Processor Requirements:

* Pipelined (at least 4 stages)
* 4 general purpose registers (eax, ebx, ecx, edx)
* 1 accessible functional registers (iterator)
* 2 accessible pointer registers (instruction and stack)
* 32 bit bus (at least 2). All registers should be accessible for 8, 16 or 32 without modification of the rest of the register.
* Up to 64 instructions. (should include all the jump ifs and possible special string handlers)
* At least 16 arithmetic instructions.
* Should be able to run faster than 50MHz on FPGA as that is the clock available.

VGA Controller requirements:

* Must have two clocks. 25MHz clock for VGA controller. 50MHz clock for cpu interfacing and ram access.
* Must decode ascii characters into pixels.
* Needs to hold and increment X and Y character coordinates.
* 60Hz refresh for 640\*480 display.