Bitmap Project
4/11/22

Overview: The program runs barebones chess.

Instructions:

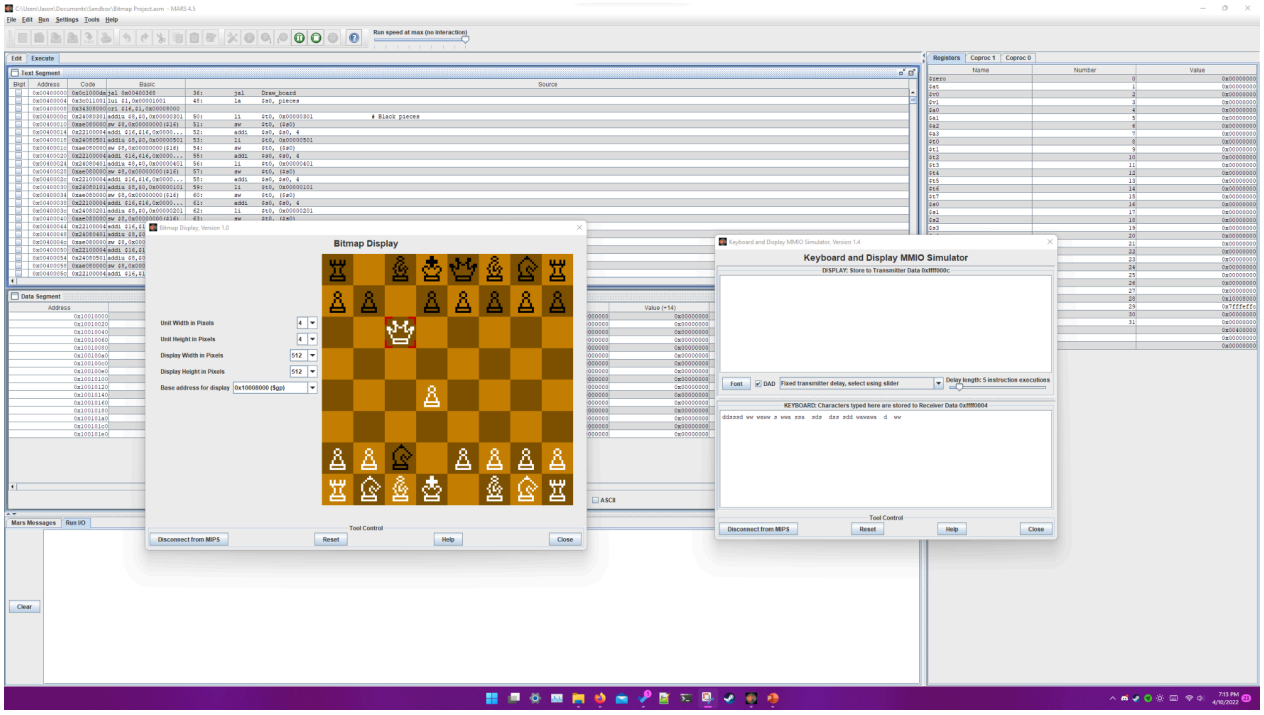
- Set unit width and height to 4.
- Set display width and height to 512.
- Set base address to $gp.
- Use W, A, S, and D to move the cursor (shown with red corners) up, left, down, and right respectively.
- Press SPACE to select a piece. If the cursor isn't over any piece, nothing will happen. If the cursor is over a piece, that piece will become selected and turn gray. Additionally, squares will highlight indicating valid places to move that piece (and valid pieces that piece can take).
- To place that piece, move the cursor over a highlighted square and press SPACE again. The piece will move to the cursor's location. If you move the piece over a valid enemy piece, the enemy piece will be overwritten (taking that piece) and your piece will move there.
    - Pressing SPACE on a square that isn't highlighted will do nothing.
    - To deselect your piece, move the cursor over the piece's original position (it should be gray) and press SPACE again.

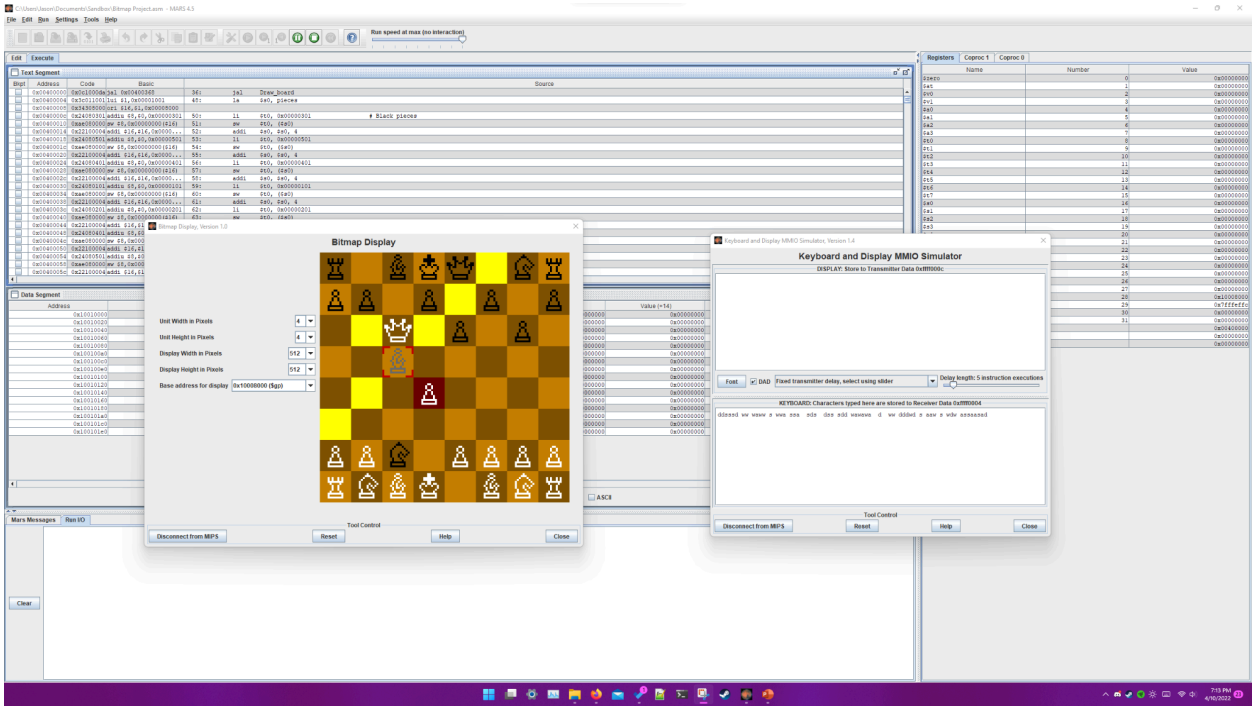
Things you should know:

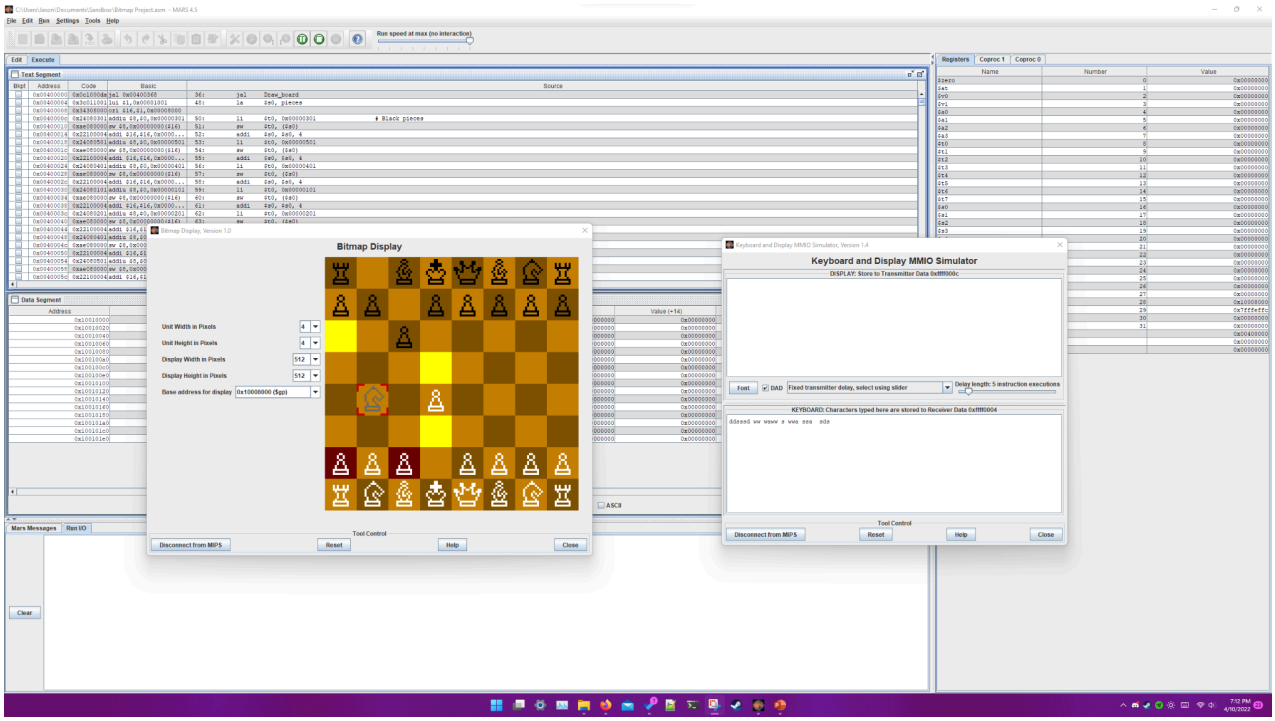
- The program does not keep track of whose turn it is, so you can technically move two black pieces in a row.
- The program does not check if kings are in check, so try not to make invalid moves.
    - As a parallel to this, you can't undo moves, so try not to make invalid moves.
- The program does not prevent you from taking kings, so try not to do that.
- There is no castling.
- There is no en passante.
- There are no game end screens (because the game doesn't check if kings are in check).
- Pawns that make it all the way to the opposite side remain pawns.
- When you move the cursor off of a highlighted square there will be a silhouette of the cursor because I am not redrawing the highlighted squares.
- When you move a piece (or deselect a piece) the pieces will flicker because I am redrawing the whole board underneath (that was the easiest way to clear the highlighted squares).

- OVERSIGHT: If a pawn hasn't moved yet and there is an opposing piece directly in front of it, the program will highlight the square past that piece and allow the pawn to move over it.

Sample runs:






Bitmap Display
Unit Width in Pixels
Unit Height in Pixels
Display Width in Pixels
Display Height in Pixels
Base address for display
Tool Control
Disconnect from MIPS
Reset
Help
Close
Keyboard and Display MMIO Simulator
DISPLAY: Store to Transmitter Data 0xffff000c
KEYBOARD: Characters typed here are stored to Receiver Data 0xffff0004
Font
DAD
Delay length: 5 instruction executions
Tool Control
Disconnect from MIPS
Reset
Help
Close