I/O States → Disk

McPhee
Disk I/O <-> memory mapped + DMA

Disk

Buffer

DMA

Buffer

Kernel

User
Disk I/O from disk buffer to OS buffer

Start

Stop

Go

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf

Disk buf
// declare in buffer

buffer

set bytes to 1

set byte to sr

set sr <- sr + 1

read block (byte, x-byte)

poll I/O - (x-byte)
Device Driver

\[ \text{sync method} \rightarrow \text{semaphore} \]

\[ \text{readblock()} \]
\[ \text{writeblock()} \]

\[ \text{int handler} \]

\[ \text{disk} \rightarrow \text{user} \rightarrow \text{half} \]

\[ \text{block-num, destination} \]
3 \v(r_{disk \ space}) \leftarrow \{disk \ space\} \leftarrow \{disk \ space\} \leftarrow \{disk \ space\} \leftarrow \{disk \ space\}

char \ \text{disk I/O}

queue

put block, buff \rightarrow \text{ leads to be read}

\text{disk \ space} \leftarrow \{disk \ space\} \leftarrow \{disk \ space\} \leftarrow \{disk \ space\} \leftarrow \{disk \ space\}
interrupt routine

\[\exists\]

\( v(\text{disk wait}) \)

\}
distance measured by key

eye

head
to

seen

from

head

See the time, key east

Place measurement
Current

First contact - SSTF - Shortest seek time

Start

Step 1:
Look = diagnosis / interpreted scan

Note: Further Step E → C
by strategy
the order

v (worse)

\[ p(w|p) \rightarrow f(p) \]

not fit

if cs is good

\[ p(c|m) \rightarrow r \]

How?