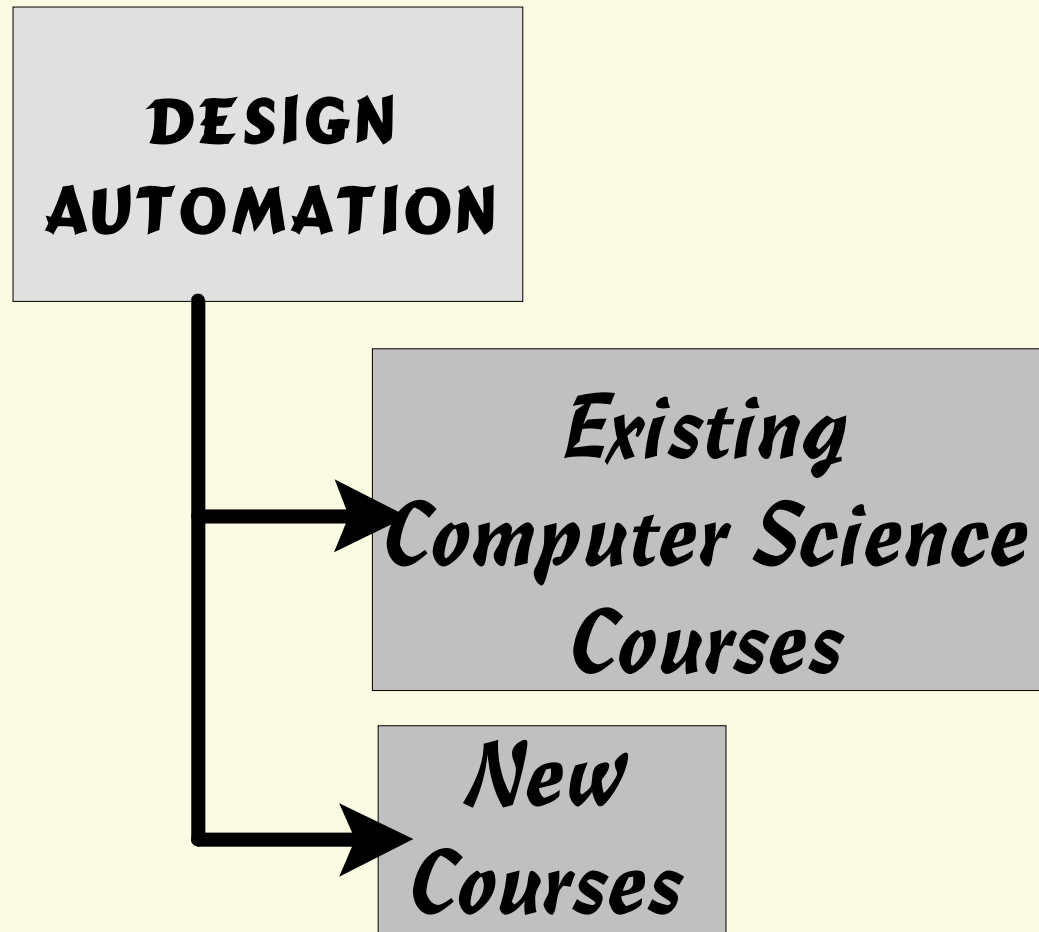
Why Design Automation?



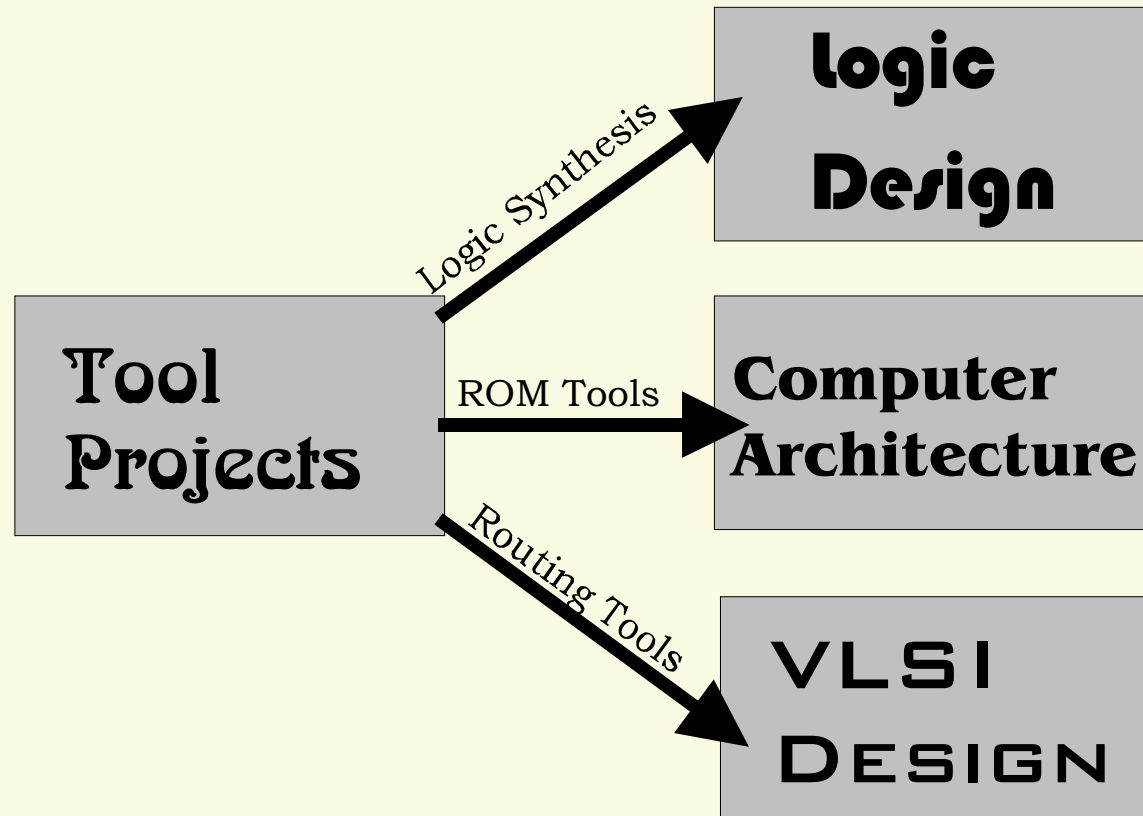
Because ...

- ✓ Modern Design is Impossible Without Design Automation
- ✓ Design Automation is a Mature Area with Many Well-Defined Principles
- ✓ Design Automation is a Fruitful Research Area for Computer Scientists
- ✓ Design Automation Positions are in High Demand

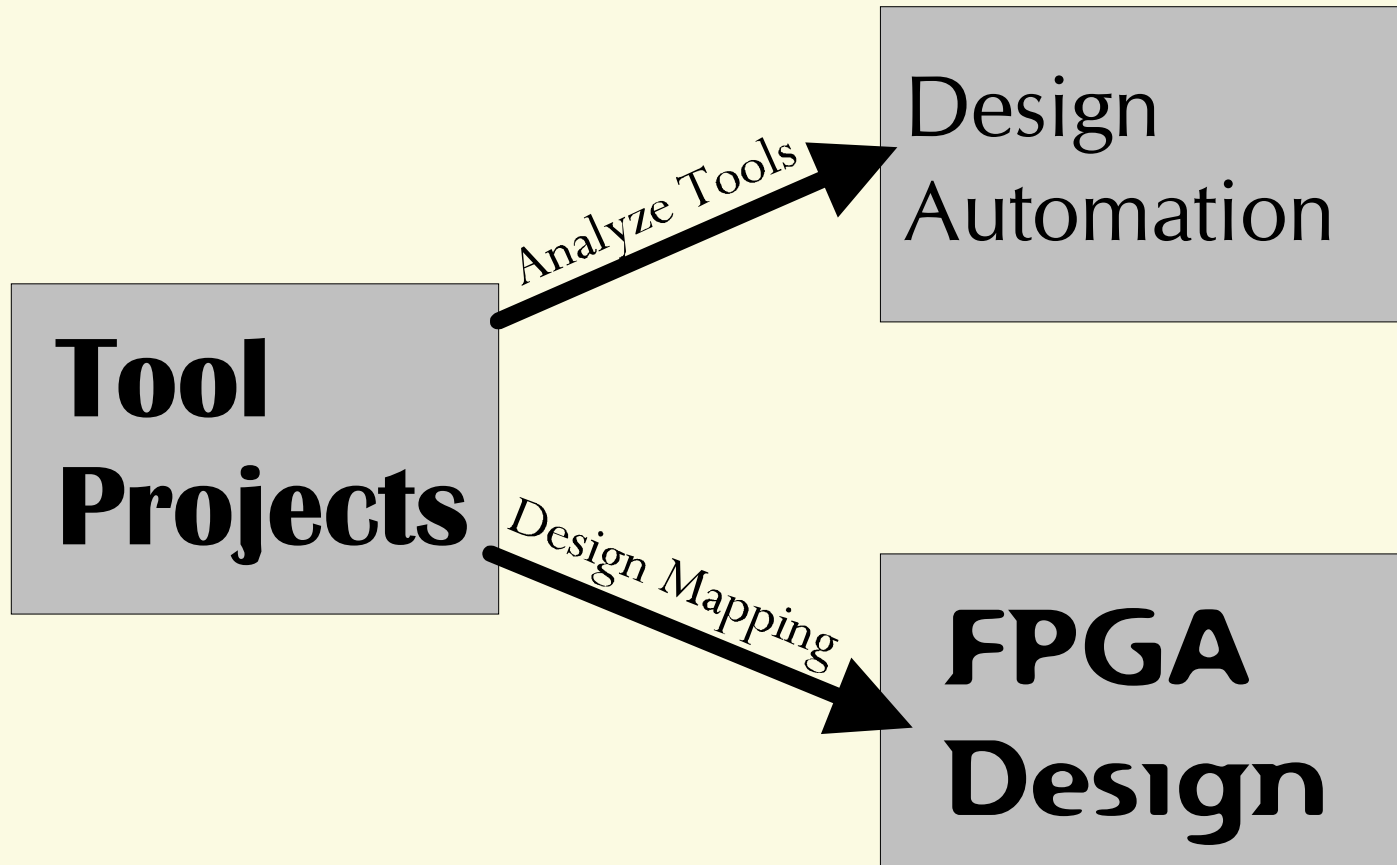
Relationships



DA ==> Existing Courses



DA ==> New Courses



Today and Tomorrow

✓ Today

- *FHDL & Introduction to Design Automation*
- *How to put together a DA Course*
- *FHDL Practice*

✓ Tuesday

- *Logic Design and Computer Architecture*
- *Intro to Visual Basic/DLL Programming*
- *Visual Basic Practice*
- *Laboratory Exercises*

The Rest of the Week

✓ Wednesday

- *How to Design an FPGA Course*
- *Digital Design Using FPGAs*
- *XILINX Tools & Practice I*
- *XILINX Tools & Practice II*

✓ Thursday

- *XILINX Tools & Practice III*
- *How to put together a CMOS VLSI Course*
- *Introduction to Design Tools*
- *Lab with Tools*

Break Time!





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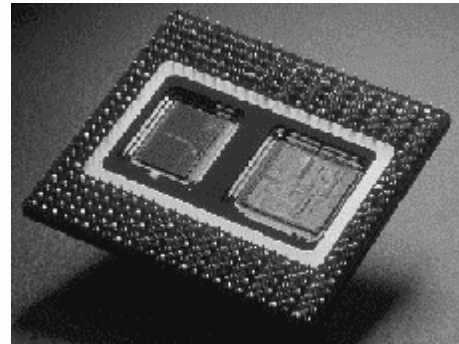
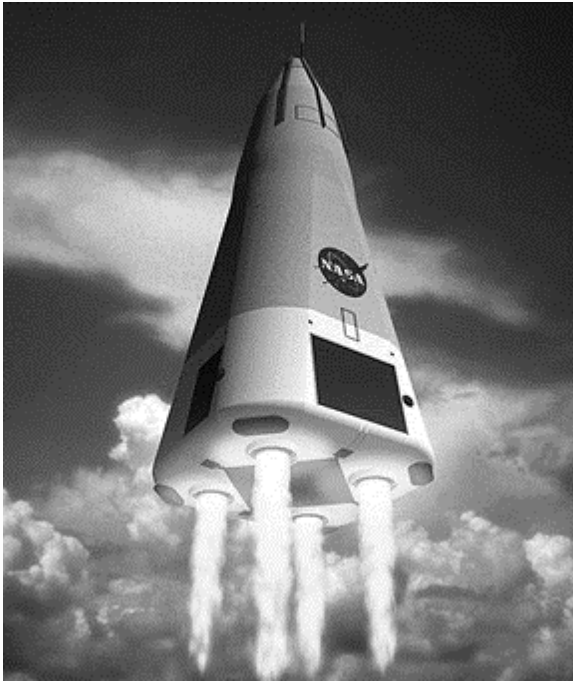
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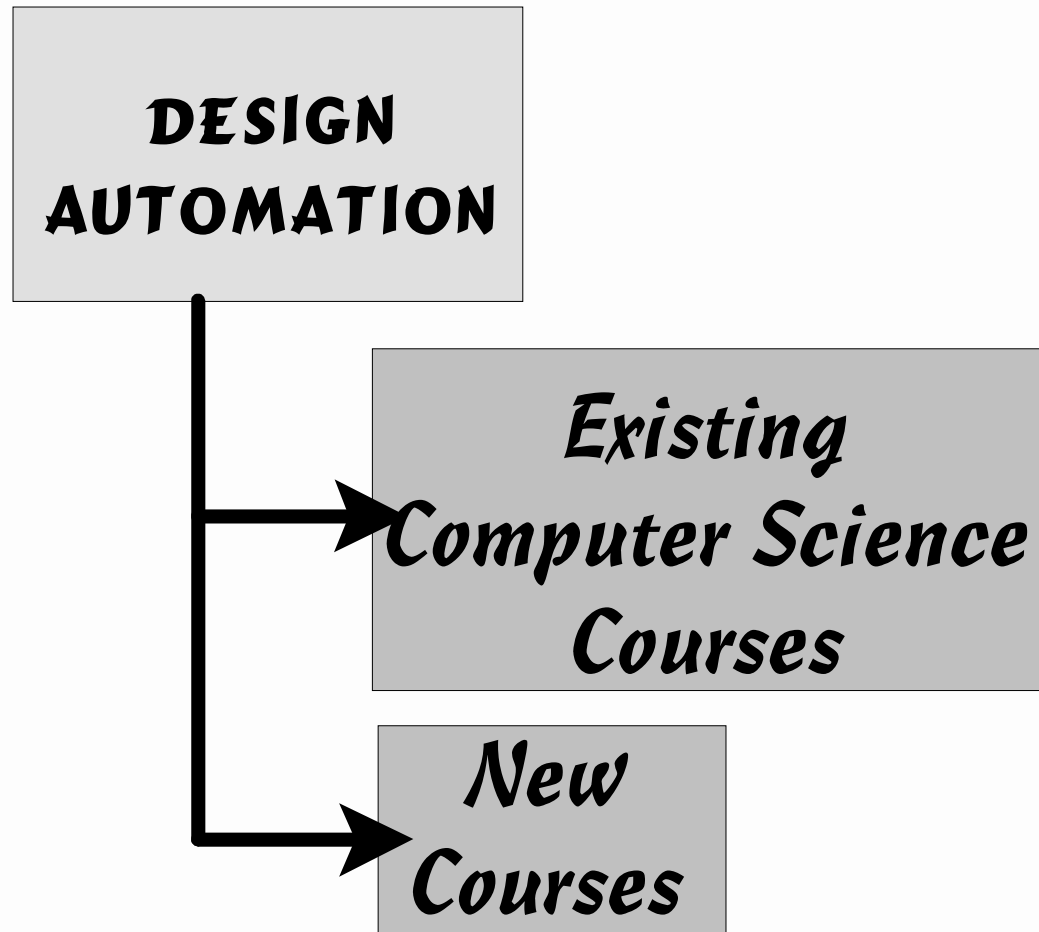
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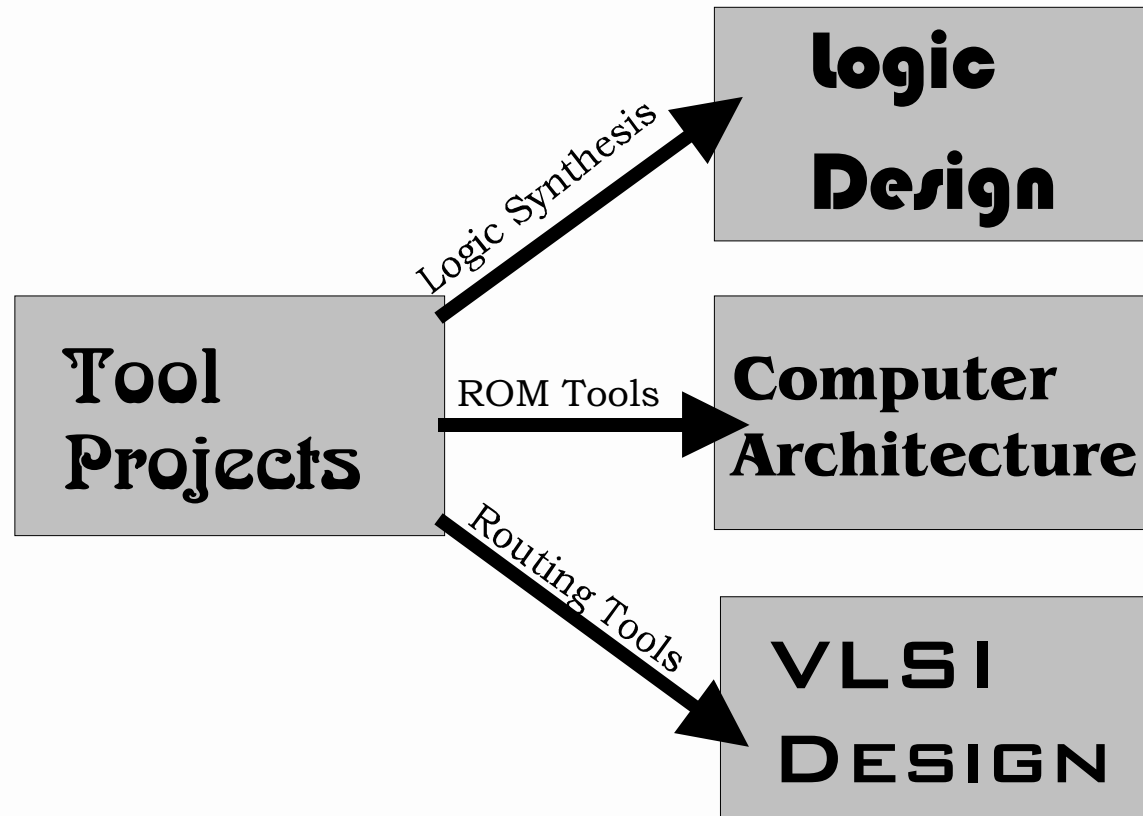
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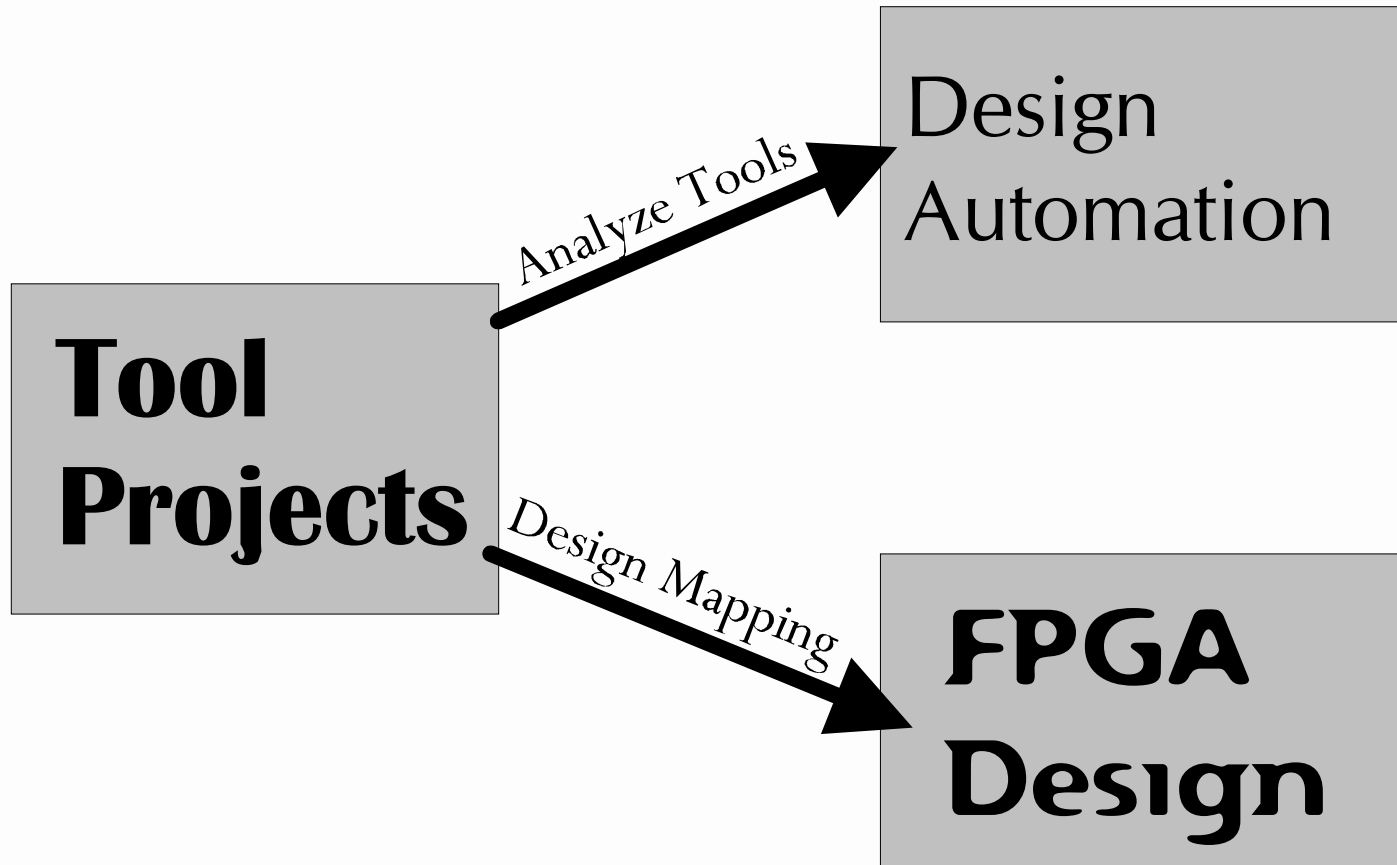
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