

CPU Architecture on an FPGA

Features:

- **Custom 16-bit RISC CPU Architecture**
 - 12 general purpose registers
 - Special registers: link, status, and stack pointer
 - Arithmetic: add, subtract, multiply, divide, modulo, AND, OR, XOR, NOT, shift logical left, shift logical right
- **12 MHz Clock Speed**
- **Debugging interface**
 - Read register contents to 7-segment displays
 - Clock controls
 - Stop clock
 - Button clock
 - Current Program Count displayed on 7-segment displays
- **Memory mapped peripherals**
 - LCD
 - 16 GPIO Pins
 - Timers
- **Altera DE2 FPGA Development Board**

