



4.7.3.6 Interrupts

Interrupts

Interrupts are signals from a piece of hardware or software which require the attention of the CPU.

These signals have different levels of priorities depending on how urgently the interrupt needs to be handled. If an interrupt has a higher priority than the program currently being processed then that program state is saved so that the interrupt can be handled.

Interrupts can range from simple events like a mouse click or key inputs to serious events like hardware or power failures.

Handling Interrupts

- Complete the current FDE cycle.
- Check the priority of the incoming interrupt.
- If the interrupt has a higher priority than the current process...
- then store the contents of the registers onto the call stack so that the state of the interrupted process can later be restored
- The relevant ISR (interrupt service routine) is loaded by the operating system.
- This ISR is executed to handle the interrupt.
- When it is finished the previous program state is returned...
- by popping the values off of the call stack and back into the registers.

