HW3 : TTT with graphics

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1. Summary

I made TTT game with simple UI and funny sound event. The program contains a simple AI, so you can choose for play alone with AI or play with other friend next to you. Once you choose play option, you can enjoy for infinite times but can't change play option unless you rebuts program. I implemented UI simple by drawing circle and lines but I focused to developing AI model and composing funny sound events.

my github adress : https://github.com/ceojooyoung/Visual-Media-Programming/

2. Explaining for code

2-1) who_win function

This function wil check list L, stored information of preset game board, and return 0(game isn't end) or 1(1p victory) or 2(2p victory) or 3(tie)

2-2) crisis function

This function will check the possibility about that the game can end in one move. crisis use parameter l(3*3 board information same with L above), p(who can win). My AI model will perfom based ono this function for two times to win or not lose.
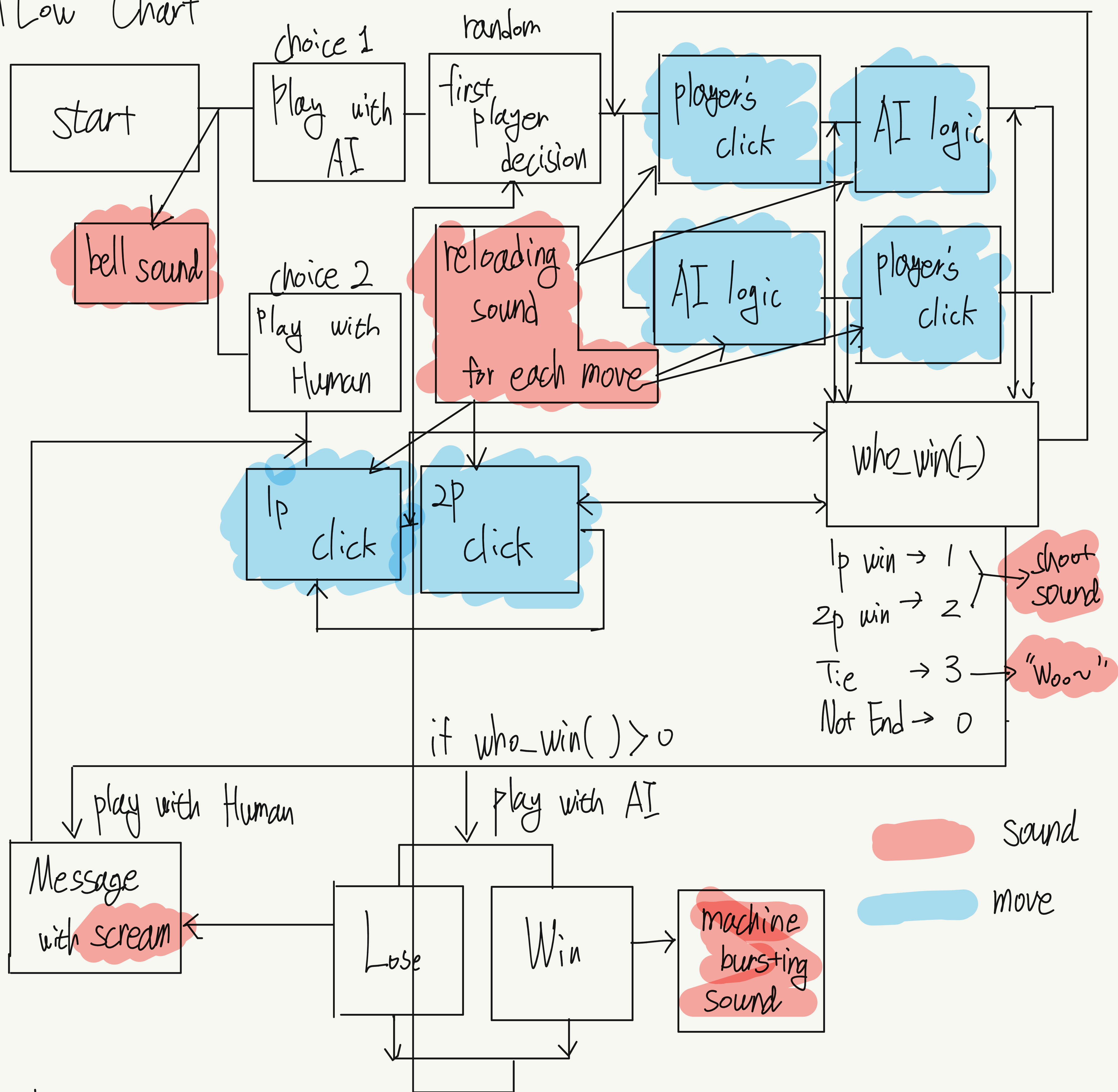
2-3) Strategy_A function

This is a two level depth of AI model for TTT game. It calculate based on crisis function.

3. Funny sound events

There will be reloading sound for every move. But in the moment of end of the game, reloading sound will replace for other sound. If you play with AI, if you lose, you die(scream sound), if you win, AI will explode(explosion sound). If you play with your friend, if you win or lose, one person must die. So there just scream sound in Play with Human mode. Plus, there is a three times of bell ringing when you choose game mode and start game.

Flow Chart

start

choice 1
Play with AI

random
first player decision

player's click

AI logic

bell sound

choice 2
Play with Human

reloading sound for each move

AI logic

player's click

1p click

2p click

who_win(L)

1p win → 1
2p win → 2   shoot sound
Tie → 3   "Woo~"
Not End → 0

if who_win( ) > 0

play with Human

play with AI

Message with scream

Lose

Win

machine bursting sound

sound

move

display will update after who_win(L) function

who_win(L): load stored board information at 3×3 list L
for each move, L[i][j] will change 0 to 1 or 2

AI Logic: check crisis(L, P). 1p and 2p. If not crisis(L,P), AI will move random
crisis(L,P): check possiblity for end by one move of P,
                        return the one move or 0

In short, If there are two consecutive move from same player,
      AI will win the game or disturb player's victory

AI logic