Project 2

RFP for Mille Bournes

Advanced Object-Oriented Development

# Summary

A program that allows the user to play a game of Mille Bournes with the computer.

# The Game of Mille Bournes

In the game of Mille Bournes, two players playing cards from their hand to simulate an automobile journey. Complete rules are provided elsewhere. The online game will feature the following changes to the rules:

* There is no scoring. The player who reaches exactly 1000 miles first, wins.
* Three Road Service cards that remove any hazard as if it were the appropriate remedy, remove a speed limit, or start the player rolling.
* 200 mile cards can be played when a player is not rolling. No mileage is gained, but they function as roll cards. 200 mile cards played in this fashion show up on the battle pile as roll cards and do not count toward the two 200 mile cards that can be played as miles.
* A safety can be played as soon as a hazard is played (without drawing a card). This is called a coup-fourre (Pronounced coo-foo-ray). This allows the player who to win with 25 miles less for each coup-fourre played. I.e. 1 coup-fourre allows a player to win with 975 or 1000 miles. 2 coup-fourres allow a win with 950, 975 or 1000 miles, etc.
* If a player completes 900 miles or more before the other player has played any mileage, the player with 900+ miles wins.
* When the deck is finished, a new deck is created using all the cards that are not in a players hand or face up on the table.

# Specifications

## The play

The program starts up by asking for the user’s name. It then shuffles the mille bournes deck deals out six cards to each of two players, one played by the user and the other played by the computer. The computer decides randomly which player goes first. On each player’s turn, the program gives the player a card (the player will then have seven cards) and asks the player which card to play or discard. Some cards will not be able to be played (e.g. mileage cards when the player is not rolling, hazard card when an opponent has the corresponding safety, etc.) Cards which cannot be played, only discarded will be marked differently on the screen. The player chooses to play or discard one of the seven cards. This should be done by dragging the card either to the appropriate area or the discard stack. If the play is legal, the screen will be updated. If not, the screen will flash and a message will appear someplace on the screen (not a pop-up) explaining why it was not legal. This message will go away when a legal play is made. The following are exceptions to this order of play:

* When the other player has played a hazard for which the player has a remedy, the player is given the option of calling a coup-fourre. In the human player, this is done by means of a pop-up window. When a coup-fourre is called, the safety is played automatically, the player draws two cards and takes another turn.
* When a safety is played in the normal fashion, the player who played it immediately gets another turn.

When the deck is exhausted, a new shuffled deck is created omitting any safeties and mileage cards already played and the top card on each player’s battle pile and limit pile. When one player reaches the necessary number of miles, screen will indicate that the game is over and tell which player won.

## The Screen

The human player’s cards are represented graphically on the screen. The type of card should be clearly readable and its color should identify the type of card.

Each player will have a status area divided into the following parts:

* A battle pile which will initially be empty, will display a roll card if the player is rolling, a hazard card if the player has a hazard awaiting a remedy, or the remedy card if a remedy has been played but not a roll card.
* A limit pile which will initially be empty, will display a speed limit card if the player has a speed limit, or a speed limit remedy card (either end of limit or road service) if one has been played since the last speed limit.
* A mileage area telling how far the player has traveled. It is unnecessary to display the individual cards. However it should also give the number of 200’s played as mileage cards, since no more than two 200 cards can be used in this fashion.
* A safety area, listing the safeties that have been played by the player and which, if any, were played as a coup-fourre. As in the mileage area, displaying the actual cards are unnecessary.

In addition, the display will include a deck giving the user information on the number of cards left, and the most recent discard. It will also display the human player’s hand. Buttons will give the user the option to save the game (resulting in the user being prompted for a file name), load an existing game (another file dialog), quit or play a new game. Quit and New Game are both subject to an are you sure dialog unless the current game is over.

The system should be robust; There should be nothing the user can do to put it in a state where the output is hard to interpret or the program crashes. The system should be easy to use. It must be easy for a user to figure out what to do any given point.