# <sup># $ +</sup> Background on GNU Chess

GNU Chess
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GNU Chess is a communal chess program. Contributors donate their time and effort in order to make it a stronger, better, sleeker program. Contributions take many forms: interfaces to high-resolution displays, opening book treatises, speedups of the underlying algorithms, additions of extra heuristics. These contributions are then distributed to the large user-base so that all may enjoy the fruits of our labor. The original and continuing purpose of this project is to permanently end  the rampant hoarding of computer chess software that has been the  case for the past 20 years.

Many people have contributed to GNU Chess. Their contributions have improved the program from being a patzer (weak program) to being a grandpatzer (decently strong program). In its growth since initial release, GNU Chess has gone from approximately class D to strong master strength. It beats the Fidelity Mach 3 (USCF 2265) rather handily when run on a Sparc-1 (RISC). Since these types of RISC chips are becoming fairly common, the age of "master chess in your computer lab" is now a reality. From there, it will be a short hop to master chess in your home with FSF software.

GNU Chess's structure is a hybrid of the Shannon Type-A and Type-B methods. It conducts a full-width search to a fixed-depth and then continues with a quiescence search for many more ply. This quiescence search helps the program find positions which can be safely evaluated and which are not too turbulent. If a terminal position is too turbulent, the evaluation will be highly inaccurate. Additional searching by investigating series of captures, checks, and other potentially imbalance-producing moves is quite helpful.

GNU Chess will sacrifice pieces in order to reach known winning endings. Also, it uses a trade-down bonus to encourage the stronger side to trade off certain types of pieces thus reaching a more simplified and therefore ostensibly "clearer" position.

GNU Chess has certain types of knowledge regarding easier endgames.  This allows it to play these endings somewhat better than might be expected.

GNU Chess has time heuristics that it uses to improve its handling of time-controls and hasten its making of "obvious" moves. It also thinks on the opponent's time.

GNU Chess is interfaced to the SUN Windows and X Windows display protocols and can display its pieces in elaborate format, similar to chess diagrams.

GNU Chess has an opening book which consists of many variations from MCO (Modern Chess Openings), and some from ECO.

For comparison purposes, GNU Chess running on a VAX 8650 is stronger than the famous Chess

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4.5 running on a CDC 6400. On a Sparc-1, GNU 1.55 (or later) is probably about 2350-2400 strength (USCF rating estimated).