Virtual Memory

CPU

PA = 0x7927

MMU

Page Table

TLB

VA

mov 0x8040

VA

few page table entries

in cache

in main memory

Main Memory
Exceptional Control Flow

User program

"Faults"

I_curn

control transfer

OS routine

page fault exception handler

I_curn

control transfer

(executed again)
Exceptions

- Interrupts
- System Calls (Traps)
- Faults
- Aborts.

Interrupt

Computer

CPU

read() stdio

Keyboard

Mouse
progA → Process A → Process AB

read() → context switch
read from keyboard

interrupt from keyboard → context switch

Process A

A

B
Polling

After 10 ms

CPU

Any data?

Yes/No

I/O device

Ring interrupt