

Card Game Engine
Specifics for Card Game: Idiot

Software Requirements Specification

Version 1.0

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Revision History

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1. Specific requirements

1.1 External interface requirements

1.1.1 User Interfaces

- Users shall interact with the game by way of a simple GUI.
- The interface shall provide a consistent look and feel throughout pages.
- The interface shall display playing cards as graphical images.
- The interface shall display the names of all players.
- The interface shall highlight the name of the current player.
- The interface shall only show the hand of the current player.
- The interface shall display all common card regions.
- The interface shall display all visible player card regions.
- A confirmation page shall be displayed to transition between players.
- The interface shall allow interaction by way of single mouse clicks.
- The interface shall allow interaction by way of keyboard presses.

1.1.2 Hardware Interfaces

A computer with the Java SE Runtime Environment 7 or greater with minimum HW requirements as following:

- Pentium 2 266 MHz
- 124 MB disk space
- 128 MB memory

1.1.3 Software Interfaces

- The project code shall be written in Java.
- The code shall be able to interpret data from external text files.
- The code shall be able to write data to external text files.
- Component files shall be contained in the *plugins* directory.
- Component resources shall be contained in self-named directories.
- Game engine resources shall be contained in the *res* directory.

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1.2 Components

The Idiot card game will be created using multiple components, decoupled as much as possible. A non-coupled game engine will serve as the core, capable of interpreting data about specific card games from external plain text files. No game specific information is to be hard coded into the game engine.

1.2.1 Cards

- Card deck information shall be represented in a text file.
- Card file shall be referred to as a deck.
- Deck shall be named as such: deck.<GAME>.txt
- Variant deck shall named as such: deck.<GAME>-<VARIANT>.txt
- Deck shall describe a set of cards to be used in a game.
- Deck shall contain metadata including number of cards and any information specific to the deck such as default relative card values.
- Deck file shall be interpreted by the game engine.
- Deck shall describe card image resources.

1.2.2 Rules

- Rules information shall be represented in a text file.
- Rule files shall be named as such: rules.<GAME>.txt
- Variant rule files shall named as such: rules.<GAME>-<VARIANT>.txt
- Rules file shall describe the rules of a particular game.
- Rules file shall be interpreted by the game engine.
- Rules file shall specify card deck to be used.
- Rules file shall specify game board to be used.
- Rules file shall determine number of players to be allowed.

1.2.2.1 Specific to card game: *Idiot*

1. Idiot uses a standard 52 card French Suit deck.
2. Idiot uses the card value order: A,2,3,4,5,6,7,8,9,10,J,Q,K
3. 2 to 4 players are allowed per deck.
4. Standard game uses a non-variant playing area.

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5. Goal of the game is to lose all of your cards by placing them on the pile. Card placed on the pile must be equal or higher than the top card of the pile.
6. If you don't have any card to place on the pile, you must take the entire pile and this ends your turn.
7. You should always have three card in your hand, in case you have less you must draw from the deck to get three. No more cards are drawn after the deck is finished.
8. There are three upward and three downward facing cards on the table. You cannot play them until your hand is finished. A downward facing card cannot be looked at before being played.
9. Before you start, cards in your hand can be exchanged with upward facing cards on table.
10. Card with a face value of two can be put on top of everything. It is the restart card.
11. Card with a face value of five can be put on top of everything. It is a reverse card, in the next turn the opponent must put a card equal or lower than five.
12. Card with a face value of ten can be put on everything. It burns the pile, you get to put out first card in new pile.
13. Cards with same rank can be used together at same time.
14. If a pile has four cards of same rank at the top, it is removed.
15. If you have no card to put on top, you may draw the top card of the deck and put it on the pile, if it is a legal move then you don't have to take the pile.
16. You can choose to take the pile instead of playing a card. You can also play the top card on the deck onto the pile blindly.

1.2.3 Game Board

- Game board information shall be represented in a text file.
- Board file shall be named as such: board.<GAME>.txt
- Variant boards shall named as such: board.<GAME>-<VARIANT>.txt
- Board file shall be interpreted by the game engine.

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- Board file shall describe playing area by way of card regions.
- Board file shall contain information about each common card region.
- Board file shall contain information about a single player's card regions.

1.2.3.1 Specific to card game: *Idiot*

- Board includes single face down card deck common region.
- Board includes single face up discard common region.
- Player card region includes three face down cards.
- Player card region includes three face up cards placed atop the three face down cards.
- Player card region includes a hand of three cards to the player's right of the three face down cards.

1.2.4 Player

- Player must be human.
- Player information shall be obtained through user prompts.
- Player shall interact with game through game engine UI.

1.2.5 Game Engine

- shall interact with user through a graphical user interface.
- shall be capable of running different card games.
- shall prompt user for user's display name.
- shall display a list of possible games to be selected.
- shall enable user to select the card game to play.
- shall display available rule sets and variants for the selected game.
- shall enable user to select the game rules to use.
- shall be capable of reading information from a card game rules file.
- shall be capable of using information from a card game rules file.
- shall be capable of using information from a card game card deck file.
- shall be capable of using information from a card game board file.
- shall select the appropriate card deck and game board files based on the card game and rules to be used.
- shall prompt for additional users if applicable to game rules.

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- shall use additional external resource files to display card game objects.

1.2.6 Game Instance

- An instance of the selected game will be started by the game engine.
- A game shall exist only after it is created by the game engine.
- A game shall cease to exist at a conclusion state, as stated by the rules and following confirmation from the Player to end the game.