Assignment-3

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State Representation:

The state contains the positions of both player, all the legal moves (for our self and the opponent), position of all the walls placed on the board and the remaining number of walls for both players.

Minimax depth:

We change the depth of minimax tree depending upon the time left and the number of total walls placed on the board. If only few walls have been placed, we search only 2 levels and save time for future when there is something interesting happening on the board. Also when very little time is left, we keep reducing the depth gradually to avoid the timeout.

Evaluation Function:

We are considering straight line distance(as if no walls there), the actual shortest path for our player and for the opponent. We have given more weight to increasing the shortest path of the opponent.

Branching Factor:

To suppress the branching factor, we only consider those wall placement moves, which are placed close to the opponent. This “close” also depends upon how much time we have.

We have not yet considered reordering of children to help alpha-beta pruning.

Discussed with:

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