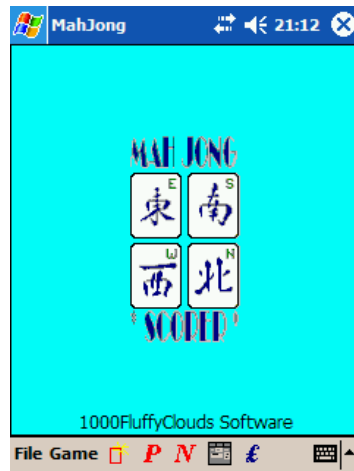


Mahjong Scorer

1000FluffyClouds Software



1 Overview

This program is for scoring the game of Mahjong using any variations of the original Chinese scoring rules. A set of scoring rules is specified in a scoring rules configuration file. Included with this scorer are scoring rules matching those described in "The Complete Book Of Mah-Jongg by A.D. Millington, Wiedenfeld & Nicolson, 1987" and those described in the "Pocket Guide to Mahjong 1924".

The scorer displays the players' scores and status of the game for each hand of the game. A hand of the game or play of players' hands is the term used here to denote the play of a single wall build and scoring of players' sets.

After each hand the sets of tiles for each of the players is entered into the scorer. The scorer automatically calculates the player's score and the payments between players for that play of hands. The game then advances on to the next hand automatically advancing the round and players' winds according to the options set.

When all 4 rounds of the game are complete the score indicates game end and displays the winner.

The scorer is made to be quick and easy to enter the scores as well as providing an informative easy to read view of the current status of the game.

The following sections describe:

Registration - how to register your personal registration code.

Scorer display - describes display and scorer controls

Starting a game - how to set-up the scorer for a new game

Entering data for each hand - how to enter the players tiles and scores

Extra bits - things to make the scorer great

Scorer rules - Explains how to edit and create the rules for scoring

2 Registration

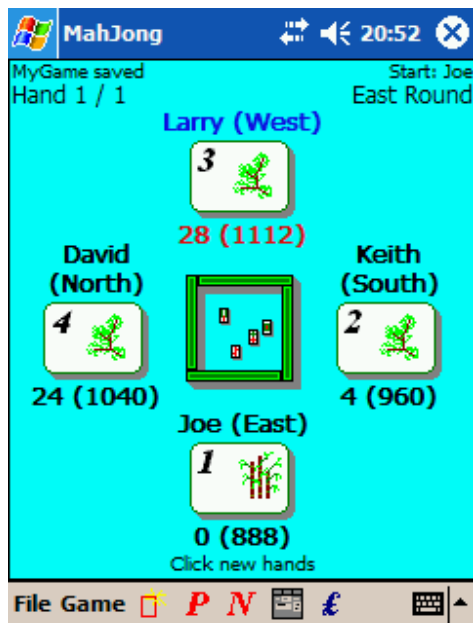
On first using the scorer, you must enter your registration code on the File->About Mahjong dialog box. Press register after entering the code to register the program. After the registration code is accepted then the scoring rules can be selected. For unregistered programs the scoring rules cannot be loaded but instead a basic sample set of rules is loaded to allow users to evaluate the scorer.

3 Scorer Display

This section describes the scorer display shown throughout the scoring of the game.

The scorer displays a single hand of the game as shown in the example below. The players' scores and game information is displayed centred around a representation of the Mahjong tile wall.

The hand displayed can be either the current one or a previous one. The displayed hand is changed using the P and N icons on the tool bar to advance to the previous or next hands in the game. The other toolbar icons are explained later.



The information shown for a hand is the state of play up to the shown hand.

At the bottom of the screen is a hint for using the scorer. This indicates what would be the next action normally done. In the example the hint is "Click new hands" indicating that all players have been scored and the hands can be advanced to the next hand by pressing the "new hands" icon.

Around the central wall icon are the players' hands, a numbered tile style icon displayed for each player. The icons are numbered and represent the players' initial positions around the table.

Around each player icon is the following information:

- Player name - set using the menu "game->set players names". The player name is the name of the player seated at the corresponding position round the table.
- Players wind - (shown in brackets) this is the wind for the player for this hand. The player wind will advance automatically according to the rules of the game and the appropriate options.
- Players hand score - below the icon is the score for players' tiles for the hand currently displayed.
- Players stake - The value of the player's stake (shown in brackets) after the hand payments have been applied.
- Mahjong player - The player that has gone Mahjong is indicated by the player's name and wind shown in blue.

- Winning player - The player that is currently winning with the highest stake value is indicated by the player's score shown in red.

At the top of the screen is the game status text indicating the following information:

- Game file - The name of the file for saved game. Also shown is the saved status of the game.
- Start player - This is the player that started the current round. See options for more information.
- Hand number - This indicates the hand being displayed and the total number of hands played.
- Wind of the Round - This is the wind of the round for the hand currently displayed. The round wind advances automatically when the player wind for the starting player returns to East.

The player tiles and wall icons perform functions when clicked, these are used during the game and are explained later.

4 Starting a Game

This section describes how to set up the scorer for a new game.

Important Notes - these detail how certain actions affect the state of the game and are important to understand in order to make the scorer easy to use:

1. The options are for the current game and if changed will affect the operation of the current game, except for the starting stake and number of players which are applied at the creation of a new game.
2. The options are saved with the game, thus many games can be played, saved and later loaded each with different options and player names.
3. The currently loaded rules, players' names and options will be used when creating a new game.
4. The rules for scoring can only be changed at the start of a new game.
5. The number of players and starting stake must be set before creating a new game. Changing the number of players and starting stake are the only option that will not affect the current game. These are only used during the creation of a new game.
6. Some default options are stored with the scoring rules (as they are part of the general game rules). These options are reset to their default when the rules are manually changed. Thus the score rules should be set before options are set.

To avoid changing the options for the current game only the number of players and starting stake should be set before creating a new game. This is because on creating a new game the user is prompted to save the current game which will save the options with it. Alternatively the current game can be saved first and then any options may be changed for the new game.

There are 4 things to do to set up the scorer for a new game:

1. Set the game options
 - Note: if the current game is not yet saved or the scoring rules are to be changed then only set the number of players and starting stake.

2. Create the new game
3. Set the scoring rules
4. Set the remaining game options
5. Set the players names

For most games the same rules, options and players will be used. Thus to simplify starting a new game the settings from the current game will be used.

Trick - A previously saved game can be used to set the options for a new game. This is useful if for example more than one group of players plays Mahjong. The last game played with a given group can be loaded and the new game created thus using all the preferred options, rules and players names for that group of players.

4.1 Setting the Options

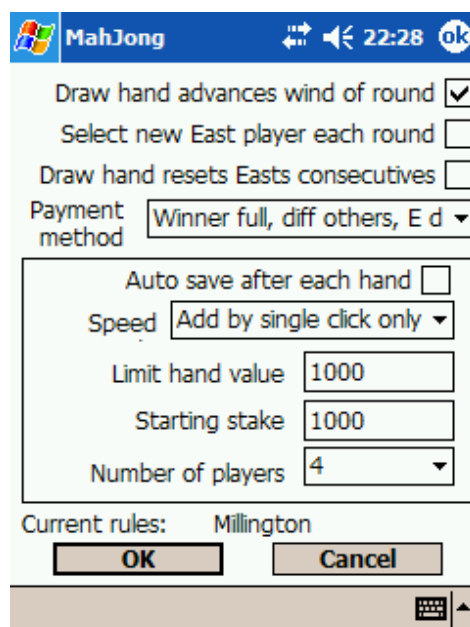
Before starting a game the game options should be set. The options are changed using the Game->Options menu.

Some options are only applied when a new game is started however other options can be changed during a game.

New Game Options

The following options must be set before a new game is created - they do not affect the current game.

- Starting stake - This is the stake given to each player at the creation of a game. The stake is set at the game creation and any changes to this option will only affect the next game created.
- Number of players - This is the number of players and games with 2, 3, or 4 players can be scored with the scorer. The number of players is set at the creation of a game and any changes to this option will only affect the next game created.



Rule Specific Options

The following options are specific to the scoring rules. These options are prescribed by the rules of play and are therefore included with the scoring rules. When manually loading scoring rules these options are set using the values contained in the scoring rules file. Subsequent changes to these options will be remembered for the current and following games but will be reset to the rule defaults if the rules are manually reloaded. (If the rules are loaded as part of a previously saved game then the options set for the game will be remembered).

These options are to accommodate variations in the different Mahjong rules and are flexible to allow variations in specific rules for "house rule" variations.

- Draw hand advances wind - If this option is selected then when a hand completes with no winner, that is all the playable tiles are used and no player has gone Mahjong, the player winds will advance so that East move to the next player. If un-selected the player winds remain the same for the next hand.
- Select new East player each round - If this option is selected then at the end of a round, that is when the East player for that round would become East again, then a player can be selected to be East start for the next round. The new East is chosen by a throw of the dice. If un-selected the East wind will advance to the next player counter-clockwise are usual.
- Draw hand resets East's consecutives - In games where rules exist based on the number of consecutive Mahjongs that the East player has gone then if this option is selected a run of consecutive Mahjongs would not include draw hands. For example if the sequence of hand results was: West MJ, East MJ, East MJ, Draw, East MJ, West MJ. The with this option selected the maximum number of East consecutive Mahjongs would be 2, and if un-selected it would be 3.
- Payment method - This is the calculation method that is applied to the player hand scores to determine the resulting change in their stakes. The possible payment methods are:
 - Only winner get paid - Each player pays the Mahjong player his hand score.
 - Only winner, East double - Each player pays the Mahjong player his hand score, but the East player must pay or receive double.
 - Dif all players, East double - The score difference between pairs of players is taken with the player with the lower score paying the difference between the two scores to the higher score player. East player must pay or receive double the difference.
 - Winner full, diff others, East double - Each player must pay the Mahjong player his hand score. The non-Mahjong players pay each other the difference in their scores. For any payment East pays or receives double.
 - Discard payment - The player that discarded the winning tile pays all players but if the tile is from the wall all players pay the Mahjong player. ***This payment method is not implemented in this version of the scorer. If you require this option please contact 1000FluffyClouds software.***

Game Options

These options are those that are not specific to the rules. These affect the current game or the operation of the scorer.

- Auto save after each hand - When selected the game is saved after each change to the hand scores. A game will be kept in memory if not saved while the scorer is running, however if the scorer is terminated then the game will be lost. Therefore it is important to save the game occasionally and at the end of play.
- Speed - This option allows faster editing of players tile sets by allowing single clicks rather than double clicks to add and delete tile sets.
- Limit hand - This is the number of points that a full limit hand is worth. Note that East will pay or receive double this value if this payment option is selected.
- Starting stake - This is the number of points initially given to all players at the creation of a new game.
- Number of players - A 2, 3 or 4 player game can be scored. The scorer correctly advances the winds and rounds depending on the number of players.

Option changes are applied to current game and remembered as the default options for the next game, except for stating stake and number of players which are only set at the creation of a new game.

4.2 Creating a New Game

A new game is created by selecting the File->New Game menu. When selected, if the current game has not been saved then an option to save it is given, after which the current options are used to create the new game. The new game is also given the current scoring rules which can be changed if required directly after the game is created.

4.3 Setting the Players' Names

To change the players' names use the Game->Set Player Names menu. Enter the names of the players for their game starting positions, East, South etc. Players' names are remembered by the scorer for each game and are also carried over from the current game to the new game.

When starting a new game after playing a game with the same group of players the players' names are retained and each starting position has a drop down list of the players' names. This allows the same group of players to be easily moved to different starting positions from one game to the next.

4.4 Setting the Scoring Rules

The rules used to calculate the players' hands are written into a rules file that can be changed by the user and loaded into the scorer. The rule file selected will be remembered by the scorer and set for each new game so if you always play with the same set of rules you only have to load them once and then those rules are always selected when the scorer starts.

To change the rules go to File->Change Rules. If a game is not in progress, that is it is a new game with no scores entered then a new set of rules can be selected.

On loading new rules default rule specific options will be set which can be altered later according to your own personal house rules. Of course a specific set of house rules can be created containing your very own scoring rules. See the section on creating rules later in this manual.

5 Entering Data for Each Hand

Once a game has been created it is a simple matter to play your hand of Mahjong and then enter the resulting scores for all the players.

There are two types of information entered into the scorer, these are tile sets and events that have happened such as going MJ by drawing the tile from the wall. The event

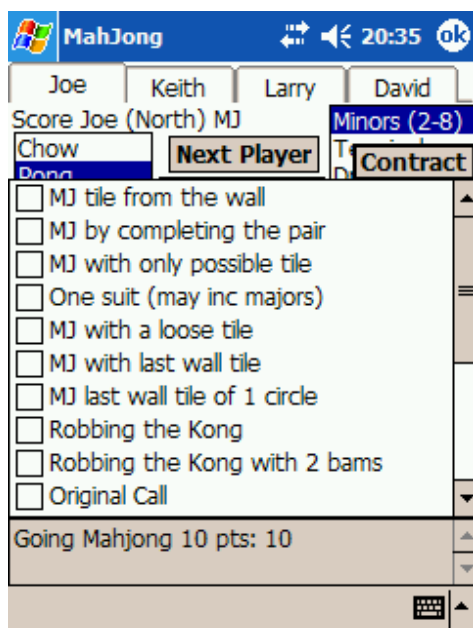
information can be different for the player going Mahjong and other players. Similarly, the scores created by tile sets can also be different for the Mahjong player and other players. These are all configurable in the scoring rules file.

The method to entering the scores follows the Mahjong tradition of scoring the Mahjong player first then the other players counter-clockwise.

The player tile and wall icon on the scorer display are buttons which activate either the scoring dialog or the score review dialogs. If all players have been scored for a hand then the buttons display a score review dialog, however if there are unscored players in the hand the scoring dialog will be displayed. A hint on the scorer screen will indicate which player's score has not been entered.

If no player went Mahjong then press the walls icon to record a draw hand. For a draw hand the hands are automatically advanced to new hands and the next hand can be played.

To enter the scores press the player tile button for the player that went Mahjong, the scoring dialog will be displayed as shown below. The MJ on the information line at the top indicates this player went Mahjong.



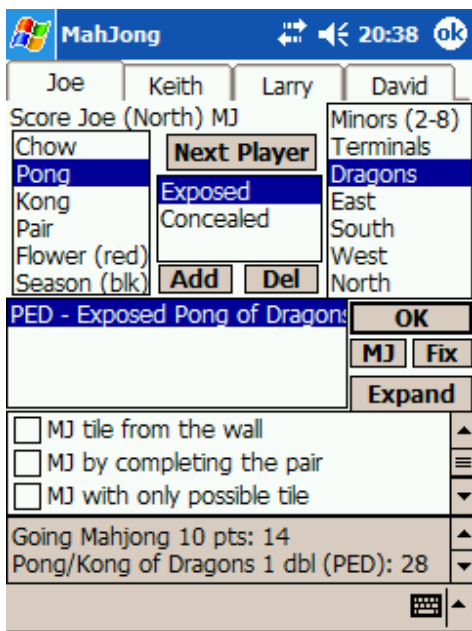
When first displayed the scoring dialog has the events lists expanded to fill more of the screen. This is to allow easy selection of the events which typically are more numerous for the Mahjong player.

Select the event items that apply. The description of the items in the scoring rules provided are in plain English however if preferred it would be easy to change the text for example the “MJ last wall tile of 1 circle” could be changed to its Mahjong name of “Catching the moon from the bottom of the sea”.

After selecting the relevant events the list can be contracted by pressing the contract tab. The list can be expanded and contracted at any time if required. Once contracted the rest of the scoring dialog is revealed as shown below.

Tile sets can now be entered. The three top boxes specify the tile set. Select the type on the left and the other boxes will change to items relevant to the type. Select how the set was formed from the centre box and then the value from the right box.

The set must be added to the players list of sets by pressing the add button. Alternatively the set can be added by double clicking on the required value item or for super fast tile entering a single click can be used if the speed option has been set.

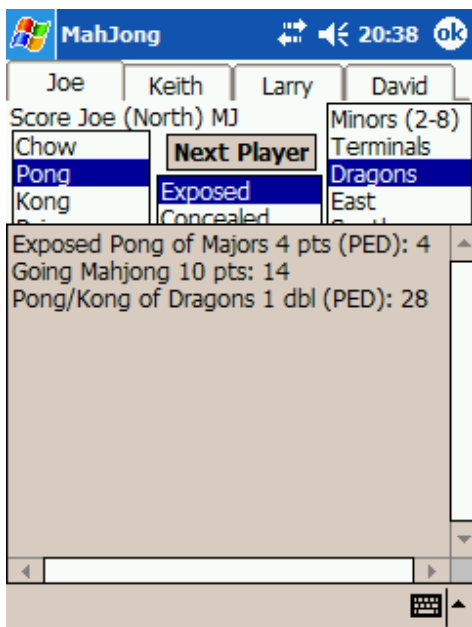


Add all the sets for the player. Note that the availability of items reduces as sets are added. For example, only 4 sets and a pair can be added, also if a wind set or bonus tile is added then it is removed from the available sets for the other players. Non-scoring sets do not need to be entered; however some rules give a score for a no score hand, which is one with four chow sets and a non-scoring pair. In which case the sets must be entered for the score to be recorded. This depends on how the scoring rules have been specified and so it is useful to know how scores are determined from the sets to avoid entering data that forms no score unless of course it is desired to keep a complete record of the hands.

will remove it, or for speedy removal the single click speed option can be set.

If a mistake is made entering in the tile sets, sets may be selected in the players' sets box and removed with the delete button. Alternatively, double clicking the set

As a player's hand is entered the hand score is calculated and displayed in the text box at the bottom of the scoring dialog. The last two items are shown, thus the lower one will show the total hand score. To view all score calculations click on the text box, it will expand as shown in below. A further click will shrink in back to two lines.



When a player's hand has been entered the next player's hand can be scored. Press the Next Player button to move round to the next player that needs to be scored. If all players have been scored then the dialog is closed.

To close the dialog at any time, press the OK button. Scores already entered will be remembered.

If the wrong person has been entered as going Mahjong the MJ button can be used to select a new Mahjong player. The previous Mahjong specific score items are removed from the previous Mahjong player.

In the case where a disagreement in the scorer's score and that determined by the player, a score can be explicitly entered. This is done by pressing the Fix button, entering the score and pressing Set. Any tile

sets and score items entered will be retained but the fixed score will be used instead of the calculated score. A fixed score can be cleared also by pressing the Fix button and selecting Clear.

The tabs at the top of the scoring dialog allow any of the players to be selected and scored.

After all players' scores have been entered and the scoring dialog closed then the next hand can be played. Advance to the next hand by pressing the new hands button on the toolbar. Alternatively the scores can be reviewed by pressing the player's tile button. If the scoring dialog is required to adjust entered data it can be obtained by pressing the scoring dialog button on the tool bar.

6 Extra Bits

Other things that make the scorer the best Mahjong scorer.

Reviewing the scores

Scores can be viewed for any players' hands played during the game. Display the required hand by pressing the next and previous buttons on the tool bar. Then press the player's tile button to display score items obtained for that player for that displayed hand.

To view the payments made between players press the wall icon. See the examples of player score review and payments.

The screenshot shows the 'Joe score details, round 3' dialog box. The background game state is 'MahJong', 'MyGame saved', 'Hand 3 / 3', 'Start: Joe', 'East Round', and 'Larry (South)'. The dialog lists various score items and their values.

Score item	Score
PED - Exposed Pong of Dragons	
PEE - Exposed Pong of East	
S 3 - Season (blk) of 3 - West	
S 2 - Season (blk) of 2 - South	
Exposed Pong of Majors 4 pts ...	4
Exposed Pong of Majors 4 pts ...	8
Flower or Season 4 pts (IS 3)	12
Flower or Season 4 pts (IS 2)	16
Going Mahjong 10 pts	26
Pong/Kong of Dragons 1 dbl (...)	52
Pong/Kong of round wind 1 d...	104

The screenshot shows the 'Player payments on round 3' dialog box. The background game state is 'MahJong', 'MyGame saved', 'Hand 3 / 3', 'Start: Joe', 'East Round', and 'Larry (South)'. The dialog displays a payment matrix for four players: Joe, Keith, Larry, and David.

	Joe	Keith	Larry	David
Joe	0	208	104	104
Keith	-208	0	80	120
Larry	-104	-80	0	20
David	-104	-120	-20	0

Below the matrix, the game state is updated to '4 (776)', 'Joe (North)', and '104 (1284)'. A 'Click new hands' button is visible at the bottom.

Rotating the layout of the players

When the scorer starts the starting East player is the player shown at the bottom of the screen. However if this player is not the scorer then it is useful to adjust the player layout so that it matches the players' seating layout as viewed by the player scoring. The Game menu has two options Rotate View Right and Rotate View Left to rotate the players displayed on the screen.

Edit Mode

The rules of Mahjong state that once the players' tiles are shuffled in after scoring then the score can not be disputed or changed.

However, it is sometimes necessary to be able to change scores from previous hands because for example an error in the scoring rules has been found and requires correcting.

If the scoring rules file is edited then previous hands must be recalculated or if a set requires changing then this mode provides that ability.

When in edit mode new hands can not be created, thus a game can not continue until the edit mode is cancelled.

The scoring dialog of the hand requiring editing or recalculating is obtained by using the tool bar button. After exiting the scoring dialog the players' hands for that displayed hand are re-calculated and all payments for subsequent hands re-calculated. Note that subsequent players' hands are not re-calculated unless explicitly edited.

7 Scorer Rules

The Mahjong scorer reads a scoring rules file that specifies each of the rules required for a given Mahjong scoring variation. Scoring rules can be constructed for any set of Mahjong rules. This sections details how to write your own scoring rules and construct a scoring rules file. It is useful in understanding the structure of the rules to study the supplied scoring rules files.

The scoring rules file consists of a number of elements each of which occupies a single line and must occur as follows.

- Comment lines start with the characters `//` and may occur anywhere in the file. There is one special comment that marks the end of the rules, see below.
- The first line (not counting comment lines) represents the name of the scoring rules.
- Subsequent non-comment lines represent either option rules or scoring rules, these are explained below. Between 0 and 99 rules can be included.
- The last line is the special comment `// END`, this is the point in the file where rule loading stops and anything beyond which is ignored.

The minimum valid rule file would be one containing a title and end comment, thus:

```
Short rules
// END
```

Option Rules

Options that are game specific - payment method, etc are in the rules and set when rules are loaded but can be changed later in the game->options.

There are 4 different option lines, these are:

```
DrawAdvanceWind=b
NewEastEachRound=b
DrawResetConsec=b
PaymentMethod=n
```

Where *b* is either T, for the option selected or F for it unselected and *n* is one of the values below:

```
0 = OnlyWinner
1 = OnlyWinnerEastDouble
```

2 = DiffAllPlayersEastDouble
3 = WinnerCollectOthersDiffEastDouble
4 = DiscarderPayment

The option lines above must have no spaces at the line start or around the equals sign.

Scoring Rules

The scoring rules specify how scores can be determined. There are broadly two types, those that are explicitly selected in the events list by checking the check boxes and those that are calculated using information from the events, tile sets and previously activated rules.

The scoring rules each occupy a single line and take on the form:

ID type "description" "rule" value units

Where:

- ID is a unique identifier for the rule in the range 0 to 99.
- Type indicates how the rule is used and has the values:
 - 0 for the rule to be included only in the Mahjong players' events list
 - 1 for the rule to be included in all players' events list
 - 2 to be included in only in the Mahjong players' score calculations
 - 3 to be included in all players' score calculations
- Description is the text seen on the screen in the events list or calculated scores boxes.
- Rule is a coded rule used to determine if this rule is activated. See details below.
- Value is the number of points, doubles or percentage limit that is given when this rule is activated.
- Units is the unit that the value represents and has the following values:
 - 0 for points
 - 1 for doubles
 - 2 for percentage limit, for example value 100 represents 100% limit.

The rule example below is the standard rule for an exposed pong of minor tiles

```
20 3 "Exposed Pong of Minors" "PEM" 2 0
```

Scoring rules are applied in the order defined in the rules file, so if one rule depends on another then it must be later in the file that the one it depends on.

The rule

The rule part of a scoring rule is a test that is applied to the players' tiles, events or active rules to determine if the rule is activated.

Each rule consists of one or more sub-rules separated by an operator symbol. The operators are:

- & - and, both score items must exist and not apply to the same tile set
- | - or, either score item must exist

Each sub-rule consists of exactly three uppercase characters or digits. These are defined as follows:

- Character 1 - typically represents the tile set type or test type
 - P = pong
 - K = kong
 - C = chow
 - T = pair (twin!)
 - G = (kong or pong)
 - F = flower
 - S = season
 - r1 = another rule ID number first digit
 - N = number of consecutive Mahjongs (see n1, n2)
 - M = test if player when Mahjong
- Character 2 - typically represents the visibility of the type set or test value
 - C = concealed
 - K = kong exposed containing concealed pong
 - B = a concealed pong either a C or a K
 - E = exposed
 - n1 = first digit consecMJ
 - r2 = another rule ID number second digit, or ! not present
- Character 3 - typically represents the tile set value or test value
 - D = dragons
 - N S E W = winds
 - T = terminals
 - B = any wind
 - M = minors (also called simples)
 - 1 2 3 4 = season or flower number or first number in the chow sequence
 - 5 6 7 = first number in the chow sequence
 - R = wind of the round, P = player's wind, Q = player wind by number
 - n2 = second digit consecMJ
 - S = rule n is set in score item (used once per rule application)
 - U = rule n is set but can be used multiple times per rule application, using only U in a rule will be an error as it will be applied multiple times by itself - this is tested when loading rules
 - C = rule n is not set in score item,
 - V = value tile (terminals and minors, i.e. non-honours)
 - H = honour (wind or dragon)
 - J = major (wind or dragon or terminal)

In addition to the above note the following:

- used in place of a character means it can be anything, a wildcard.
- Space can be used to fill a gap, for example character 2 in a flower/season item (equally valid would be a *).
- When testing Q, R and P the wind of the round and player will be substituted by the player's wind or round wind before applying the testing rule.
- For a rule that tests consecutive East Mahjongs the value given is also used to automatically advance the wind on after the consecutive Mahjong limit is reached, if it is the first sub-rule of the rule.

- Only the one consecutive East Mahjong test is allowed. If more than one exists only the last one in the rules file is valid.

The sub-rules are applied in order left to right.

Scoring rules are applied to all tile sets. As a rule sub-rule is matched to a tile set the set is marked as used for that rule. Rules are applied to find all non-overlapping sets of sub-rules matches.

For example, if a player has score items consisting of: set1, set2 and an event rule1 then the following apply:

A rule for set1 & set2 will be matched once.

A rule for set* and rule1 will be matched twice (set1, rule1) and (set2, rule1) if the rule match can be allowed multiple times (see character3 = U). If however the rule match can only be used once (see character3 = S) then only the first match will be made as the rule1 can not be used again for this scoring rule.

8 Further Information

Every effort has been made to ensure the accuracy and correctness of this manual and of the software it describes.

If you have any difficulties with the manual or software please contact us at Mahjong@1000fluffyclouds.co.uk quoting your registration email as reference.