Model – View – Controller

Debugging

Slides adapted from Craig Zilles
Model – View – Controller (MVC)

- A Software Architectural Pattern
  - Much like a design pattern
  - It uses design patterns

- Provides low coupling in User Interface systems.
MVC Key Idea

Break application into 3 logical components

- **Model:**
  - Holds the state of the application and logic/rules of how state can be updated.

- **View:**
  - Output representation of information

- **Controller:**
  - Accepts user input and translates it into commands for the model or a view

*Decouple interface from application state*
MODEL

- UPDATES
- MANIPULATES

VIEW

CONTROLLER

USER

SEES

USES
Low Coupling from Views/Controllers to Model

- Model code is independent from interface
- Can support many different views
  - Simultaneously or one-at-a-time (e.g., summary vs. detail)
  - Use Observer pattern to attach Views to Model
- Can support many different controllers
THE MVC PATTERN

1. User interacts with a view

2. View alerts controller of a particular event

3. Controller updates the model

4. Model alerts view that it has changed

5. View grabs model data and updates itself
How hard was Better Linked List?

A. Easy
B. Moderate
C. Challenging
D. Unreasonable
How long did it take to complete Better Linked List?

A. Less than 3 hours
B. 3 to 6 hours
C. 6 to 9 hours
D. 9 to 12 hours
E. More than 12 hours
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