

AI Connect Four

deepwaterooo

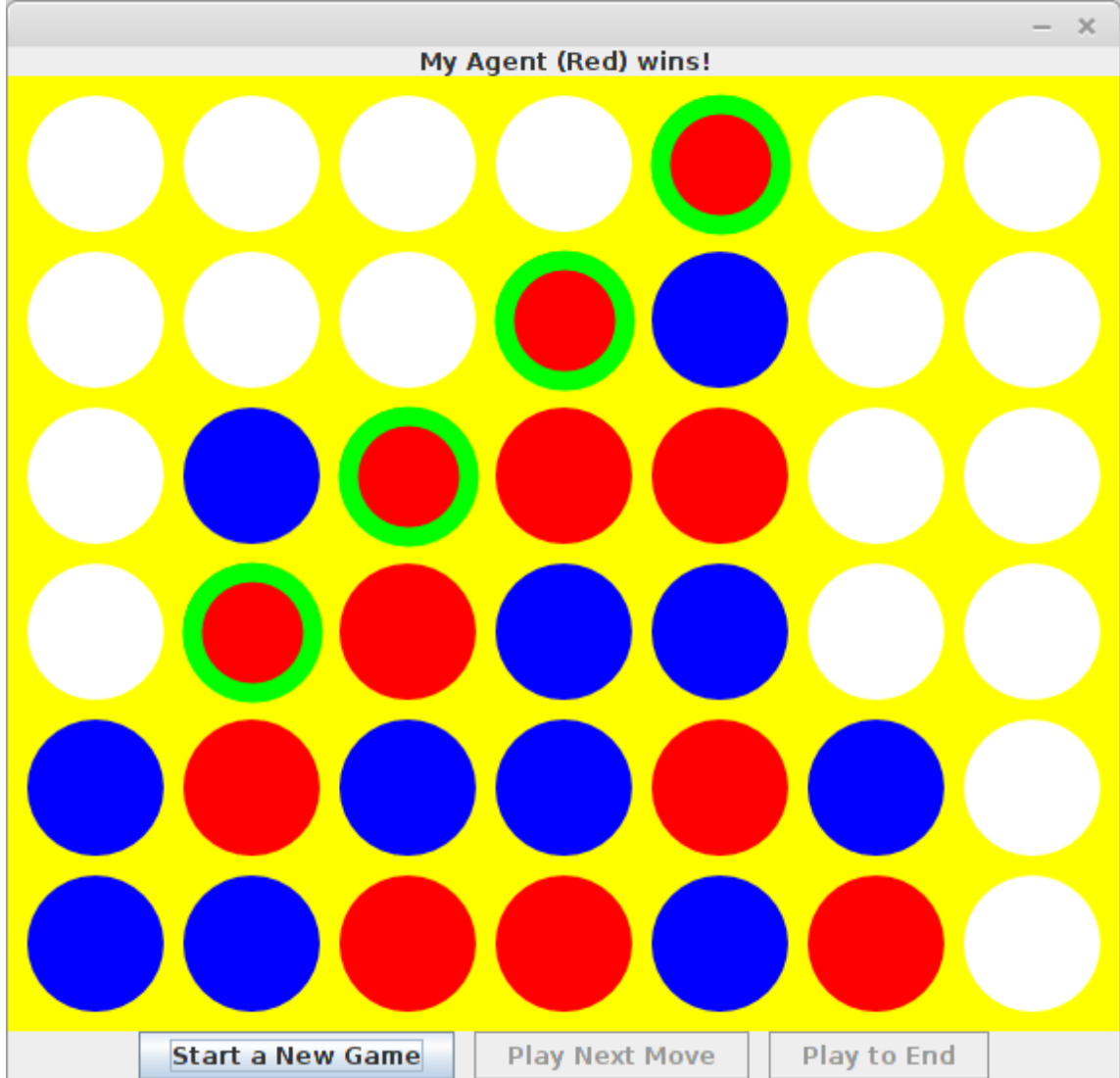
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1 On processing Mini-max algorithm with Alpha-beta pruning for Connect 4 game human vs AI.

- Status now: GUI almost there, need to rewrite AI using Java.



2 Rules of the Game

- To what type of object will you add an instance of a `PlayListener` object (as a `Mouse-Listener`)?
- If your board has w columns and h rows, how many `BoardCell` objects do you need to create? To which component will you add these `BoardCell` objects?
- Why is the `JLabel` status an instance variable (as opposed to just a local variable in the constructor)?
- Where is the information about what contents are stored in each cell located? What method must the `BoardCell` call in its `paintComponent` method to determine what color to paint the "checker"?
- Which method will determine when the game is over (by calling methods on the `ConnectFourBoard` object `theBoard`)? Which method will detect illegal moves (again by calling methods on the `ConnectFourBoard` object `theBoard`)?
- Will you need to create a separate listener to handle clicks on the New Game button, or will you use another instance of the `PlayListener` class?
- How do you run the game?

3 The Project Architecture

- Will fill diagrams later

4 Designing Your Agent

- One AI
- One human player

5 Playing Your Agent

- Either human or AI can play first
 - Let AI to play a move by clicking "Next Move" button
 - Human play by clicking the mouse into a specific column

6 Further Reading

7 Prefix

- The original Connect 4 AI project was written and finished by Mar 5, 2013, which was my second semester for Computer Science major, so there are lots of defects.
- This is a game rewrite using Java to build a graphic interface following major requirements from the initial course project requirements, and UCSD PSA6: Connect 4 GUI requirements, whose reference is listed below.
- This is the very FIRST Java project that I built (design was still pretty much there by surfing internet) except the Android App Projecting DrawingFun app, which project's frame work was almost pretty much there and I just added functionality.

8 references

- mousetlistener:
 - <https://www.youtube.com/watch?v=TMWUZ5vzghc>
 - <http://bbs.csdn.net/topics/320055502>, this one works!
- requirements
 - <https://sites.google.com/a/eng.ucsd.edu/cse-8b-winter-2014/schedule-and-assignments/ps>
 - <https://github.com/lisalisadong/cs-046>