Programming Assignment 7: Ships Moving

Due Date

- Assignment due on Finals Week (Regular scheduled Final's Class)
    - Grading Sunrise Next Day
    - ----- ABSOLUTELY NO EXTENSIONS ----------
- Submit all files and directories to Perforce
    - Create a directory called: Omega in your student directory
    - PA5-PA8 will be in the same directory
        - /student/<yourname>/<Game>/…
        - You will identify the discrete submissions in your readme file
            - Please remember to add descriptive check-in comments
    - Fill out the *PA7 Ships Moving - Submission Readme.pdf*
        - Describes the summary of work for this PA6
        - ***Changelist numbers and dates*** associated to the assignment
            - ***This needs to be there or NO CREDIT***

Goals

- Omega Race
    - Standard Game Play
- Modifying game structure to accept external data
    - Motion of the ships should be controlled by your networked computers
    - Not Button presses

Assignments

1. After successful Lobby
    a. Two machines are linked up and known
        i. Your Lobby does this step (PA6)
    b. Enter the start of the game
        i. Standard game for Omega Race
    c. Players can on each system drive their local ship
        i. The positions and orientations are transferred to the other networked machine.
    d. You should be able to see the same game playing on both machines.
2. You may need to rework the game data structures, data flow to easily send the ship's data and orientations over the network.
3. You should be able to move two ships (100% by data driven and network packets):
    a. Positional
    b. Rotation

4. Fill out the *PA7 Ships Moving - Submission Readme.pdf*
    a. Describes the summary of work for this PA7
        i. Quick step by step
        ii. How you accomplished this task (engineering perspective)
    b. Describe any issues you had in completing this task.
        i. What was your design/debugging process.
        ii. Describes the summary of work for this PA6
    c. Changelist numbers and dates associated to the assignment
5. Next assignment
    a. PA8 – add network prediction
    b. Final Submission
        i. Complete game working, lobby networking, ships and asteroids/bombs.
        ii. Cycling from lobby into networked game and back to lobby.

Validation

Simple check list to make sure that everything is checked in correctly

- Program compiles and runs without crashing?
- Program warning free?
- Can you successfully connect to another machine, enter the game, and move ships through networking?
- Did you write your pdf file?

Hints

Most assignments will have hints in a section like this.

- Data passing (Just a thought)
    - It might be easy to rework the data flow to have all the networked data staged
        - In a linked list of structures that have a header and data
        - This data can be processed based on its header type, then correctly moved to the runtime data structures
            - New data types can be easily added and removed
    - The data received over the networked just gets added to this list and processed correctly.
    - You can even process local data this way
        - Easy to debug one system before adding the network debugging issues.
- Baby steps, use an very incremental process
    - Big steps will prevent you from finishing task

- Look at the documentation
  - Start menu -> XNA Game Studio -> XNA Game Studio Documentation
  - Programming guide is very useful.
  - Look around
- Since you are going to modify software on 2 PCs frequently
  - Create a share directory between them.
    - Have the host PC A hold the lead copy of the program.
    - Do not edit on PC B
      - You modify there, and push it to PC B.
      - That PC is only used for debugging and button presses.

Troubleshooting

- Baby steps
  - You'll be in trouble if you don't
- Post to forums
  - Everyone is helping each other
    - I use them as well.
- Contact me
  - Piazza, Piazza, Piazza
  - Office hours