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Querg,
a series of private chess programs written by John F. White in 6502 assembly to run on an 64K Atari 130XE, as described in the ICCA Journal, Vol. 11, Nos. 2/3, 1988 [1]. The name Querg has no meaning, the Querg P Quigel fictional character [2] from Star Trek Voyager Pathfinder appeared some years later. Versions mentioned in the article were dubbed *NovaQuerg* and *SuperQuerg*. In his second ICCA Journal article, White describes how to store and retrieve moves of an opening book [3].

Description

Move Generation

Most versions of Querg used a mailbox based offset move generation, 0x88 techniques coupled with offset move generation are mentioned in the article, and that this technique has advantages for in check detection as applied in Paul Wiereyn's mate finding program [4]. The experiments with incremental updated movelists were not that successful.

Check Detection

Checks were first detected by a variant of the method given by Wiereyn, modified to suit a cylindrical representation of the chess board, and rather slower than the original described - the 12 x 10 board is not well suited to implementation of this procedure. The alternative method to delay check detection until a king has been captured saved time in positions where checks are rare, but was inefficient if kings are vulnerable to checks. Finally, White came up with a technique to determine whether pieces give check during generation time.

Search

Querg applies PVS with Aspiration windows within an iterative deepening framework, where the Principal variation is 'fed over' into the next iteration. Two killer moves were stored and used to reject moves. Lazy move generation of PV- and killer moves before constructing a whole move list failed to provide any benefit. Forcing moves, that is checks and replies to check, promotions, threats of promotions by the side not to move, and captures, are extended by a maximum of three additional plies in the whole path. A special routine *HIPL* (high-ply-pruning) avoids the unnecessary sequence make move -> evaluate -> unmake move at frontier nodes for none forcing moves.

Evaluation

The evaluation relies largely on first-order terms [5], considering material, pieces left en prise, mobility as number of moves plus information from piece-square tables, and pawn structure.

Performance

Performance was determined by test-positions and games played versus programs running on the same 8-bit Atari, such as Cyrus, Colossus 3.0, the old Sargon 2.5, and others, where *NovaQuerg* finished with 6.5 points out of 14. However, Querg has not played any official tournaments.

See also

- Star Trek
- Quark

Publications

[6]

- John F. White (**1988**). *Querg Chess*. ICCA Journal, Vol. 11, Nos. 2/3
- John F. White (**1990**). *The Amateur's Book-Opening Routine*. ICCA Journal, Vol. 13, No. 1

External Links

- Querg Draughts for Atari ST (1994) - MobyGames
- Star Trek Online « Pathfinder's Federation Log
- I, Querg P Quigel « Pathfinder's Federation Log
- Lt Cmd Querg « Pathfinder's Federation Log

References

1. ^ John F. White (**1988**). *Querg Chess*. ICCA Journal, Vol. 11, Nos. 2/3
2. ^ I, Querg P Quigel « Pathfinder's Federation Log
3. ^ John F. White (**1990**). *The Amateur's Book-Opening Routine*. ICCA Journal, Vol. 13, No. 1
4. ^ Paul Wiereyn (**1985**). *Inventive Problem Solving*. ICCA Journal, Vol. 8, No. 4
5. ^ Jan Eric Larsson (**1987**). *Challenging that Mobility is Fundamental*. ICCA Journal, Vol. 10, No. 3
6. ^ ICGA Reference Database (pdf)

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