This is the fourth of five assignments that you will complete over the course of the semester:

1: Requirements Draft (10% of homework grade)

2: Final Requirements and Requirement-Based Tests (25%)

3: Design Draft (15%)

**4: Final Design and Implementation (25%)**

5: Testing (25%)

Each assignment is graded over a series of categories. You will be judged on a scale of 1-4 for each criterion, where a 1 corresponds to a 60%, a 2 corresponds to 75%, a 3 corresponds to 90%, and a 4 corresponds to 100%. If there is no work for a criterion or it is clear that even a minimal amount of effort was not put in, you will receive a 0% for that section of the assignment.

The following is a tentative idea of what we are looking for in Assignment 4. This may change before final grading, but gives criteria to aim for with your submission. A “4” in a category requires all requested elements to be present. Missing elements will result in a lower grade.

**Peer Evaluation (5%)**

**Updated Structural Design (20%):**

* Overall design
  + Extensible OO design that is clearly capable of providing the requested functionality.
  + High cohesion and low coupling.
  + All interfacing with BILL is through a defined API. Access is controlled, and proper privacy and scoping is maintained.
  + Customized Exceptions ​
* Class Diagram
  + Properly formed UML.
  + External files and systems should not be present in class diagram.
* Justification and Explanation
  + VERY IMPORTANT to justify and explain your design. Must show that different options were considered and why/how group arrived at final design. Must demonstrate understanding of OO principles.
  + Automatic maximum of 2 on this section if no justification present.
* Class Descriptions​
  + Level of detail is sufficient. Is this implementable by another team?

**Dynamic Design (20%):**

* Sequence Diagrams
  + Properly formed UML
  + Named instances, not just class names, in boxes.
  + Life​ lines and activation boxes present
  + Actor present
  + Calls and returns properly labeled
* Diagram description present and understandable.

**Code Style (15%):**

Based on a random sampling of the source code, we are looking at:

● Consistent bracketing and tab/spacing style

● Descriptive variable names

● JavaDocs present and used correctly

● Sufficient comments to understand code

Missing any one results in ­-1 to score for that section.

**Runtime Behavior (40%):**

* Passes a series of test cases, executed through the API.
  + Tests will correspond to each available feature - such as viewing a bill or applying payments.
  + Tests will exercise both standard behavior and error cases (i.e., invalid dates or payment amounts)