Isolation Game Heuristics

Heuristic 1:

This heuristic uses ratio of available moves of player to available moves of opponent. The ratio is high when the player has more legal moves than opponent.

H1 = (number of player moves available) / (number of opponent moves available)

Match #	Opponent	AB_Improved	Heuristic 1
		Won | Lost	Won | Lost
1	Random	9 | 1	8 | 2
2	MM_Open	6 | 4	6 | 4
3	MM_Center	7 | 3	7 | 3
4	MM_Improved	6 | 4	5 | 5
5	AB_Open	6 | 4	5 | 5
6	AB_Center	4 | 6	4 | 6
7	AB_Improved	4 | 6	6 | 4
	Win Rate:	60.0%	58.6%

Heuristic 2:

This heuristic uses the negated ratio of available moves of opponent to available moves of player. The ratio is high when the player has more legal moves than opponent.

H2 = - (number of opponent moves available) / (number of player moves available)

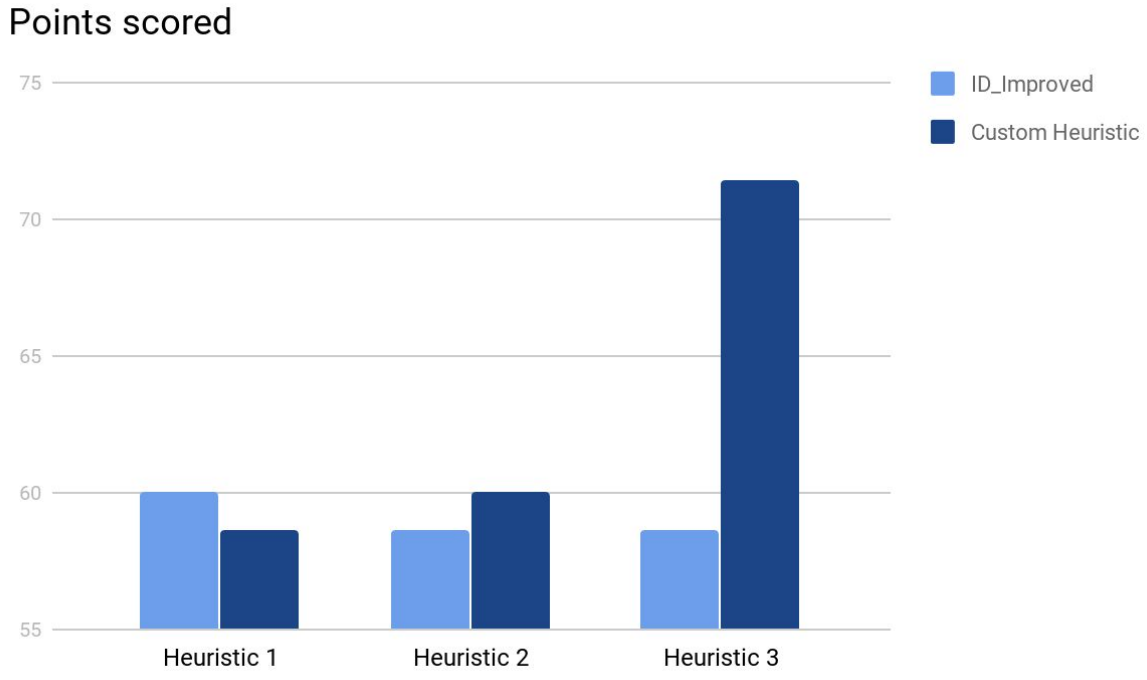
Match #	Opponent	AB_Improved	Heuristic_2
		Won | Lost	Won | Lost
1	Random	10 | 0	7 | 3
2	MM_Open	7 | 3	8 | 2
3	MM_Center	6 | 4	5 | 5
4	MM_Improved	4 | 6	8 | 2
5	AB_Open	5 | 5	4 | 6
6	AB_Center	5 | 5	6 | 4
7	AB_Improved	4 | 6	4 | 6
	Win Rate:	58.6%	60.0%

Heuristic 3:

This heuristic combines both heuristic 1 and heuristic 2. It's the summation of both the ratios.
H3 = H1 + H2

H3 = ((number of player moves available) / (number of opponent moves available)) - ((number of opponent moves available) / (number of player moves available))

Match #	Opponent	AB_Improved		Heuristic_3	
		Won	Lost	Won	Lost
1	Random	10	0	9	1
2	MM_Open	7	3	7	3
3	MM_Center	6	4	8	2
4	MM_Improved	4	6	6	4
5	AB_Open	5	5	5	5
6	AB_Center	5	5	7	3
7	AB_Improved	4	6	8	2
	Win Rate:	58.6%		71.4%	



Recommended Heuristic :- Heuristic 3 clearly performs better than the other two heuristics. It also consistently performs better than ID_Improved. So Heuristic 3 is recommended.