

Movement Files

This user guide describes the structure of **Bridge Gem** Movement Files.

It describes how they can be used to 'tune' Bridge Gem so that **Bridge Gem** recommends the most desired Movements.

It also describes how to add custom Movements to Bridge Gem.

Bridge Gem Movements Library

All **Bridge Gem** movements are contained in a **Movements Library**. The Movements Library is found in folder:-

`%ProgramData%\Bridge Gem\Movement Libraries\`

The text above can be typed directly into File Explorer to navigate to the Movements folder.

`%ProgramData%` is a Microsoft Windows' environment variable, which defaults on most PCs to:-

`C:\ProgramData\`

The **Movements Library** contain many sub-folders. Each sub-folder contains Movement Files of a certain class and type, eg 1-Winner Pairs Movements, 2-Winner Pairs Movements, Howell Movements, Individual Movements etc. etc.

The name of the sub-folders is not constrained by any convention, but summarises the type of Movements they contain.

Sub-folders may be added or removed from the **Movements Library**.

Certain sub-folders are of particular significance, because these are the sub-folders from which Bridge Gem makes **Movement Recommendations**, see section '**Tuning' Bridge Gem Movement Recommendations**.

Movement Library Sub-folders

Each Movements Library sub-folder has the same structure. It contains the following files:-

- A Header file, one per sub-folder - **header.txt**
- An Index file, one per sub-folder - **index.idx**
- Movement files, many per sub-folder - **Mxxxxx.mvt**
where xxxxx is a 5 decimal digit number (must be 5 digits)

All these files are text files and may be viewed and edited by text editors, eg Notepad, Notepad++, Word etc etc.

header.txt

header.txt is a small, simple unstructured text file, it is used to describe the general nature of the Movements in the sub-folder, using words such as '1 Winner', 'Pairs', 'Individual'. The contents of a typical header.txt file is shown below:-

1 Winner Pairs Movements. For when there are more Round than Tables and $T+1 \geq R \leq 2T-1$

As far as **Bridge Gem** is concerned the only words of significant in the **header.txt** files are: '1 Winner', 2-Winner, 'Pairs' and 'Individual'. **Bridge Gem** uses the **header.txt** files to filter the available Movements into those of interest, and those of no interest, to a particular Event.

index.idx

index.idx is a structured text file. It is the index into the movements in the sub-folder. Each line in index.idx describes a movement in the library.

A typical **index.idx** is shown below with **<tab>**, **<space>** and the **<end of line>** characters symbolically represented:-

```

1 00000 → 0 → 0 → 0 → 0 → 4 → 0 → 0 → 0 → CRFB
2 → Class Tbl Rnd Team W. Bal Type CRFB
3 00001 → 0 → 5 → 4 → 10 → 1 → 1 → 21 → EBU Manual → "Incomplete Mitchell 5T 4R 1W" → Page 14 4 → CRFB
4 00002 → 0 → 5 → 6 → 10 → 1 → 1 → 18 → EBU Manual → "Hesitation Mitchell 5T 6R 1W" → Page 46 6 → CRFB
5 00003 → 0 → 6 → 5 → 12 → 1 → 0 → 25 → EBU Manual → "Skip Mitchell 6T 5R 1W" → Page 8 5 → CRFB
6 00004 → 0 → 6 → 7 → 12 → 1 → 1 → 18 → EBU Manual → "Hesitation SR Mitchell 6T 7R 1W" → Page 54 7 → CRFB
7 00005 → 0 → 7 → 5 → 14 → 1 → 1 → 8 → EBU Manual → "Bowman 7T 5R 1W" → Page 20 5 → CRFB
8 00006 → 0 → 7 → 6 → 14 → 1 → 0 → 21 → EBU Manual → "Incomplete Mitchell 7T 6R 1W" → Page 14 6 → CRFB
9 00007 → 0 → 7 → 8 → 14 → 1 → 1 → 18 → EBU Manual → "Hesitation Mitchell 7T 8R 1W" → Page 46 8 → CRFB
10 00008 → 0 → 8 → 6 → 16 → 1 → 1 → 8 → EBU Manual → "Skip Bowman 8T 6R 1W" → Page 18 6 → CRFB
11 00009 → 0 → 8 → 7 → 16 → 1 → 0 → 25 → EBU Manual → "Skip Mitchell 8T 7R 1W" → Page 8 7 → CRFB
12 00010 → 0 → 8 → 9 → 16 → 1 → 0 → 18 → EBU Manual → "Hesitation SR Mitchell 8T 9R 1W" → Page 54 9 → CRFB
13 00011 → 0 → 9 → 7 → 18 → 1 → 1 → 8 → EBU Manual → "Bowman 9T 7R 1W" → Page 20 7 → CRFB
14 00012 → 0 → 9 → 8 → 18 → 1 → 0 → 21 → EBU Manual → "Incomplete Mitchell 9T 8R 1W" → Page 14 8 → CRFB
15 00013 → 0 → 9 → 10 → 18 → 1 → 1 → 18 → EBU Manual → "Hesitation Mitchell 9T 10R 1W" → Page 46 10 → CRFB
16 00014 → 0 → 10 → 8 → 20 → 1 → 1 → 8 → EBU Manual → "Skip Bowman 10T 8R 1W" → Page 18 8 → CRFB
17 00015 → 0 → 10 → 9 → 20 → 1 → 0 → 25 → EBU Manual → "Skip Mitchell 10T 9R 1W" → Page 8 9 → CRFB
18 00016 → 0 → 10 → 11 → 20 → 1 → 0 → 18 → McKinnon → "Hesitation SR Mitchell 10T 11R 1W" → 10 → CRFB
19 00017 → 0 → 11 → 9 → 22 → 1 → 1 → 8 → EBU Manual → "Bowman 11T 9R 1W" → Page 20 9 → CRFB
20 00018 → 0 → 11 → 10 → 22 → 1 → 0 → 21 → EBU Manual → "Incomplete Mitchell 11T 10R 1W" → Page 14 10 → CRFB
  
```

Line 1 of the **index.idx** file is ignored by **Bridge Gem**, but must be present.

All lines start with a 5-digit number, except comment lines. Any line that does not start with a 5-digit number is treated as a comment by **Bridge Gem**.

Each line in the index file describes a Movement and is associated with one of the **Movement Flies** in the sub-folder.

Each line in the index file is split into a number of 'fields' by the **<tab>** characters. Each field defines a property of the Movement:-

Field	Format	Movement Property	Used
1	5 digits	Movement file name/number. Movement files have names Mxxxxx.mvt Where xxxxx is this 5-digit number By convention Movement numbers start at 00001 and go upwards, but this is not necessary.	Yes
2	1 digit	Movement class 0 - Pairs Movement 1 - Individual Movement	Yes
3	1 or more digits	Number of Tables in the Movement	Yes
4	1 or more digits	Number of Rounds in the Movement	Yes
5	1 or more digits	Number of Players or Pairs depending on the Movement class	Yes
6	1 digit	Number of Winners in the Movement	Yes
7	1 digit	This field is ignored by Bridge Gem	Yes
8	1 or 2 digits	Movement type, eg Mitchell, Howell etc., see the appendix for a list of Movement types	Yes
9	Alphanumeric text	Movement source, ie the author of the Movement.	No

10	Alphanumeric text	Movement description – enclosed in quotation marks	Yes
11	Alphanumeric text	Further details of the source of the Movement, eg the page in the document where the Movement is described	No
12	2 digits	Number of Boardsets	Yes
13	Blank		No

It is the fields from the **index.idx** file that are displayed by **Bridge Gem** in the **Event** form.

Movement Files

Movement Files are structured text files. Each file describes a movement and is the source from which all other data about the movement is derived.

All lines in a Movement file start with a 4-digit number, except comment lines. Any line that does not start with a 4-digit number is treated as a comment by **Bridge Gem**.

There are one or more **Movement Files** in a sub-folder. The name of all **Movement Files** follows the same convention:-

Mxxxxx.mvt

where xxxxx is one of the 5 digit numbers in the **index.idx** file

The contents of a typical **Movement File** is shown below with **<tab>**, **<space>** and **<end of line>** characters symbolically represented.

```

1 0000 → "5T 4R 1W Incomplete Mitchell" → 21 → "Set up 5 tables. ", "Place 1 boardset on each table,
starting at table 1 with boardset 1.", "The N-S pairs use the table number as their pair number and
the E-W pairs add 5 to their table number to get their pair ", "number.", "N-S pairs remain stationary
throughout the session, the E-W pairs to move up one table at the end of each round. ", "Boardsets
move down one table at the end of each round.", → 5 → 4 → 1 → 6 → 0 → 10 → 4 → EBU Manual → Page 14
1 → 1.7191 → 36 → 0 → 0 → CR LF
2 0001 → 1 → "N-S remain stationary" → "E-W go to E-W table 2" → CR LF
3 0002 → 2 → "N-S remain stationary" → "E-W go to E-W table 3" → CR LF
4 0003 → 3 → "N-S remain stationary" → "E-W go to E-W table 4" → CR LF
5 0004 → 4 → "N-S remain stationary" → "E-W go to E-W table 5" → CR LF
6 0005 → 5 → "N-S remain stationary" → "E-W go to E-W table 1" → CR LF
7 0100 → 1 → 5 → CR LF
8 0101 → 1 → 1 → 1 → 6 → 1 → F → CR LF
9 0102 → 1 → 2 → 2 → 7 → 2 → F → CR LF
10 0103 → 1 → 3 → 3 → 8 → 3 → F → CR LF
11 0104 → 1 → 4 → 4 → 9 → 4 → F → CR LF
12 0105 → 1 → 5 → 5 → 10 → 5 → F → CR LF
13 0200 → 2 → 5 → CR LF
14 0201 → 2 → 1 → 1 → 10 → 2 → F → CR LF
15 0202 → 2 → 2 → 2 → 6 → 3 → F → CR LF
16 0203 → 2 → 3 → 3 → 7 → 4 → F → CR LF
17 0204 → 2 → 4 → 4 → 8 → 5 → F → CR LF
18 0205 → 2 → 5 → 5 → 9 → 1 → F → CR LF
19 0300 → 3 → 5 → CR LF
20 0301 → 3 → 1 → 1 → 9 → 3 → F → CR LF
21 0302 → 3 → 2 → 2 → 10 → 4 → F → CR LF
22 0303 → 3 → 3 → 3 → 6 → 5 → F → CR LF
23 0304 → 3 → 4 → 4 → 7 → 1 → F → CR LF
24 0305 → 3 → 5 → 5 → 8 → 2 → F → CR LF
25 0400 → 4 → 5 → CR LF
26 0401 → 4 → 1 → 1 → 8 → 4 → T → CR LF
27 0402 → 4 → 2 → 2 → 9 → 5 → T → CR LF
28 0403 → 4 → 3 → 3 → 10 → 1 → T → CR LF
29 0404 → 4 → 4 → 4 → 6 → 2 → F → CR LF
30 0405 → 4 → 5 → 5 → 7 → 3 → F → CR LF
31

```

A **Movement File** is split into 3 regions:

- A Movement Description
- Player Directions
- Round/Table Configurations

Movement Description

Line 1 of the **Movement File**, which starts with the 4 digits '0000' and is terminated by <CR><LF>, provides a general description of the Movement.

Line 1 contains the **Movement Description**. It consists of a number of fields separated by <tab> characters. Many of the fields in the Movement Description provide the same or similar information to that found in the index file.

The third field in the Movement Description contains a set of **Instructions** to the tournament director on how to set up the Tables, the Boardsets, and how the Players move. This may be lengthy; the field is terminated by a <tab> character. This field is displayed by Bridge Gem as **Instructions for Director** in Bridge Gem's **View Movement** window. This is the only field in the **Movement Description** that is used by Bridge Gem. All the other fields are duplicates, or near duplicates, of the fields in the index file which are used in preference to those in the Movement Description. Most fields in the Movement Description are optional.

Player Directions

Lines 1 to <Number of Rounds> provide directions to the Player/Pairs as to how to move at the end of each Round. There is 1 line for each round; each line contains 4, <tab> separated fields:-

- Field 1 4-digit (zero padded) Round Number
- Field 2 1-digit Round Number
- Field 3 NS Movement at the end of the Round
- Field 4 EW Movement at the end of gthe Round

This information is displayed by Bridge Gem in the **Player Instructions** tab of the **View Movement** form.

Round/Table Configurations

After the **Player Direction** lines come the **Round/Table Configuration** descriptions. One for each Round. This is the heart of the Movement File, and contains details of which Players are sitting at which Table, playing which Boards in each Round.

Each **Round/Table Configuration** consists of a Header line for a Round, followed by one line for each Table in the Movement. Each line in a **Round/Table Configuration** consists of a number of <tab> separated fields.

The **Header** Line has 3 fields:-

- Field 1 a 2-digit **Round** Number followed by two '0's
- Field 2 **Round** Number
- Field 3 Number of **Tables** in the Round

The **Configuration** lines have 7 fields:-

- Field 1 a 2-digit **Round** number followed by a 2-digit **Table** number
- Field 2 Round Number
- Field 3 Table Number
- Field 4 NS Pair Number
- Field 5 EW Pair Number
- Field 6 Boardset Number
- Field 8 Arrow Switch Indicator – **True** or **False**

'Tuning' Bridge Gem Movement Recommendations

When **Bridge Gem** 'recommends' a movement during the setup of an Event it interrogates a small subset of the Movement Library sub-folders to find a Movement that matches the **Movement Class**, **Number of Winners**, **Number of Players**, and **Number of Rounds** requested by the tournament director.

The sub-sets it interrogates depends on the class of the Movement and, for a Pairs Movement, the number of winners required. The Movement sub-folders **Bridge Gem** interrogates, and the order in which they are interrogated is:-

- 1-Winner Pairs Movement 7_3 Mitchells – switched
Bridge Gem Three-Quarter Howell Movements
Bridge Gem Howell Movements
Bridge Gem 1W Favourites
- 2-Winner Pairs Movement Bridge Gem 2W Mitchells
7_1 Incomplete Mitchells
Bridge Gem 2W Bowman
7_1 Mitchells – 2 winners
- Individual Movement Bridge Gem Individual Movements

By adding and removing Movement Files into these sub-folders in the **Movements Library** and editing the index file appropriately, the recommendations **Bridge Gem** makes can be altered.

Alternatively the sub-folders that Bridge Gem searches can be themselves tuned through the **Tools→Settings→Movements Libraries** menus in Bridge Gem itself.

If the Movement recommended by **Bridge Gem** is not desired, or if **Bridge Gem** has indicated it cannot make a recommendation, this does not mean that the desired Movement is not in the **Movements Library**. It merely means that it is not in one of the above Movement sub-folders.

Clicking on the **Change** button in the **Event** form causes **Bridge Gem** to interrogate **every** sub-folder in the **Movement's Library**. It is at this point that **Bridge Gem** uses the Movement sub-folders' **header.txt** files. **Bridge Gem** looks at only those Movement sub-folders whose **header.txt** file indicates that it contains Movements of the required class, eg 1W Pairs, 2W Pairs, or Individual. It then looks for an exact match on Movement Class and Number of Winners, and a near match on Number of Rounds. These are the Movements that are displayed in the **Alternative Movements** list.

Adding Custom Libraries

Bridge Gem can handle any Movement sub-folder and any Movement file that conforms to the standard specified in this document.

Movement sub-folders can be added or removed from the **Movements Library** and Movement files can be added to removed from a Movement sub-folder, provided that **header.txt** and **index.idx** are setup accordingly.

Appendix 1 is an example of a 3 Table, 5 Round Howell movement whose pair numbering differs from the standard EBU Howell such that starting positions are:-

- Pair 1 sit NS at Table 1
- Pair 2 sit EW at Table 1
- Pair 3 sit NS at Table 2
- Pair 4 sit EW at Table 2 etc etc

Improving this Document

If you find this document difficult to understand, or you think more detail can/should be added, you can make these amendments yourself.

The .pdf version of this document was produced by Microsoft Word and can be read by Microsoft Word into a .docx document, which you can then edit and amend as required.

Appendix 1 – A Custom 3 Table, 5 Round Howell Movement file

0000 3 Tables 5 Rounds Droitwich Howell NS1 Sit 19 Distribute the boards as instructed by the Table Top Terminals.", "Place the board sets not in play on relay tables between the real tables as instructed by the Scoring Program.", "After each round, each pair (except the pair sitting NS at Table 1) follows the same pair round the movement. It helps to identify this pair at the end of Round 1", "The boards also move in a very orderly fashion, moving to the next lower numbered table, except where there is a relay table, when the boards are placed there.", "Sometimes two (or more) tables share boards.

0001	1	N-S remains N-S at this table		E-W to N-S at table 2		
0002	2	N-S to N-S at table 3		E-W to E-W at table 1		
0004	3	N-S to E-W at table 3		E-W to E-W at table 2		
	Rnd	Tbl	NS	EW	Brd	X
0100	1	3				
0101	1	1	01	02	1	F
0102	1	2	03	04	4	F
0103	1	3	05	06	2	F
0200	2	3				
0201	2	1	01	04	2	F
0202	2	2	02	06	4	F
0203	2	3	03	05	3	F
0300	3	3				
0301	3	1	01	06	3	F
0302	3	2	04	05	1	F
0303	3	3	02	03	2	F
0400	4	3				
0401	4	1	01	05	4	F
0402	4	2	06	03	1	F
0403	4	3	04	02	3	F
0500	5	3				
0501	5	1	01	03	5	F
0502	5	2	05	02	5	F
0503	5	3	06	04	5	F

Appendix 2 – Movement Types

"Any",	0
"Three Quarter Howell",	1
"Half Mitchell",	2
"American Whist League",	3
"Appendix Howell",	4
"Appendix Mitchell",	5
"Blackpool",	6
"Block Mitchell",	7
"Bowman-Ewing Mitchell",	8
"Criss Cross Mitchell",	9
"DispMitchell",	10
"Double Hesitation Mitchell",	11
"Double Howell",	12
"Double Weave Mitchell",	13
"Extra Board Howell",	14
"Extra Board Mitchell",	15
"Flower Howell",	16
"Hesitation Bowman",	17
"Hesitation Mitchell",	18
"Howell",	19
"Interwoven Howell",	20
"Mitchell",	21
"NS Rover",	22
"Share & Relay Mitchell",	23
"Rover Table Mitchell",	24
"Skip Mitchell",	25
"Stagger Mitchell",	26
"Twin Mitchells",	27
"Undefined",	28
"Web Mitchell",	29
"Individual Howell Type",	30
"Individual Mitchell Type",	31
"Individual Irregular",	32
"Individual Combination",	33
"Individual Shomate",	34
"Pivot Mitchell",	35
"2T Appendix Mitchell",	36
"Individual Played as Triples",	37
"Individual Triples plus Quintuple",	38
"Individual User3",	39
"Individual User4",	40
"Individual User5",	41
"User1",	42
"User2",	43
"User3",	44
"User4",	45
"User5",	46
"Unable to Recommend a Movement"	47