CS 211 Accel/Project - Aug 31, 2000

- More programming and a final project

- No Final Exam

- Additional depth and related material

- Grade based on 2 Prelim exams (20% each) and homework including a final project (~30% + ~30%)

- Opportunity for additional individualized project if desired - such as an extension of the assigned project

Additional depth and related/expanded material

- Relationship to concepts and approaches in other programming languages

- Alternative ways of thinking about key concepts and implementing selected algorithms

- Self-description in of Java

- Discussion of web and database applications.

- Some opportunity for individualized mini-projects IF desired

Project - *possibilities*

- Likely to include following aspects:

  - Data manipulation: file store or (use of) database

  - GUI development

  - Applets for dynamic client side interactions

  - Client-server architecture

    - possibly servelets: Java on server side

- Possible projects:

  - Warehouse/inventory control

  - Language compiler or interpreter

  - Interactive Game

  - Graph algorithms

Likely Topics

- ## Self-description: 'reflection', 'introspection'
  - enhanced dynamic operations
  - conceptual relationship to 'schema tables' and data dictionary in databases

- ## Multiple inheritance and other 'flavors'

- ## Decision trees, game trees, search space and planning 'trees'

- ## Model - View - Controller paradigm for event-driven programming and GUIs

- ## Note: emphasis on concepts

Possible Topics - 2

- Strongly-typed verses loosely-typed languages: flexibility versus efficiency

- Related sorting algorithms
  - heap for heapsort (as well as for priority queue)
  - topological sort and directed graphs
  - divide and conquer - e.g. quicksort

- Serialization of complex objects

- B-trees and database-style indexing (concepts) - if time permits.

- JDBC for databases (concepts)

First Priorities

- Fully understand all material from lectures.

- Be proficient with Java constructs we cover.

- Good program structure and description.

- Testing and validating the software you produce.

- May occassionally run 'extra' Accel/Proj recitations for review.

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- Web: http://www.cs.cornell.edu/courses/cs211