ICOM 4015: Advanced Programming

Programming Project Poker Memory Card Game

Due Date: November 12, 2012 11:59PM

In this project you will form a team with another student from the class. You will be given a working version of the **Poker Memory Game** with a couple of basic game levels. During the game the player uncovers a set of cards from a grid with the goal of obtaining a wining hand. Each level establishes the number of cards what will be uncovered on each turn and defines what a wining hand is. For instance, the **Equal Pair Level** allows the player to uncover two cards per turn and a wining hand consists of a pair of equal cards. If the uncovered cards conform a wining hand, then the cards are left uncovered and the turn ends. If the cards do not conform a wining hand, then the cards are covered again after a short delay. The game ends when all the cards are uncovered.

You job is to develop and integrate new game levels as described below.

Phase I: Keeping Track of the Score

To complete this phase you need to incorporate a notion of a numeric (Integer) score on each of the existing levels. You should then modify the game display to include a score display, which must be updated after each turn is completed. For the **Equal Pair Level** the score should be calculated as the sum of ten points for each uncovered pair minus a one-point penalty for each turn taken. For the Same Rank Trio Level the score should include 46 points for each trio, plus the sum of the ranks in the trio, minus a one-point penalty for each turn taken.

Phase II: Full House Level

This phase will incorporate a new **Full House Level** to the game. In this level, the grid should be the same size as the **Same Rank Trio Level**. However, players uncover five cards on each turn. A wining hand consists of a trio of cards with one rank and pair of cards with another rank. The score for each hand should be computed as 700 points plus the sum of the ranks in the trio. For instance, a hand with three Q's and two 4's will contribute 700 + 3 * 12 for a total of 736. A one-point penalty should be deducted from the score for each turn taken.

Phase III: Straight Flush Level

This phase will incorporate a new **Straight Flush Level** to the game. In this level, the grid should be the same size as the **Full House Level**. Players uncover five cards on each turn. A wining hand consists of a all five cards in sequence and with the same rank. The score for each hand should be computed as 65K points plus 100 times the rank of the highest card. For instance, a hand with the ranks A-K-Q-J-10 will score 65,000 + 100 * 13 for a total of 66,300. A one-point penalty should be deducted from the score for each turn taken.

Phase IV: Combo Level (Original)

This is your chance to be creative! This phase will incorporate of a new level that combines the existing levels plus any additional poker hands of your choice in an original way. Each team should come up with a level that is unique among all teams. As a minimum requirement the player will uncover five cards on each turn and the player will be able to choose between the highest possible scoring hand obtained in the turn or a PASS move. The PASS move will cover the cards again allowing the player to uncover a higher scoring hand in the next turn.

Using Version Control Repositories

To facilitate collaboration among developers in a team we will be using a version control system. A master repository will store the master copy of the project source code. Each team member will work on its local copy of the source code held on his/her Eclipse workspace. When a team member is ready to incorporate working changes into the master copy, he/she will synchronize his/her local copy with the repository copy. The second team member will then update its local copy with that of the repository. Additional instructions for accessing the repositories will be send via email.

Turning in your projects

You will receive instructions for turning in your project via email.

Additional Ideas

Feel free to give the game your very own look-and-feel. Some ideas include having an original back side art for the card deck, add a more vivid color scheme to the display, add sounds to the card flips moves and other events during the game. This is an opportunity to build something that you can feel proud about.