Introduction:

The project proposed consists of using the resources of the BASYS3 FPGA board to make a basic chess engine that utilizes the monte carlo algorithm to determine its next move. The goal is to accelerate and improve the performance of the algorithm in order to obtain a system that can play chess at a basic level.

Description:

The system will contain the necessary peripherals to communicate with another computer, in order to play against the machine and evaluate its performance when compared to other chess engines.

Making a module to accelerate the monte carlo algorithm is the centerpiece of the project, since the board will be able to evaluate more moves in a certain time frame the faster the algorithm evaluates each possible position.

Other modules may need to be added to support the functionality of the monte carlo module.

Expected results:

It's expected to obtain a chess engine capable of being competitive when paired against human players with beginner habilitie.

Also the system will be compared with other chess engines of different level in order to determine its approximate elo (the ranking system utilized by FIDE and other national and international chess institutions).