

Second Chance implementation

Version 2 : Clock algorithm

➔ use the accessed bit supported by most hardware

Data structure

circular linked list of pages (clock) with one pointer (hand)

Code

- on hit, set the corresponding page's accessed bit to 1
- on miss
 1. while hand's accessed bit is 1, set hand's accessed bit to 0 and move to next page
 2. else if hand's accessed bit is 0, swap the hand's page with the new page and an move next page

● Better performances than fifo-like second chance (no rotation on miss)

Other Replacement Algorithms

Random eviction

- Dirt simple to implement
- Not overly horrible (avoids Belady's anomaly)

LFU (least frequently used) eviction

- Instead of just A bit, count # times each page accessed
- Least frequently accessed must not be very useful (or maybe was just brought in and is about to be used)
- Decay usage counts over time (for pages that fall out of usage)

MFU (most frequently used) algorithm

- Because page with the smallest count was probably just brought in and has yet to be used

➔ Neither LFU nor MFU used very commonly