



1.2.1 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.

