**Whist For The Soul**

**<PICTURE>**

**<avia please check my English and do your magic so it will look good>**

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**Background**

Whist, trick-taking card game developed in England. The English national card game has passed through many phases of development, being first recorded as trump (1529), then ruff, ruff and honours, whisk and swabbers, whisk, and finally whist in the 18th century. In the 19th century whist became the premier intellectual card game of the Western world, but bridge superseded it in this position by about 1900.

Nowadays there are many other games called whist - the name has become attached to a wide variety of games based on classic whist, but often with some kind of bidding added, for example:

Bid whist, Blob, Boston, Call-ace whist, Catch the Ten, Colour whist or Kleurwiezen , Double Sir / Double Trumps, Dummy whist, German whist, Hearts, Hokm…

One of the better versions of the game is called “Israeli whist” and as being the most common version known in our country, we have decided to implement that version of the game.

**Rules**

Exchanging Cards  
At the start of each round each player is dealt a number of 13 cards, each player has to choose 3 cards which he wants to get rid of, instead he will get 3 cards thrown by other player.

Bidding  
After exchanging the 3 cards, each player makes a bid. The aim of the bid is to predict the number of tricks that a person will win in that round. Each player can bid from 0 to 13, excluding the last player to bid, He/she is not allowed to bid such that the total bid adds up to 13. E.g If each player bids 4, 4, 4 then the last player to bid cannot bid 1.  
  
Playing  
One player designated the lead plays a card. The lead is free to play any card in his/her hand. Players that follow the lead must play a card in the suit lead if they hold any cards in that suit. If no card in the suit lead is held, then any card from his/her hand may be played.  
  
Trumps  
Each round is designated as a trump or no-trump round. Trumps will cycle in the following order: Spades, hearts, diamonds, clubs, no trumps.  
  
Winning a Trick  
1. No-Trump round  
The winner of a trick is the person who plays the highest card in the suit lead.   
  
2. Trump round  
If no trumps are played, the winner of a trick is the person who plays the highest card in the suit lead. If any trumps are played, the winner of the trick is the person who plays the highest trump.  
  
Lead  
The lead is the player who has won the previous trick.Scoring   
The score is calculated using the following formulas:  
**On won bid**: (#bids \* #bids) + 10  
**On** **lost bid**: -10 \* |#takes - #bid|  
**On 0 bid won**: Game with total #bids over 13  
 Game with total #bids over 13 : 25  
 Game with total #bids under 13 : 50  
**On 0 bid lost:**  
 Game with total #bids over 13 : -25 + 5 \* (#takes – 1)  
 Game with total #bids under 13 : -50 + 10 \* (#takes – 1) Scoring   
The winner of the game is the player with the most points after predefined number of rounds.

**Implementation**

In our project we have decided to implement 2 game modes:

**AI Tournament version**   
As this is being a project for course which mainly speaks about AI, we have decided to create an arena where every AI & Whist fan can create his own avatar player and try to overpower other avatars in the game of Whist. Information about creating an avatar player using our plug-ins infrastructure will be supplied later in this document.

**Multiuser game**   
The best way for playing whist is with your best friends, that’s why we have created a web based version of the game where as many as 4 players can join the same game and play against each other while chatting about life. The avatars will always be glad to be called into a game when there are not enough player ☺

**Game implementation – Technology**

**Architecture**   
<ishai – plugins, Silverlight, .Net, Chat…>

**Future plans**   
In the next version of the game (when all exams & 3rd in university will be finished) we plan on creating a version of the game for mobile phones (Android & iphone) in order to let Whist fans play where and when ever they want!

**AI Players**

**ICardExchanger**   
A plugin used by an avatar in order to choose the 3 cards which it will pass to another player. There are many different logics which can be used by players with different strategies.

**ICardExchanger plugins:**   
*RandomCardExchanger –* choose 3 random cards to throw.

*PlayForZeroCardExchanger* – a plugin which tries to get rid of suits and throws away high value cards. Good for avatars who wants to bid 0.

*MaximizeTricksBidCardExchanger* – a plugin which works together with an IBidder (SmartBidder) being used at the next step of the game, the exchanger plugin throws the 3 cards which will maximize the bid being done by the bidder plugin.

\* Both *MaximizeTricksBidCardExchanger* and *SmartBidder* are using a strategy of counting cards (see the counting strategy at the end of this document)

**IBidder**   
A plugin used by an avatar when having to bid the amount of tricks in the following round according to the cars in avatar’s hand.

**IBidder plugins:**  
*HighBidder –* always bid higher value than his competitors (a dumbass which ruins any game… we hate him).

*JustinBidder –* a bidder which always bids 0 (after all justin = 0).

*SmartBidder –* as described before, used together with *MaximizeTricksBidCardExchanger* in order to make a smart bid based on a statistic counting of the cards.

**IGamer**   
<maoz… please complete this section>

**Avatars**  
<still needs to be decided by all of us>

**AI Player Statistics**

<needs to be added>

**Strategy used by *MaximizeTricksBidCardExchanger* and *SmartBidder***

How many tricks to count for your non spade cards:

|  |  |
| --- | --- |
| **Cards held – non trump** | **Tricks** |
| Ace | 1 |
| King and any other card in same suit | 1 |
| Queen and two other cards in same suit | 1/2 |
| No cards in a suite (subtract on trick from your trumps) | 1.5 |
| One card in a suite (subtract on trick from your trumps) | 1 |

And here how to count the tricks you should make with your trump:

|  |  |
| --- | --- |
| **Trumps held** | **Tricks** |
| Ace | 1 |
| King and any other trump | 1 |
| Queen and two other trumps | 1 |
| Ace, Queen and another trump | 2 |
| King, Jack and two other trumps | 2 |
| 4 trump cards | 1 |
| Any trump card when holding more than 4 trumps | 1/2 |