INTRODUCTION PT 2

CS 030

Abstract Models for Concrete Problems using Java

Prof. Donald J. Patterson

Evolution of Computer Power/Cost

MIPS per $1000 (1997 Dollars)

Million

1000

1

1/1000

1/Million

1/Billion

1900 1920 1940 1960 1980 2000 2020 Year

Brain Power Equivalent per $1000 of Computer

Human

Monkey

Mouse

Lizard

Spider

Nematode Worm

Bacterium

Manual Calculation

1995 Trend

1983 Trend

1975 Trend

1965 Trend

Gateway G6-200

PowerMac 8100/80

Gateway-486DX2/66

Mac II

Macintosh-128K

Commodore 64

IBM PC

Apple II

DG Eclipse

CDC 7600

DEC PDP-10

IBM 7090

IBM 1130

Whirlwind

IBM 704

UNIVAC I

ENIAC

Colossus

Burroughs Class 16

IBM Tabulator

Monroe Calculator

Zuse-1

ASCC (Mark 1)

Power Tower 180e

AT&T Globalyst 600

IBM PS/2 90

Mac IIfx

Sun-2

Sun-3

Vax 11/750

DEC VAX 11/780

DEC-KL-10

DG Nova

SDS 920

IBM 360/75

IBM 7040

Burroughs 5000

IBM 1620

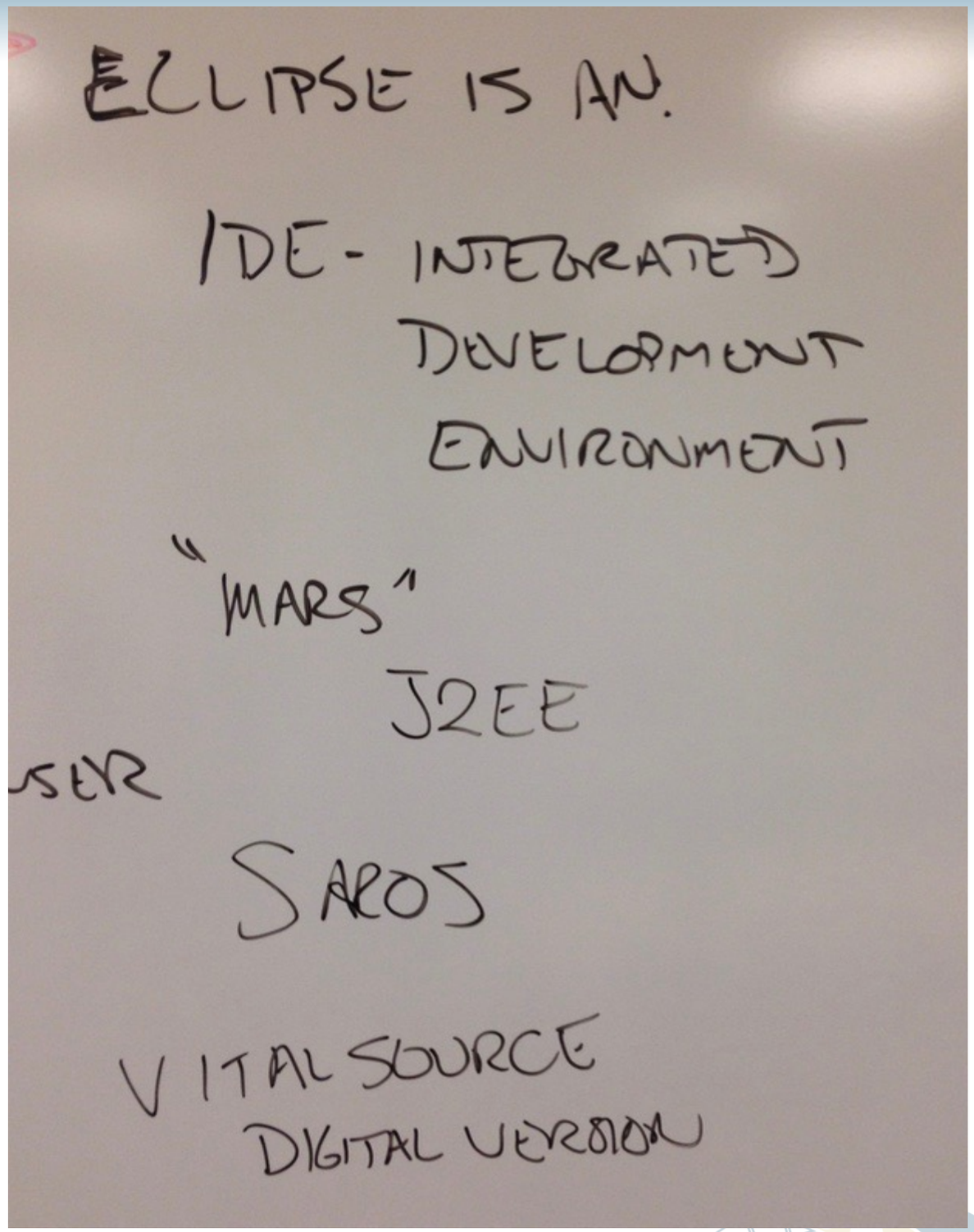
IBM 650

http://www.transhumanist.com/volume1/moravec.htm

BOARD NOTES

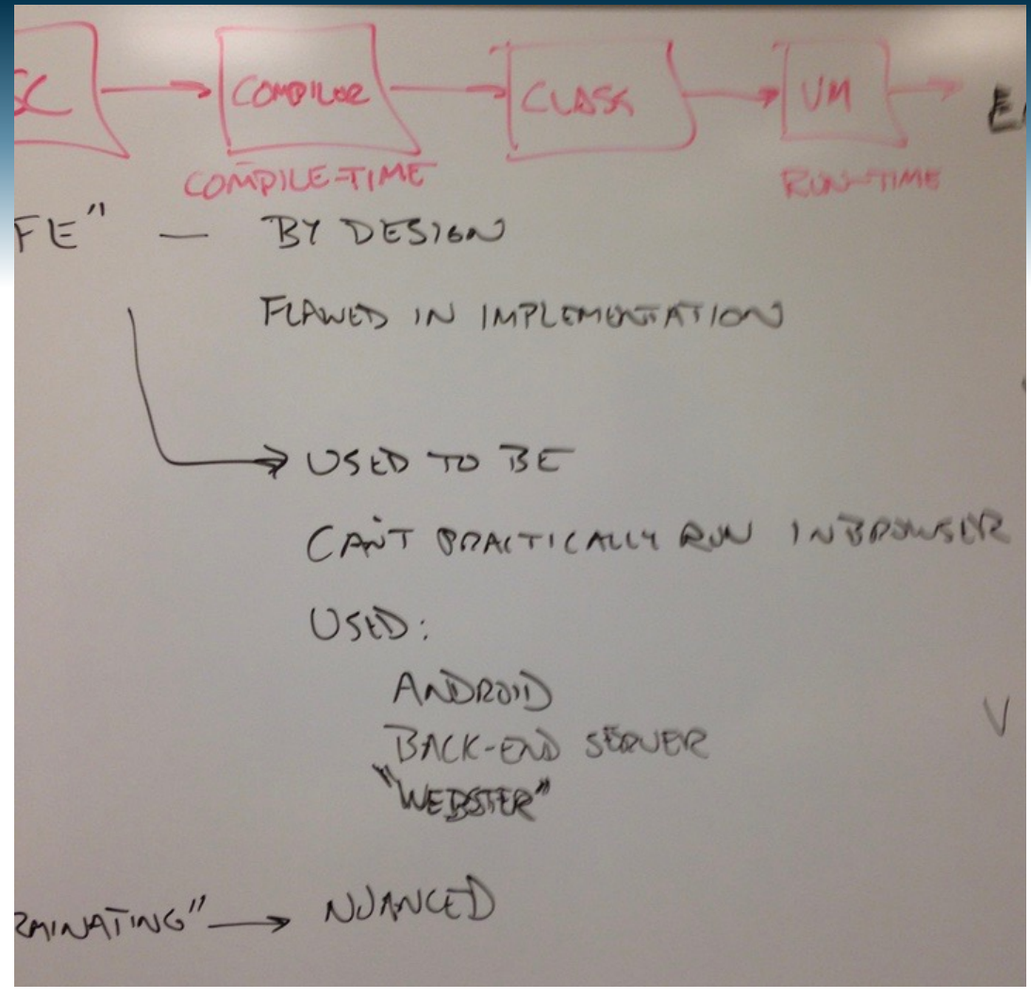
- Eclipse
  - Current version is “Neon”
  - Saros is a real-time collaborative editor for Eclipse - completely optional
- VitalSource
  - online viewer for textbook.

    I’m not sure how you get the code to download it



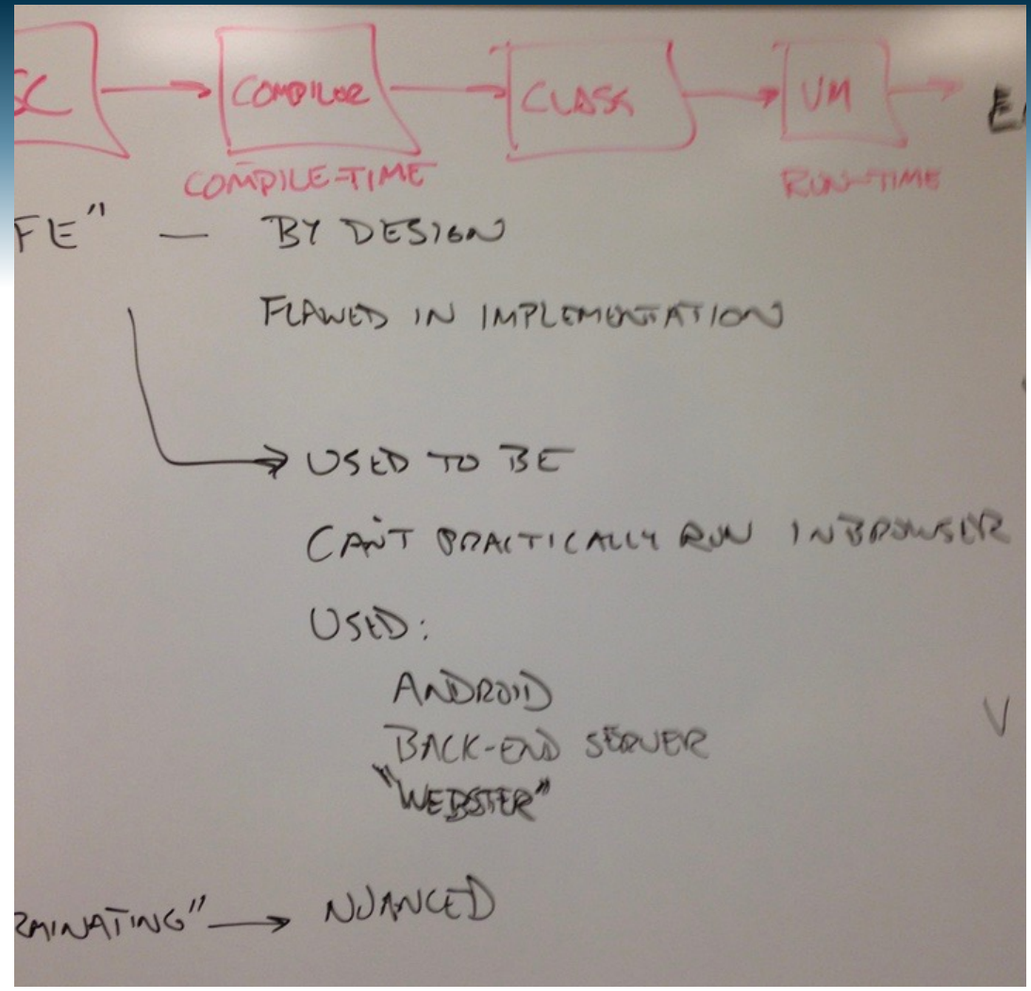
BOARD NOTES

- Compile-Time Errors
  - Detected in Eclipse
  - Occur primarily from syntax errors
- Run-time Errors
  - Occur from logic errors
  - “Unit testing” is a strategy for catching these



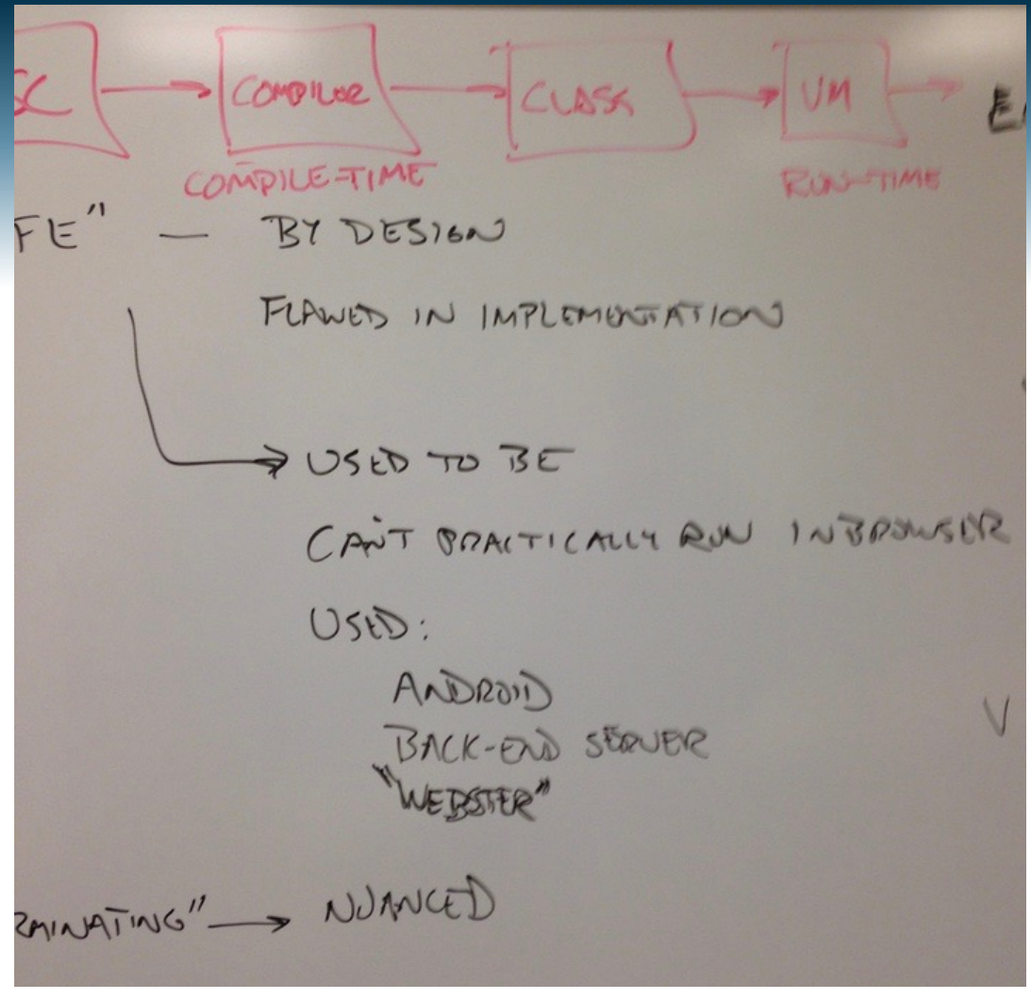
BOARD NOTES

- Java is “Safe”
  - Designed to be safe
  - In practice not implemented very safely
  - Java is not used much for front-end development - mostly servers and Android now



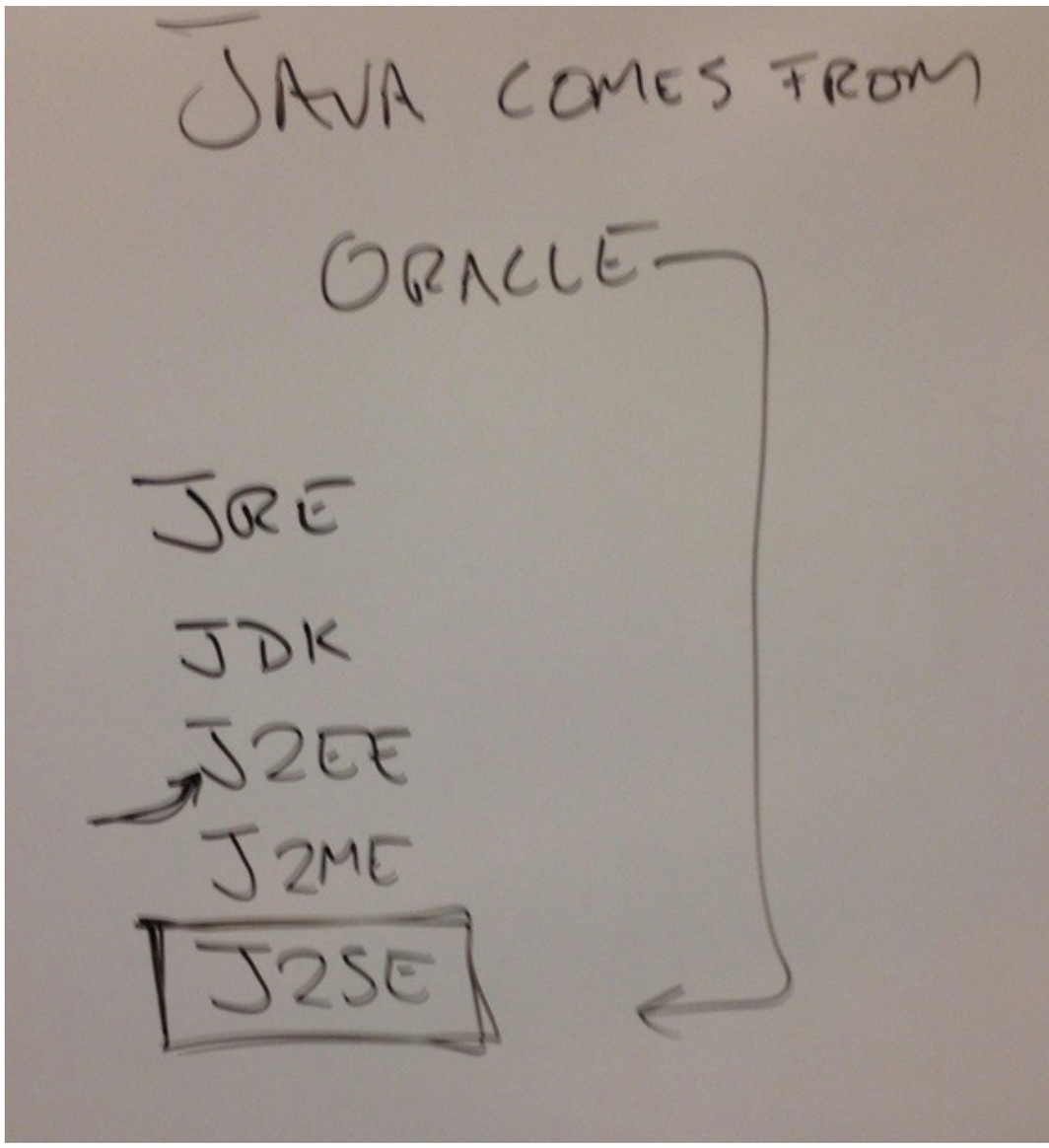
BOARD NOTES

- An algorithm is “terminating”
  - This is nuanced. There are plenty of algorithms that don’t terminate that are legitimate algorithms.
- For a basic understanding assume algorithms must terminate.



BOARD NOTES

- Java downloads
  - JRE - Runtime Environment
    - so you can run Java programs
    - the virtual machine
  - JDK - Development Kit
- Java Editions
  - J2EE - Enterprise Edition
  - J2SE - Standard Edition
  - J2ME - Micro Edition
- You need a JDK to program java programs -



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