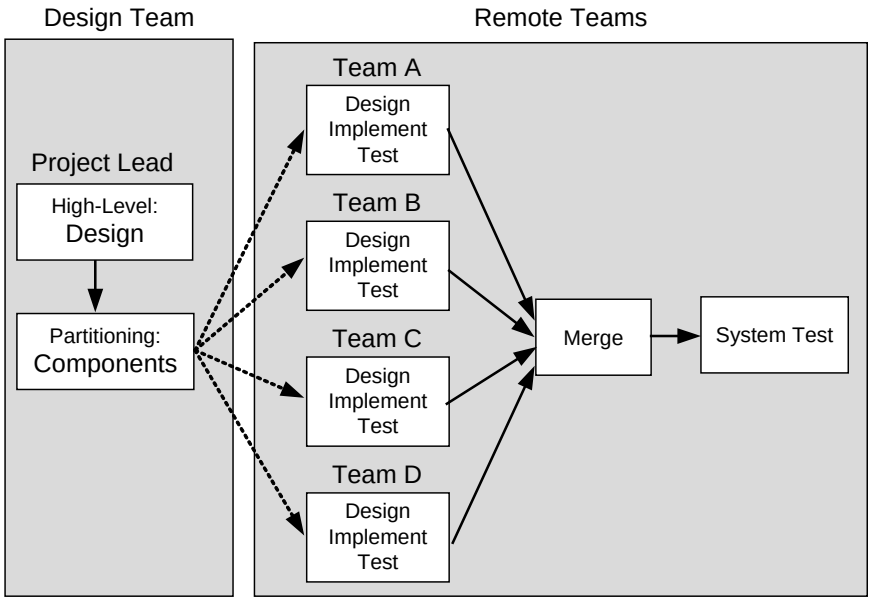
Project 3: Partitioning

Due Date

- Design & Partitioning Phase
  - Due on 24th October by 11:30 pm
  - Submit
    - Set of design documents and wiki pages on the team wiki
- Implementation & Integration Phase
  - Due on 31st October by 11:30 pm
  - Submit
    - Completed design with working solution and all files submitted to Perforce
- Completion & Clean-Up Phase (Oh-Shit Phase)
  - Due on 7th November by 11:30 pm
  - Submit
    - Final game working 100% completely – fully documented
  - Project 3 - Partitioning Q&A is due on this date as well

Goals

- Understand the partitioning pattern
  - Design team breaks a large project into discrete components
    - Assigned to remote teams
    - Responsible for their respective design and implementation.
  - Once all the components are implemented and debugged,
    - Merged into a solution



Assignments

0. ***Starting project***
    a. On Perforce //team/…
        i. Tetris groups:
            - Team A (teams 1, 2, 3) → team_7
            - Team B (teams 4, 5, 6) → team_8
    b. Tetris framework is provided and working, please review code
    c. All coding work must be developed in this location.
        i. Can create branches, or subdirectories
        ii. No work in student directories
1. **Design & Partitioning Phase**: (see above for due date)
    a. Look at the reference game.
        i. Check for free Tetris: http://www.freetetris.org/game.php
        ii. Make your game as close as possible to this game
        iii. The semi-official specs for Tetris: http://tetris.wikia.com/wiki/Tetris_Guideline see also https://en.wikipedia.org/wiki/Tetris
    b. Create a specification on all the features and behaviors of the game
        i. This way you can know what parts of the project to separate.
        ii. Design the game into a collections of components
        iii. UML and Sample APIs
    c. Create a software design
        i. Break the system into components
        ii. Assign the components across the class in a fair and even way.
    d. What's due for the design and partitioning phase:
        i. For each team (A & B):
            - Submit all documents to the team wiki page:
            - Game specification listing all of the features and behaviors of project.
                a. Capture every feature and subtle aspect of the game in a feature list
            - Software Design of the game
                a. Broken into components with UML diagrams with sample APIs
            - Assignment distributed amongst the sub-teams
                a. Clearly describe what every team and person is responsible for

2. **Implementation & Integration Phase**: (see above for due date)
    a. Taking the design and partition - implement the code
        i. Continually integrate the software into the Perforce repository
            - Integrate as you go
            - Do not wait until your component is fully working
        ii. //team/…
            - All development is done in this directory
                a. Create branches, sub directories
                b. Whatever you want to do.
            - No development in the student directories.
    b. Communicate and refactor as problems arise
        i. Create a bug tracking list
            - Include it in wiki or the Tetris project in perforce
            - Track all the unresolved issues / bugs as they emerge
        ii. The project will have issues with the design
            - Address them and figure out a solution to them
                a. Often this means a mini-redesign.
        iii. Communication between the owners of the adjacent components
            - Problems happen on the edges between systems
    c. What's due for the Implementation & Integration phase:
        i. For each team:
            - Update any design diagrams and documents on wiki
            - Create an active buglist for the problems / issues
3. **Completion & Clean-Up Phase**: (see above for due date)
    a. Complete the project
        i. Fix the remaining bugs from the bug tracking system
        ii. Validate that the game specification is 100% completed
        iii. Tweak the game for smoothness and fun factor
        iv. Update any designs that have changed.
    b. Write up of individual Q&A for this project
    c. What's due for Completion phase:
        i. For each team:
            - Updated docs on wiki
            - Fully functioning, warning free project on perforce
        ii. Individual Q & A project
            - Submitted to D2L

Validation

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

- Design & Implementation Phase
  - All documents in Tetris Wiki page
    - Game specification listing all of the features and behaviors of project.
    - Software Design of the game
    - Assignment distributed amongst sub-teams
- Implementation & Integration Phase
  - Update any design diagrams and documents on wiki
  - Game code 95% working – check into perforce.
  - Create an active buglist for the problems / issues
- Completion Phase
  - Complete game with updated docs on wiki
  - Fully functional, warning free project on Perforce
  - Submitted to team directory
- Update all the Wiki pages for this project.
- Keep your blog up to date.
- Team Leader – write team summary

Hints

- Use iterative development to reduce risks. Develop some prototypes to test out parts of the code, and develop a tracer bullet to build the system around.
- Address problems as they arise
- Continuously integrate

Troubleshooting

- Do many incremental steps.
- Post questions to the forum.
- Walk through your code.
- Make sure your code compiles and runs before you add your changes.
- DON'T BE SHY, talk to the other teams
- Watch perforce videos or ask for help.