


Vision. Value. You.

Introduction to Computers

CGS 1100

Spring 2004
Unit 2A

Dr. Martin Hepp

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Vision. Value. You.

Reading Assignment for Today

- Download Assignment Description from
<http://ruby.fgcu.edu/courses/mhepp/>
(-> CRN10026)
- Read given web pages about
 - Hard Disks
 - Floppy Disk
 - Magneto-Optical Drives
 - CD-ROM
 - CD-R

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Hard Disks

<http://computer.howstuffworks.com/hard-disk.htm/printable>

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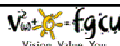
Hard Disks

- Platters
- Read/Write Head
- Actuator Arm

<http://computer.howstuffworks.com/hard-disk.htm/printable>

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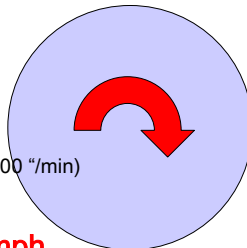

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Speed

$r = 3.5'' / 2$
diameter = 3.5 "
circumference = $2\pi r$

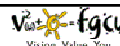
$\Rightarrow 3.5'' * 3.1415 = \text{ca. } 11''$

$\Rightarrow 7200 \text{ rpm}$
 $\Rightarrow 11'' * 7,200 \text{ inch/minute (79,200 ''/min)}$
 $\Rightarrow 11'' * 7,200 * 60 \text{ inch/hour}$
 $\Rightarrow 4,752,000 \text{ inch/hour}$
 $\Rightarrow 4,752,000 / 63,360 \Rightarrow \mathbf{75 \text{ mph}}$

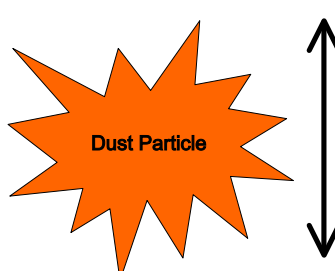


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Dust and Abrasion



Dust Particle

a few micrometers
(ca. 1/1,000,000 yard)

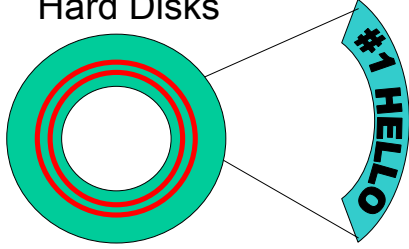
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Hard Disks

- Tracks
- Sectors



<http://computer.howstuffworks.com/hard-disk.htm/printable>

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Hard Disks

Low-level formatting: Marks the tracks and sectors on the platter. The starting and ending points of each sector are written onto the platter.

High-level formatting: Writes the file-storage structures.



<http://computer.howstuffworks.com/hard-disk.htm/printable>

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Floppy Disk

http://www.webopedia.com/TERM/f/floppy_disk.html

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CD-ROM

http://www.usbyte.com/common/compact_disk_3.htm

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CD-ROM

http://www.usbyte.com/common/compact_disk_3.htm

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CD: Only ONE Track!

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CLV vs. CAV

CLV: Constant Linear Velocity: inches per second remains constant

CAV: Constant Angular Velocity: rotations per second remains constant

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CD-R

http://www.usbyte.com/common/recordable_CD.htm

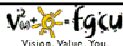
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Magneto-Optical Drives

<http://www.usbyte.com/common/MOsystems.htm>

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Reading Assignment for Next Class

MS Word 2000 Textbook:

1. Project 1 & Project 2
2. Read and apply!
3. Check the sections "What You Should Know" (pp. WD 1.58 and 2.55)

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Thank you!

The slides will be available on the internet at

<http://ruby.fgcu.edu/courses/mhepp/>
(-> CRN10026)

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