

Students:

DINYAR ISLAM (903586823) - dinyar.islam@gatech.edu

SUSHANT GUHA (903590247) - sguha38@gatech.edu

| Element   | Percentage Deduction | Details  |
|---|----------------------|--|
| <p>General functionality Proposed using Multithreading and SFML*:</p> <ul style="list-style-type: none"><li>• Chess piece movement</li><li>• Audio playing on piece movement, capture, and game open</li><li>• Engine plays move</li><li>• Multithreaded engine to particularly larger depth searches for possible moves</li><li>• Chess piece capture</li><li>• Player has the option to choose the texture of the piece color</li><li>• Player has the option to choose the texture of the board</li><li>• Player has the option to choose the texture of the pieces</li><li>• Letting the player choose their difficulty level</li><li>• Initiating appropriate end to game e.g. check mate, stale mate, or draw</li></ul> | Up to 50%            | The students delivered on the functionalities of a basic chess game. The functionalities mentioned in the project proposal, or an equivalent replacement functionality are appropriately included. |
| Custom Class(es) were used  | Up to 50%            |  |

|  |   |   |
|--|---|---|
| Use of one of the five topics:<br>a. Multi-threading<br>std::thread or<br>OpenMP<br>b. OpenGL<br>c. Sockets<br>d. MPI<br>e. GPU (CUDA)   | Up to 50%   | For example, Multithreading was extensively used for the chess engine. SFML was used.*                                      |
| Clear Self-Documenting Coding Styles.  | 10%-25%   | This can include incorrect indentation, using unclear variable names, unclear/missing comments, or compiling with warnings. |
| Extra credit opportunities: <ul style="list-style-type: none"> <li>- Show the player's next available moves</li> <li>- Pre-moving the game to save time</li> <li>- A game timer that allows for timed games</li> <li>- Move history table - display the past moves played.</li> <li>- Alpha-beta pruning to allow for higher engine depth - Difficulty 4 or above with <i>reasonable</i> delay.</li> </ul> | Grader's discretion - Up to 5% per functionality added. | The student has included these advanced functionalities on top of the basic requirements of chess.                          |

\*Professor Hurley approved use of 2-D graphics using SFML instead of 3-D OpenGL AND the use of the triple happy chess library.