CS3110 Final Project Proposal

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November 1, 2015

1 Status Meeting:

We will be meeting

- Tuesdays $18:00 - 21:00$
- Thursdays $16:45 - 18:30$
- Sundays $12:30 - 15:00$

2 Proposal:

Programming an interactive Hnefatafl game.

2.1 Hnefatafl:

The game is played on an 11×11 checkered board with two uneven sides. 12 white pieces are positioned around a white "king" at the center of the board, with 24 black pieces arranged on the edges surrounding them. There are three main mechanics involved in the game:

1. **Movement**
   All pieces in Hnefatafl except the king move like rooks in chess. That is, n squares vertically or horizontally in a straight line accross the board, not passing any other pieces along the way. The king can only move three squares at a time.

2. **Capturing**
   When two pieces of the same color actively flank a piece of the opposite color, the flanked piece is removed from the board. Notably this does not happen if a piece moves into a position where it is being flanked. Additionally, the king cannot participate in flanking. Flanking is defined as being surrounded on two opposite sides. In the case of the king it must be flanked on all sides.

3. **Winning**
   Black wins when the king is captured, or the king's only escape is to move back to the center square of the board.
   White wins when the king is moved to one of the side squares of the board.

See:

2.2 Interface:

Ultimately we would like to implement the interface as a GUI using openGL, and allow click-and-drag motion commands. Initially, we will implement a text-based interface that uses chess-like notation for movement and output a ASCII grid to show positions of pieces. This interface will likely remain available as an option
This will be playable against another human player, or against an AI.

2.3 Stretch Goals:

- Hnefatafl is an old game, and there are many versions of it that exist. Time permitting, we would like to implement many of these variants, working off of a general game core.
- Detect if the game has become unwinable.