

Links to videos:

Social Force: <https://www.youtube.com/watch?v=mX2ymnnkllc>

Game: https://www.youtube.com/watch?v=_8S91LLPEwY

Link to github: <https://github.com/Darkat-X/Rutgers-CS423-528-Final-Project>

1. Social Force Video Description:

Based on our final project proposal:

Mode5: King has the avoid force, which can avoid the enemy's attack by calculating the direction of the enemy force. **(No.1 in force list)**

Red one is the King and others are enemies.

Mode6: Rook has the drag force, which can drag King with a strong force. **(No.2 in force list)**

Red = King, Blue = Rook

Mode7: Knight has the protection force, which can move between the enemy and the King by calculating their position. And this force is 3D force, which means Knight will jump over some pieces. **(No.3 in force list)**

Red = King, Pink = enemy, Yellow = Knight

Mode8: Queen has the drag force, which can drag Pawns who is close to the Queen. **(No.4 in force list)**

Black = Queen, Pink = Pawn

Also we improve the old pursue and evade force to a new version which does not contain the collider part so that we can develop our agent to collide with each other by the sphere collider. The old pursue and evade force in description of class should be very large to pursue and evade. After we improve it, the collider is very small, and the agent force will be applied only when they collide with each other. Not like B3, which agents leave a space for others.

2. Game Description:

King, Knight, and Rook are one side and the other side includes Queen and Pawn.

Black Heart Queen tries to kill King with Pawns and Knight and Rook try to protect their King.

The red text on the screen shows the winner of the game.

King's blood volume is 5 and will reduce 0.5 if Pawns collide King.

If King's blood volume equals 0, King will die and Queen will win this war.

Knight can protect King by jumping to the middle point between King and closed Pawn. If Pawn collides with Knight and Rook, his blood volume will reduce and he will escape to protect himself. **(No.5 in force list)**

The Queen can not attack the King directly, but she can control pawns. Therefore, if all pawns escape, the Queen will lose and the King will win this war.

Pressing WASD to control the movement of Rook and pressing Z to Drag King.

Pressing Arrows to control the movement of Queen and pressing M to Drag Pawns.

Pressing X to let Knight protect King.

Red = King, Blue = Rook, Yellow = Knight, Black = Queen, Pink = Pawn