



SWISS TOURNAMENT MANAGEMENT SPREADSHEET

USER GUIDE

Version 6.2

Andy Dibben
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Introduction

The spreadsheet provides support for the management of tournaments using a Swiss or Flexible Swiss format.

It is designed to operate in 2 modes:

- ‘Auto Manage’ where the system schedules the games and players have limited functionality to enter their results and indicate their readiness for another game
- ‘Manager Mode’ where the manager can additionally set up a new tournament, perform manual game scheduling and amend previously entered results.

It is assumed that the manager has some basic experience of Excel but players using ‘Auto Manage’ mode do not.

The “Set-up” worksheet tab is used to establish details of the type of game and lawns available for the tournament and some optional configuration parameters. Once the tournament starts then all operations regarding the scheduling of games and the recording of results can be made by mouse/keypad clicks on the “Auto-Manage” Tab. There is no need to use the keyboard except for the adding of new players. The “Sched” tab can be used to provide more flexibility over the scheduling of games.

Supporting the “Auto-Manage” and “Sched” tabs are 2 additional tabs providing tables of result information:

- “Table” – provides a table showing the results of all matches that have been played together with a summary of Games Played, Games Won and Nett Hoops. Games in progress are highlighted in Grey. This table is automatically updated each time a game is scheduled or a result entered
- “Ranking” – provides similar information to the results table but the players are sorted in a Ranking order and additional data displayed as determined by the “Set-up” tab parameters. If a threshold number of games for ranking purposes has been specified during set-up then those players who have not yet reached the threshold number of games are ranked lower than those who have.

During the tournament, changes to game scheduling and data display options can be made by altering the configuration parameters on the “Set_up” tab.

On the “Set-up” tab there are also buttons to print out the Rankings, Results & Games Tables. These are available anytime.

Changes from V5 to V6

The following is a summary of the changes in the latest version

1. The program can now implement a formal Swiss tournament to the rules in the CA tournament regulations
2. The auto-scheduling function now has a basic lawn allocation algorithm to schedule the next game for a player on a different court from the previous game

3. A new game state of Waiting 'W' has been introduced. Entering a result for a game with a lawn allocation will automatically re-allocate the lawn to the next Waiting game
4. Lawn allocation can now be changed by the manager once a game has been scheduled
5. The 'Set-up' functionality has been changed and some new configuration options added

Setting up for a new tournament

The steps to set-up a new tournament are:

1. Switch to the "Set-up" tab and click the 'Create New Tournament' button. After confirmation, this will clear down all of the existing game data ready for a new tournament. You will also be prompted whether to keep the existing player information or to clear that too.
2. The following parameters must then be set before any games are scheduled:
 - a. The number of lawns
 - b. The lawn ball usage
 - c. The number of points per game
 - d. Whether scoring is in absolute or relative format.

All other parameters on the "Set-up" tab can be changed during the tournament but most would normally be set-up before any games are scheduled and, should not normally need to be changed once the tournament has started.

3. Switch to the "Auto-Manage" tab to add players, schedule games and enter results

The Configuration parameters section details all of the configuration options available

Configuration Parameters

Parameters that must be established before any games are scheduled

1. Set Lawn Configuration. 4 options are available:
 - a. Primary Colours only – 1 game using Primary Colours can be scheduled on each lawn
 - b. Secondary Colours only – 1 game using Secondary Colours can be scheduled on each lawn
 - c. Primary and Secondary Colours – 2 games can be scheduled on each lawn
 - d. Unspecified – No lawn is specified for any game
2. The number of lawns available is selected from the drop-down list. All lawns are initially given an 'Available' status. Once set-up, any individual lawn can be made unavailable for scheduling. If the Lawn Configuration is set to 'Unspecified' then the 'Number of Lawns' is not required and is blanked out
3. The number of points per games value. Eg: 26 for AC, 7 for GC, 13 for 1 ball etc. This determines the range of scores that can be entered for a game result.
4. Set the method of entering Results
 - a. Absolute – The number of hoops made by each player is entered (eg: 26:12)

- b. Relative – Only the difference in hoops made between the 2 players is entered in the winners score (eg +10)

Parameters that would normally be set at the start of a tournament

1. Tournament Type

- a. Swiss: A formal Swiss Tournament where all players play in each round
- b. Flexible Swiss: Flexible Swiss Tournament where available players can be scheduled at any time
- c. Flexible Swiss (Ranked by Grouping): This option ranks players by their record against other players within the same win % after every result is entered and does NOT take into account the relative positions at the start of the current round. This is the ranking system used in V5 of the program. (This is my preferred option when running a very flexible Swiss tournament where there is little or no concept of formal rounds and players will have played different numbers of games. ie, as soon as a few players are free they want to start another game and the relative rankings of the players is not so important)

Selecting this option at the end of a formal swiss tournament can also be used to determine a winner when several players are tied on the same win %,

Changing this value during a tournament only impacts the display of the Ranking table and the scheduling of subsequent games.

5. Auto Schedule Options

- a. Games for available lawns: If there are more available players than lawns then the auto schedule function will schedule the players who have been waiting the longest to fill the available lawn slots. This option would normally be used for a Flexible Swiss
- b. Games for all available players: If there are insufficient lawns then the excess games will be left unallocated or set to Waiting depending on the setting of the 'Unallocated Games' option. The next Waiting game is automatically allocated the lawn freed up by the next game result entry. This option would normally be used for a strict Swiss

6. Unallocated Games option:

- a. Allow Unallocated games: If there are insufficient lawns then scheduling will give a lawn status of '---' meaning unallocated. This could mean 'find your own lawn' or 'wait until I have allocated one' depending on the Tournament managers instruction.
- b. Set Unallocated to waiting: If there are insufficient lawns then scheduling will give the remaining games a lawn status of 'Waiting'. As soon as a lawn is freed up by a result being entered then the system will automatically assign it to the next game on the waiting list.

7. Auto Manager – Player Add options. This option determines whether players can add new players to the tournament when in 'Player' mode:

- a. No Player Add – The function is disabled
- b. Allow Player Add - The player has the same add functionality as the manager

Parameters that can be changed anytime during the tournament

1. Minimum number of players for auto-scheduling: If the number of waiting players is less than the specified value the auto-scheduling function will give an error message. Under normal flexible swiss conditions, as soon as 2 games have finished then 4 players will be available and the auto-scheduler will be able to schedule 2 more games. However, this can often result in high ranking players being matched against low ranking players. To reduce this, setting a higher value (eg 6 or 8) can provide a better match of games to the Swiss rules for scheduling games.
2. Ranking Game Threshold: For a pure Swiss this would normally be set to '0'. For a flexible Swiss it can be set to the minimum number of games required to win the tournament. Players who have not yet reached the threshold level are ranked below those who have.
3. Ranking Group Count: For a pure Swiss this would normally be set to '0' as ranking within a group on the same % wins is determined by their position in the previous round. For a flexible Swiss or, to determine 'who beat who' setting a count displays the number of games each player has won against each of the other % win groups.
4. Request Player Handicap: If this box is checked then a players handicap is requested whenever a new player is added. At the moment the handicap value is not used anywhere in the spreadsheet.
5. Request Confirmation of Player availability: If this box is checked then, when a result is entered the user is asked to confirm that each player is ready for another game. (A useful option when in "Auto Mange" mode to reduce the chances of the system scheduling a player who doesn't want another game at the current time.) By default both players are set to be available for another game.
6. Show Data tabs in Manager Mode: If this box is checked then the data worksheets are shown in the Manager Mode. In normal use there is no need for these tabs to be displayed – **Manual changes to any of the working data in these worksheets is likely to have adverse effects on the programs operation!!**
7. Ranking Tab – display nett hoops: If this box is checked then the Ranking table shows the nett hoops for each player. For a pure Swiss this information is not required to determine ranking position but could be useful for a flexible Swiss.

Other Configuration functions

1. Reset Game Status: This function causes all of the internal working tables to be recalculated from the list of games. It may be required if there is a problem with the system and there is some discrepancy in data being displayed on the various screens.
2. Enter an event title to include on printout of results, ranking and games tables
3. Enter a manager message to appear on the 'auto mgt' tab
4. The 'Create Ranking Table Window' button creates a new window containing the Ranking Table. Using the external screen output port available on most laptop PC's to display this table on a separate large screen TV has proven useful in keeping players and spectators informed of the state of play. Once created the window size & zoom level can be adjusted to suit the resolution of the external monitor/TV being used. Note: Having created this new window you can change it to display the 'Table'

of 'Auto-manage' tabs if you preferred to display alternative data on the external monitor/TV.

5. Print Games, Result or Ranking Table: These buttons cause the relevant table to be printed.

Detailed Worksheet Operations

Introduction

Under normal circumstances, only the "Auto-Manage" and "Sched" tabs need to be used to manage the scheduling of games and recording of game results. The 'Table' and 'Rankings' tabs are also used to view the status of the tournament.

Apart from the addition of new players, all operations to run the tournament are handled by clicking on list items or on action buttons.

Fields in the "Auto-Manage" tab

The screen has the following fields:

Tournament Name: This is displayed at the top of the screen. The text can be changed at anytime on the "Set-up" tab.

Manager Message: This is displayed at the bottom of the screen. The text can be changed at anytime on the "Set-up" tab.

Prompt: This prompts for the next action expected for result entry and confirmation. It is included mainly for the benefit of player usage in the Auto Mgt mode who are not familiar with the spreadsheet functions.

Action Status: There are 2 lines that are used to provide additional information &/or error messages on the status of the result entry and scheduling functions

Games List: This normally displays a list of the active games. A secondary mode is to display a list of all the games involving a particular player (see. Tournament Status List) The information displayed is:

- Status: P=Game in Progress, C=Game Completed, S=Game Suspended, W=Waiting for Lawn
- Lawn: Identifies the lawn that the game is scheduled on. "---" indicates no specific lawn has been allocated.
- Players: Names of the 2 players. There is no specific order of the players names.

Player1 Score: Provides a list of possible scores for player 1. The range is determined by the type of game established in the "set-up" tab. Once a game has been selected from the 'Games List' the players name is identified at the top of the list. If the tournament has been set up for absolute scoring the list is headed 'score' and scores have to be entered for both players. If the tournament has been set up for relative scoring then the list is headed 'Won by +' and only the margin for the winning player needs to be selected.

Player2 Score: Operates as for the Player 1 Score for Player 2.

Result Type: Optional field, mainly used in AC, to specify the peeling state of the result. It is also used in both AC & GC to record that a game went to time.

Command Buttons: There are 5 command buttons. The actions they perform change depending on the status of the operation being performed.

Players Waiting: This lists all of the players that are available for a new game. Clicking on a player in the list will move them to the 'Resting' list

Players Resting: This lists any players that are not currently playing but, for whatever reason, should not be allocated another game. Clicking on a player in the list will move them back to the 'Players Waiting' list.

Tournament Status Summary: This lists all of the players in ranking order. See section on ranking table for the ranking process. The information displayed is:

- **Rank:** The Players Rank. Below the table is the threshold number of games for ranking status. This is set on the "Set-up" tab. Players who have not yet played the threshold number of games will always be ranked lower than those who have.
- **Games:** Shows number of wins and total games completed
- **Name:** Players Name

Entering a Result

1. The Prompt will show 'Select Game for Entry' and the 'Games-List' will have a green surround.
2. Once a game is selected, the names of the players are transferred to the header for the 'scores lists' which will then have a green surround.
3. If the tournament has been configured for absolute scoring then a score in each of the 2 player list boxes needs to be selected. Once both have been entered the 'type' list and the Confirm buttons are enabled. The scores &/or 'type' can be changed at anytime before the result is confirmed.
4. If the tournament has been configured for relative scoring then only the margin for the winning player needs to be selected. Once a score for one of the players has been selected the 'type' list and Confirm buttons are enabled. As only the winning margin is required, clicking on a score for the second player will cancel the score for the first player.
5. Selection of a 'type' is optional and normally applies only to AC games with peeling turns. The other use is to select 't' to indicate a game that has gone to time.
6. Once all the result fields are populated a message will be displayed if the result is considered invalid (eg. A game with maximum points going to time or game with both players having the same score).
7. Selecting 'Confirm Result' will result in a further prompt to confirm the result and add the players to the 'waiting list'. There is a configuration option on the "set-up" tab to also prompt to confirm if each of the players is ready for another game. If confirmed the player is added to the 'waiting' list, if not they are added to the 'resting' list.
8. Once the result is confirmed, all of the lists are updated and the system is ready for another result entry.
9. At any time prior to the result being confirmed selecting 'Clear Selection' will reset the 'game' and 'score' selections ready for a different result entry.

Displaying all games for a specified player

By default, the 'Games List' displays all of the active games (ie, those that are in progress or suspended). The manager is able to switch this display to a list of all games in the tournament for a particular player by selecting the player in the 'Tournament Status' list.

In this mode the players name is identified at the top of the list and all the games that the player has been involved with (excluding any cancelled games) is shown. The manager can then select a game to enter a score or change status in the same way as described in other sections of this guide.

Selecting the 'Display in Progress' button cancels the player list display and returns the system to displaying 'In Progress' games.

Changing Game Status or Results

Once a game has been scheduled the Manager has the following options to change game status or result. These options become available once a game has been selected from the 'games' list.

- Suspend a Game
- Cancel a Game
- Amend a Result

Game Suspension

Selecting an 'In Progress' or 'Waiting' game and then the 'Suspend' button causes the game to be put in a Suspended state. This frees up the 2 players to be available for other games but does not allow another game to be scheduled between the 2 players. An example of its use is: if a game has to be pegged down and for some reason one of the players needs a late start the following day and the manager wants the other player to start a new game. The Suspended game will be shown on the results and ranking tables as '-S-' on a grey background and will appear at the bottom of the In-progress games list. A result can be entered later for a Suspended game in the same way as for a normal 'In Progress' game. If both players are currently available a Suspended game can also be changed back to 'In Progress' on the same or different lawn.

Cancel Game

Selecting a game in any status – In-Progress, Waiting, Suspended or Completed, and then the 'Cancel' button removes the game from the games list and all player, results and ranking data for the game is deleted. A new game can be scheduled between the 2 players later if required.

Amending Result

If a 'Completed' game is selected then the previous score can be overwritten by entering a new score in the same way as for a normal 'In Progress' game. In this case the 'Confirm Result' button is replaced by an 'Amend Result' button. If the amended result is confirmed then all of the lists and tables are updated to reflect the updated result.

Adding and Amending Player Details

When the 'Games list' is displaying the 'In Progress' games a button is available to add a new player. When the list is displaying games for a specified player a button is available to amend the player details.

If 'Add Player' is selected then the system prompts for the players name and, optionally handicap. Note, at the current time the handicap is not used anywhere in the system. Once confirmed the new player is added to all the relevant lists, tables and reports. A newly added player is automatically added to the 'Waiting' list.

If 'Amend Player' is selected the system prompts for changes to the players name and handicap. Once confirmed the players name is updated in all relevant lists, tables and reports.

There is an option in 'Set-up' to disable the addition of new players when in the 'Auto Manage' mode.

Automatic Scheduling

At any time when the 'Schedule Games' button is selected the system will schedule games for all available players according to the process outlined in the Scheduling section of this guide. The scheduled games will then be added to the 'In Progress' Games list and the players removed from the 'Waiting' list. Messages will be given to inform of the following conditions:

1. There were insufficient available players to schedule
2. Player(s) that had to be left out the schedule as they had already played all the other available players (A likely result in the later stages of a tournament if there are only 3-5 players on the available list)
3. The player left out if there was an odd number of available players
4. Player(s) that had to be left out as it was impossible to fully schedule the available players. (This can occur if say there were 6 available players and 2 of them had played all the others apart from 'Fred'. Obviously both of them can not be scheduled to play 'Fred' and so one of them will be left out the schedule. This would then leave 5 players. The system then has to leave another 'odd' player out. This would mean that only 4 players are left – resulting in 2 new scheduled games)

Lawn Management Mode

In this mode the manager is able to change lawn status and allocation of games to lawns. The drop down lists used for result entry are changed to show lawn status information. The functions available are:

1. Selecting a lawn on the 'available' list (without a game having been selected) moves it to the 'unavailable' list. This can be a useful feature if a lawn is to be kept free for a final.
2. Selecting a lawn on the 'unavailable' list moves it back to the 'available list'
3. Selecting a game from the 'In progress' list and then an 'available lawn' will reallocate the game to the selected lawn. In addition:
 - a. The lawn that the game was originally on will become free
 - b. The lawn will then be re-assigned to the next 'Waiting' game – if any.
 - c. If the game was assigned to the 'unallocated' lawn and the 'set unallocated games to waiting' option has been set then the game status will be set to 'W'
 - d. If the game was previously Suspended then it will revert to 'In Progress' on the specified lawn. Note, both players must have a status of 'Available' to restore a suspended game.

Selecting the 'Game Management' button will restore the screen to the normal Game Management mode.

Auto-Management Mode

Selecting the 'Set Auto Mgt' button puts the system into a restricted mode that is intended for players to self manage the entry of results and the scheduling of new games.

Once in the 'Set Auto Mgt' mode the buttons function changes to 'Manager Needed'. Selecting this button causes the system to be locked until the manager enters a password. Full functionality is then restored and the manager can sort out any problems before returning the system to auto mode.

If required, the Manager can also set up a message on the "Set-up" tab that is displayed at the bottom of the screen to provide some specific information/instruction to the players. For example, the latest time to start new games or, when lunch is served.

In "Set-up" the manager can select whether and how the player can add new players in 'Auto-Mgt' mode. The options are:

- No player addition allowed
- The 'add player' button prompts the user for the players name and handicap

In 'Auto-Mgt' mode the following functions are disabled

- Game Suspension and Cancellation
- Amending game results
- Displaying all games by player
- Viewing other tabs apart from the Ranking table.
- Lawn Management functions

There is a DEFAULT PASSWORD of '12345' for the manager to get out of the 'Auto Manage Mode'. This can be changed on the "Set-up" tab. This is not meant as a secure function but stops players from easily accessing the other functions or creating further problems by continuing to amend data once a problem has occurred.

If the PC is to be left unattended then the manager should also take precautions to protect the rest of the PC from any intentional or unintentional misuse from the players.

Result Table

The "Table" tab provides a summary table of all the games played. The order of players is the order in which they were entered into the program. The table shows all the results as well as the games that are 'In Progress' or have been 'Suspended'. The table also shows for each player the number of games played, won and Nett Hoops.

This table is automatically maintained.

Ranking Table

The "Ranking" tab is similar to the "Table" tab but lists the players in a ranking order along with the additional data used to determine the ranking.

In Summary, construction of this table consists of:

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- Identifying players who have completed the threshold number of games
- Ordering the players who have reached the threshold by win %
- Grouping those with the same win %
- Players with the same win % are maintained in the order they were in at the last round of game scheduling
- Assigning the overall ranking to each player
- Creating the table of results in the “Ranking” tab.
- Note: players who have not played the threshold number of games are at the bottom of the rankings and the players name is highlighted in Grey.

Note: under the above rules if the threshold number of games was set to 4 and there was only 1 player left who had not yet completed 4 games they would appear at the bottom of the rankings even if they had won the first 3 games. Winning the 4th game would then see them jump to the top group with a 100% record or to the group with the 75% record if they lost.

Note: if the ‘Flexible Swiss by Group win %’ option has been set on the “Set-up” tab then the order of players with the same win % is done by

- Within a group identifying how many wins they have had against other groups (Note: the number of groups is a configurable setting between 0 & 8)
- Ordering each group by their quality of wins against the other groups
- If 2 players have identical quality of wins then the lowest sort order is by Nett Hoops

This table is automatically maintained

Enhanced Scheduling

The “Sched” Tab provides enhanced functions to manually and/or automatically establish the next set/round of games. The Scheduling functionality makes use of the Ranking data to suggest games according to the CA Swiss tournament rules.

Using this tab, games are first provisionally scheduled. When the manager is happy with the set (1 or more) games that they have provisionally scheduled they can confirm them. Confirmation can be 1 game at a time or all at once.

To start a new set of scheduling operations, press the ‘Reset All Scheduling Data’ button. This causes all the existing data on the screen to be cleared off and recalculated from the current tournament status. The data panels available on this screen are:

1. “Players available for scheduling” – This is a list of all the players who currently have a status of available. The players are listed in order of current ranking along with games won/played status.
2. “Available Players for selected player” – This will initially be blank. Once a player from the first list is selected then this panel will display those available players that the selected player has not yet played.
3. “Players to omit from Schedule” – This will initially be blank. Available players can be put on this list if, for any reason, the manager does not want to schedule the player

at the current time or, wants to leave an otherwise available player out of the automatic scheduling function.

4. “Provisionally Scheduled Games” – This will initially be blank. Games are added as they are manually or automatically scheduled.
5. “Available Lawns” – This is a list of the currently available lawns.
6. “Unavailable Lawns” – This is a list of lawns that the Manager does not want games to be automatically scheduled on. (eg. If in the later stages of a tournament a lawn is to be kept free for a final). Note, the lawn availability on the tab operates independently of the lawn status on the ‘Auto Manage’ tab.

Subsequent operations are performed by either selecting an entry in one of the panels or selecting one of the buttons.

The operations are as follows

1. Select entry in ‘Players Avail for scheduling’ panel – This highlights the selected player and creates a list of available players that the selected player has not yet played in the ‘Available Players for selected player’ panel
2. Select entry in ‘Available Players for selected player’ panel. – This highlights the selected player in readiness for a subsequent operation
3. Pressing “Schedule Single Game” button. – If a player in both of the available panels has been selected then a provisional game between the 2 players will be added to the ‘Provisionally Scheduled Games’ panel. The available players data is then refreshed
4. Pressing “Omit Player from Schedule” button – If a player has been selected in the ‘Players Avail for scheduling panel’ then that player will be removed from the list and added to the ‘Omitted Players’ panel
5. Select entry in ‘Omit Players’ panel – This will immediately restore the player to the available list. Note: The omit list works independently of the ‘Resting’ status of a player that is maintained in the “Auto-Manage” tab. A player who is ‘Resting’ is not included in the manual enhanced scheduling options.
6. Select entry in ‘Provisionally Scheduled Games’ panel. – This highlights the selected game in readiness for a subsequent operation.
7. Select entry in ‘Available Lawns’ panel – If a game has been selected then the game will immediately be allocated/re-allocated to the selected lawn. This available lawn status will then be refreshed. If a game has not been selected then the lawn is taken out of the available list and moved to the unavailable list
8. Select entry in ‘Unavailable Lawns’ panel. – This will immediately restore the lawn to the available list.
9. Pressing “Remove Selected” button – If a game has been selected then the game will be removed from the provisionally scheduled game list, the players returned to the available list. The lawn, if allocated, will be returned to the lawn available list.
10. Pressing “Confirm Selected Game” button – If a game has been selected then it will be removed from the provisional list and added the ‘in progress’ games on the ‘Auto-Manage’ tab. The players and lawn status data is then updated. Note: As the scheduling functions work independently from the “Auto Manage” tab, if the manager has done some further operations in the ‘Auto Manage’ tab since the game was provisionally scheduled then it may no longer be possible to confirm the game. An

error message will be displayed if this condition occurs. (eg. One of the players has been changed to 'Resting' status)

11. Pressing "Confirm All" button – Confirms all the provisionally scheduled games.

Automatic Scheduling

The 'Schedule Games' button will identify a set of games to schedule based on the scheduling options selected. The results of the processing are displayed in the 'Provisionally Scheduled Games' panel. A message is also displayed to confirm the player left out if there are an odd number of players to be scheduled. It also identifies if any player can not be scheduled as they have already played all of the other available players

The games can then be amended/removed and confirmed individually/as a group in the same way as manually scheduled games.

Note, the same algorithm is used by the 'Schedule Games' button in the "Auto Manage" tab but the scheduled games are immediately confirmed and added to the 'in progress' games list.

Note, if running a pure Swiss tournament with an odd number of players then a Player called 'Bye' should be created in the Players table to make the numbers even and matches scheduled against 'Bye' recorded as a win 26:0 to the real player – as per the CA Tournament regs.

The Scheduling options available for manual scheduling are detailed below. Note, changing these options does not effect the operation of scheduling function on the "Auto-mgt" tab.

1. "Players to Schedule" is used to select those players to include in the schedule:
 - a. 'Available, Playing & Resting' – includes all players in the tournament irrespective of current status. Its use is probably limited to a Swiss when a couple of games are taking a long time to complete and the manager wants to start the next round but ensure that there will be no issues in subsequently scheduling the players who are still in play. The Manager would then manually schedule all the games that can start at the current time - the others as the outstanding games finish.
 - b. 'Available & Playing' – includes only those with a status of 'Available' or 'Playing'. A variant of the first option. It may be useful for excluding players who have dropped out of the tournament
 - c. 'Available' – includes only those with a status of 'Available'. This would be the normal mode of operation and used in a Flexible Swiss when sufficient players are ready for their next game.

Note: In all cases, any player who has been added to the 'omitted player' panel or, has already been included in a provisionally scheduled game will also be omitted from the automatic scheduling.

2. "Odd Player Processing" is used to determine which player to leave out of the schedule if there are an odd number of players to schedule. This should only apply to a Flexible Swiss tournament. For a Swiss an odd number of entrants should be made 'even' by inclusion of Player 'Bye':

- a. 'Last Available' – Uses the time recorded against a player when they become available to make the player with the latest time the one left out. This is the method identified in the tournament regs. Note: when a game result is entered one of the 2 players is randomly made the last available player by giving them a time 1 second after the other player.
 - b. 'Random' – Picks one of the players at random to leave out of the schedule
 - c. 'Most Games' – Picks the player who has played the most games to be left out of the schedule. If several players have played the same number then one of them is picked at random
3. Lawn Selection is used to determine how many games can be scheduled. In all cases the actual allocation of lawns is done separately, either manually by the manager or by the 'auto lawn allocation function'
- a. 'Schedule for Available Lawns' – If there are insufficient available lawns for the number of available players then only those players who have been waiting the longest are scheduled to fill the available lawns.
 - b. 'Schedule all Available Players' – All the players are scheduled.

Notes on the Auto-Scheduling Process

1. The auto-scheduling process uses the CA tournament regulations for Swiss tournaments to schedule games. This involves sorting the players into Ranking order, Scheduling the top 2 players who have not already played each other to play together, then the bottom 2, then the next top 2 etc.
2. If a conflict occurs – ie, the last 2 players to be scheduled have already played each other – then the previously scheduled game is cancelled and an attempt made to find a valid set of matches between these 4 players. If this still creates a scheduling conflict then further matches are rolled back to try and create a complete schedule. Whenever a match is rolled back the process starts again by trying to match the first unscheduled player with the next available player after the one they have just been rolled back from. Eg: if game between players ranked 5 & 6 was rolled back as player 7 had already played player 8 then player 5 would then be scheduled against player 7 and, hopefully, the schedule can then be completed by player 6 playing player 8.
3. If any of the players have already played all of the other available players then they will be left out the schedule. A message identifying these players is provided.
4. It is possible – especially when trying to schedule only a few 'available' players that it is impossible to create a full schedule. This can occur if 2 or more players can both only play one other particular player. In this situation the manager is prompted whether they want to continue scheduling the maximum possible number of games.

Automatic Lawn Allocation

The "Auto Lawn Allocation Button" will allocate lawns to provisionally scheduled games – trying to avoid allocating a player to the same lawn as their previous game.

For a flexible Swiss, if there are only a few players to schedule and few available lawn slots then it is almost inevitable that some of the players will need to go back on the same lawn.

Technical Notes

The following provide some further info on the set-up/usage of the spreadsheet

1. The user should only enter data in fields with a white background. Fields with a pale colour background are populated by the system as a result of button or list selection. Note: Only the 'Set-up' tab has directly enterable data and sheets are protected from direct user input.
2. The spreadsheet is currently configured for a maximum of 24 lawn ids (ie, double banking on 12 lawns). Increasing this is more work than just changing the size of the lawn table
3. The spreadsheet is currently configured for a maximum of 50 players. Increasing this is more work than just changing the size of the Player table
4. The spreadsheet is currently configured for a maximum of 200 games. This can be changed by going to the 'Games' tab and changing the size of the table by dragging the bottom right corner to the required size. Note: Don't change the number of columns!
5. The 'types' of result are contained in a list on the 'Data' Tab. Additions can be made to this list but the 'input range' selection of the list control on the type panel has to be changed to reflect the revised list size. The first 2 entries must be <blank> (ie, no type specified) and 't' (ie, game gone to time) There is no other validation on the 'Type' field. The 'type' data is currently not used in any other calculations.
6. Whilst most fields, parameters etc. are defined by name there are still quite a few places where specific numbers/cell-references are used. Therefore the program will not function correctly if the spreadsheet structure is changed. This particularly applies to column numbers in the data tables in the 'Data' and 'S-Data' tabs. It is however safe to add new columns to the RIGHT of any of the existing tables as Excel will maintain the correct references to all the exiting data when the new column(s) are added.
7. If the results table is heavily populated then there can be quite a lot of rollbacks and rescheduling during the Auto-scheduling process. The table on the right of the 'S-Data' tab provides a log of all the scheduling activities and is intended to help debugging if a problem arises. There is also a maximum iteration count in the algorithm that will halt the process once the limit is reached. This is set in case the process enters an infinite loop – which it did some times during the initial testing! Similarly the smaller table to the right of the log table is a working table that tracks the scheduling process and is also useful in debugging problems.
8. The new window created by the 'Create Ranking Table' button strips off the table headers but if you also try and remove the function bar it is removed from all windows not just the new one. Using just VBA you can probably create a window with just data and no Excel stuff at all - this needs further investigation.
9. The Excel 'Input Box' function is used to enter data. There is a bug/'feature' of this function in that it is not always possible to tell the difference between a 'Cancel' return and a 'Null' return. Eg, for an integer input, the function returns '0' if a zero value is input or if the 'Cancel' button is pressed. This makes it impossible to tell if

the manager has input a new handicap of 0 or cancelled the function. A further confirmation warning has been provided to highlight this.

10. There are quite a lot of combinations of updating games played/won with the introduction of the 'Cancel', 'Suspend' and 'Amend' functions. Several bugs were found during testing that resulted in the counts in the players table being incorrect. This is shown by the % wins value in the Ranking table being incorrect. If this occurs than going into and then selecting the "Recalculate Game Status" button on the "Set-up" tab will cause all the tables to be recalculated from the 'Games' table and should correct any problems.
11. There are times when Excel displays a few cells from a different window in the active window. This can be cleared by switching to a different tab and then back again. This seems to be a bug in Excel. It is not consistent and appears to get worse the more programs that are running on the PC. Disabling screen updates at the start of each macro function and then re-enabling them at the end appears to resolve this problem – This issue has largely fixed in V6 but may still re-occur.

Future Update Considerations

1. Exporting results in file format that could then be used by the CA to update their player rankings or CroquetScores
2. Providing Rankings/Scheduling to support an Egyptian format tournament
3. Making lawn allocating mandatory – if auto-scheduling creates more games than there are available lawns then the remaining games remain as 'waiting' until lawns become available – Implemented in V6
4. Re-allocating a suspended game to a normal in progress game (if both players are available) and allocating to the same or a new lawn. – Implemented in V6
5. Removing all the remaining fixed values/fields in the code
6. Introducing Global Constants/Variables in the code rather than having to redefine in each Macro that uses them or use of spreadsheet cells to keep global values.
7. Adding Handicap tables and automatically calculating the bisques for handicap games
8. Introducing an algorithm to better allocate lawns based on the lawns that the players have previously played on. If anyone has such an algorithm then let me know! - A basic algorithm has been implemented in V6
9. Removing the 'Main' tab now that all the functions are available elsewhere and tidying up of the code that refers to it. – Implemented in V6
10. Split the 'Set-up' tab for those functions that can only be done before any games are scheduled and functions that can be done at any time – Implemented in V6