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Proscha,

a mainframe chess program written in [PL/I](#) for the [IBM 370](#) by a team of students of the [University of Dortmund](#). The project was set up end of 1973 as suggested by professor [Volker Claus](#). The team was headed by [Hagen Huwig](#) ^[1], with [Hans-Jürgen Appelpath](#), K. Behle, L. Franzen, N. Schulz, R. Schulz, W. Teschers and [Oliver Vornberger](#) as team members ^[2]. The aim was not primarily to write a strong chess program but project and team work, structured programming experience, and correctness of the applied algorithms.

Description

A formal [game theoretic](#) description based on a [finite state machine](#) and pseudo code of a [Minimax](#) implementation was given in [Hagen Huwig's](#) project report ^[3], further elaborating on [quiescence](#), aspects of the [board representation](#) using a [12x12 board](#), [legal move generation](#), and [heuristic evaluation](#) considering [material](#) with [point values](#) of {1,3,3,5,9,200}, [pawn structure](#), [center control](#) and [king safety](#). [Alpha-beta](#) was not mentioned but [forward pruning](#) of a [Shannon Type B program](#) based on [swapoff](#) and king safety analysis. Largest piece of code was the legal move generator, the whole program consists of about 5000 PL/I statements.

Game Play

Volker Claus

A few test games were published in the report, self-play, and one test game versus [Volker Claus](#), time control 45 minutes for the whole game, played via [TSO](#):

```
[Event "Test Game"]  
[Site "University of Dortmund"]  
[Date "1974"]  
[Round "1"]  
[White "Volker Claus"]  
[Black "Proscha"]  
[Result "1-0"]
```

```
1.Nc3 d5 2.Nf3 c5 3.d4 e6 4.Bf4 cxd4 5.Nxd4 Nf6 6.e3 Bc5 7.Ndb5 O-O  
8.Nc7 Bxe3 9.Be5 Bxf2+ 10.Kxf2 Nc6 11.Bxf6 Qxc7 12.Qg4 g6 13.Qh4 Qb6+  
14.Ke2 Qxb2 15.Qh6 Qxc2+ 16.Ke1 Qb2 17.Qg7# 1-0
```

First GI Computer Chess

Representing the host university, Proscha played the [First GI Computer Chess Tournament](#) ^[4] ^[5], lost from [Daja](#) and [Samiel](#), and won from [Charlie](#). In one of his algorithm lectures on [verification](#) and [correctness](#) ^[6], [Oliver Vornberger](#) mentioned a [bug](#) in Proscha despite it was extensively tested over one year, which appeared exactly during the first round versus [Daja](#), where Proscha captured its own white king with its own white bishop ^[7].

Publications

- [Hagen Huwig](#) (1975). [Bericht über eine Projektgruppe mit dem Thema Schachprogrammierung](#). Bericht Nr. 9, [University of Dortmund](#) (German)

External Links

- [Erstes Computer-Schachturnier der Gesellschaft für Informatik](#) October 17, 1975, [Computerwoche](#) 42/1975 (German)

References

1. [^ Hans Decker](#) (1998). *EinBlick - Ursprünge der Dortmunder Informatik*. [pdf](#)
2. [^ Hagen Huwig](#) (1975). [Bericht über eine Projektgruppe mit dem Thema Schachprogrammierung](#). Bericht Nr. 9, [University of Dortmund](#) (German)
3. [^ Hagen Huwig](#) (1975). [Bericht über eine Projektgruppe mit dem Thema Schachprogrammierung](#). Bericht Nr. 9, [University of Dortmund](#) (German)
4. [^ Erstes Computer-Schachturnier der Gesellschaft für Informatik](#) October 17, 1975, [Computerwoche](#) 42/1975 (German)
5. [^ Reinhard Zumkeller](#) (1975). *Erstes GI Computer-Schach-Turnier, Dortmund 1975*, Bulletin, including a paper by [Konrad Zuse](#)
6. [^ Vorlesung Algorithmen WS 2014/15](#), Di, 18.11.2014 Verifikation: partielle Korrektheit, Terminierung, Halteproblem (Algorithmen-Fee), [mp4 video](#) at 3:00
7. [^ Proscha](#) was disrespectful mentioned by [Daja](#) author [Ludwig Zagler](#) as "bastelprogram" (tinker program) in [Schach: Die Zugmaschine Der Spiegel](#) 16/1976, April 12, 1976 (German)

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Oliver Vornberger	Oct 23, 2015
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