Review Network Protocol Updates
Project #6
Quiz #2
‘Blue’ network design

- Most problems fixed
  - Frame number added to most packets
  - OWD calculations and latency adjustments refined
    » Unfortunately mostly in prose – lots of room for variable interpretations
  - Stall packet added
    » Again, missing digrams lead to variable interpretation

- You may begin coding to match this specification.
  - You must assume changes are coming!!!
    » Code wisely.
Project #6

- Implement a lobby and the multiplayer network protocol specified by team Blue’s document.
  - Team project, teams of 2
  - Estimated work required: 20 – 50 hours
  - Time allotted: Three weeks
  - Each person should plan on 3 – 8 hours of work a week (5 on average).
    » This is Software Practice II, after all!
  - Plan your time wisely
Project #6 - Details

- I have created an interface: IDeterministicGame
  - During the game loop, you will write your network code to work with an object that implements this interface.
  - The object will be a deterministic ‘game’.
  - I will review this during today’s class.

- The TestHarness game
  - Not really a game, but an event reporting environment.
  - Perfect for debugging
Project #6 - Details

- Phase #1: Create a lobby that allows multiple players to form up and start a game.
  - Look and feel is entirely up to you. You may choose what actions the user should perform to join the game. Any reasonable assumptions are allowed.
  - A player wanting to play a particular game should be able to join other player’s games, even if other teams wrote that network code. (Interoperability is a requirement.)
  - XNA provides most of the network support needed to complete this – you will need to look it up.
Project #6 - Details

- Phase #2: Insert multiplayer network code into the game so that four players can play the game simultaneously.
  - Each player will run their own copy of the game.
  - Each copy of the game must remain synchronized (per frame, but not necessarily temporally).
  - You provide the network code to send events to and from each copy of the game.
  - Implement team Blue’s design
Phase #2: Insert multiplayer network code into the game so that four players can play the game simultaneously.

- Your code must work with our test harness (and any other game that implements IDeterministicGame).
- For any particular game (or test harness), your network code should interoperate with other team’s network code. In theory, four different players using different teams’ software could each join the same lobby and all start the same game.
- Modifying the test harness to make your code work is illegal / banned. Feel free to write your own tests, though.
- Expect protocol and interface changes.
Project #6 - Details

- Planning your work:
  - You are required to hand in a (mostly) functioning lobby before you leave for spring break (Friday, March 19).
  - Teams of two should pair up with other teams of two.
    » Check your communications to make sure your team can communicate with the other team.
    » Periodically test against several teams.
  - Caution: Code to the specification, not to your or other teams implementations!
    » Don’t ‘fix’ something because that is the way the other team does it.
Project #6 - Details

- Teams must write their own code – no library, codebase, method, and/or statement downloading or sharing.
  - Strictly enforced with stiff, terminal penalty for infringement.

- Ask questions!
  - Team ‘Blue’ will have first chance to respond to protocol questions, or I’ll answer for them if needed.
  - I will address game interface questions.
  - All of this conversation should happen on the Wiki
You may begin from what has been posted in today’s slides.

- An assignment page will be posted tomorrow along with my interface and test harness.
- Expect protocol changes, interface changes, and clarifications that alter this project.
  » Create a flexible design that is easy to update
    • You won’t regret it
      – Really, you will pay the price in time if you delay or create code that is not a bit generic.
  
- It is intended that we iterate through revisions until everyone’s code implements the same protocol.
  » Clarifications are key to making this happen.
Project #6 - Details

● You may begin from what has been posted in today’s slides.
  – Due date for completed project: Tuesday, March 30.
    » Teams will need to demonstrate functioning code to the TAs.
    » Extremely limited partial credit, massive points – get it done!
Quiz #2

- You may leave when it is over.