

PAI 2019: Assignment 1 Results

Suzanne Tolmeijer

16 April 2019

Games

61 students handed in agents for Assignment 1. There were three maps used to test the agents, containing different challenging environments. The list of all games was constructed by matching each submission against both of the predefined agent-pairs on each map, plus matching each submission against every other submission on all three maps. Kingsheep is played on maps that are symmetrical and starting positions are deterministic. Therefore, the player that gets the first move (player 1) potentially has an advantage. To address any fairness issues resulting from this circumstance, each match was duplicated with switched team positions of the agent-pairs. Therefore, all agent-pairs were matched against each other twice. This resulted in the following number of games per student:

Student versus predefined agents:

$$2 \text{ (predefined agents)} * 2 \text{ (possible positions)} * 3 \text{ (possible maps)} = 12$$

Student versus other students:

$$60 \text{ (other students)} * 2 \text{ (possible positions)} * 3 \text{ (possible maps)} = 252$$

In total, the following number of games was played:

Total number of games

$$61 * 12 + 61 * 60 * 3 = 11712$$

Game Outcomes

The following game outcomes were observed in the evaluation:

- Max turns: A game of Kingsheep ends after 100 turns if no winner has been established before. The winning team is chosen based on the in-game score. Draws are possible.
- Sheep died: When the wolf of team A eats the sheep of team B, the game ends immediately and team A wins the game.
- Time limit: When an agent of team A requires more than one second to compute the next action its team is disqualified and team B wins the game.

- Error: The game resulted in a runtime error and could not be concluded gracefully. Examples of common errors are 'NoneType object is not iterable' and 'list index out of range'. If an error occurred for one player, the points of the game would go to the opponent.

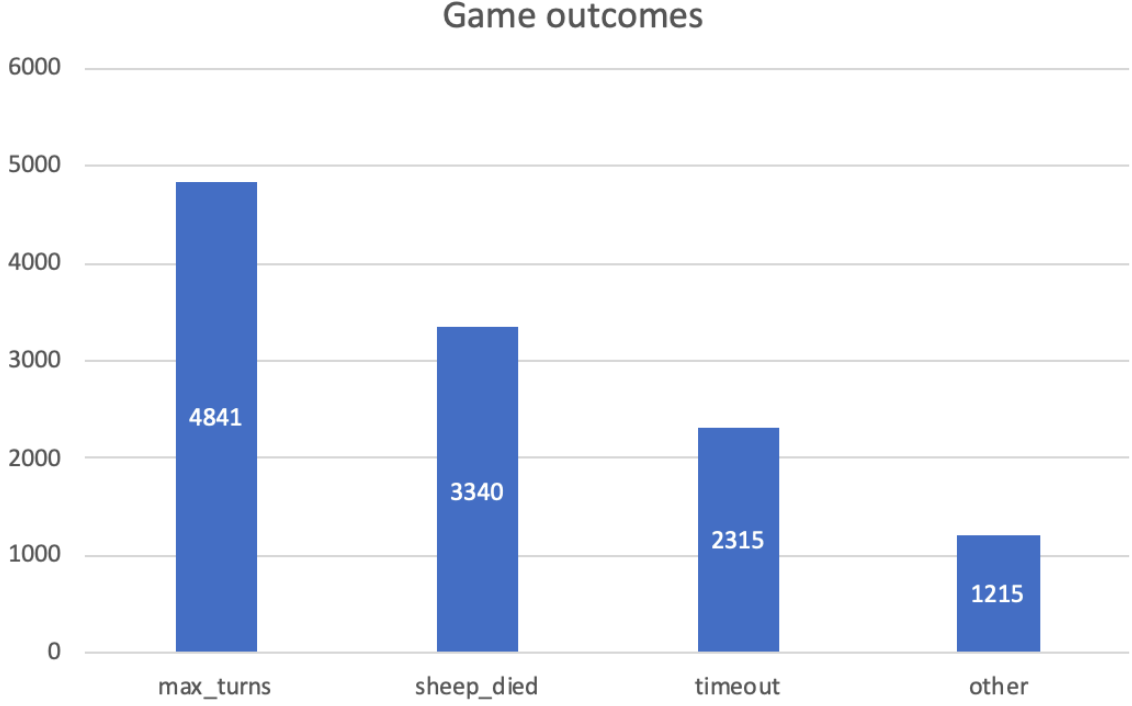


Figure 1: The following bar plot shows the different outcomes of the games

Results

Table 1 lists the cumulated points for each evaluated submission. The scores are listed separately for games against predefined agents (P) and games against other submissions (S). Entries are ordered by cumulated total points. The maximum possible points that could be achieved by a submission equals the number of games it participated in. Therefore, the maximum would be 12 and 360 for predefined and student opponents respectively and 372 in total.

The submissions were scored from 1 (worst) to 6.5 (best). For each submission i , let p_i denote its cumulated points from games against predefined agents and s_i are its cumulated points from games against all other submissions. A submissions grade is defined as:

$$g_i = \frac{p_i}{12}3 + \frac{s_i}{\max(S)}2 + 1.5 \quad (1)$$

nickname	score_p	score_s	score_t
Intrepid Ibex	12	273.807	285.807
Rasenmaeher	11.608	266.047	277.655
cool_agent	11.242	260.89	272.132
awesome_agent	12	259.462	271.462
masern_at_IFI	11.792	249.026	260.818
Bublik	11.969	248.646	260.615
InfiniPi	12	248.377	260.377
BStar	10.546	247.312	257.858
Luigi	11.303	244.32	255.623
WoolE	11.831	240.451	252.282
Nepomuk	11.581	235.677	247.258
Hurra die Gams	11.368	233.031	244.399
Barash	10.438	233.94	244.378
rad_agent	10.71	233.376	244.086
My Player ADV	10.554	232.176	242.73
Sheep Thrills	7.84	232.812	240.652
SheepRunner	10	224.837	234.837
Pjotr	12	219.04	231.04
yep	8.356	221.454	229.81
NotLikeThis	8.64	220.909	229.549
Lamborghini	10.518	217.454	227.972
0 points	9.086	212.688	221.774
GoldenRetrieverPlayer	10.106	206.141	216.247
Black - slightly suicidal - Sheep	8.738	204.721	213.459
GLaDOS v42	10.471	199.757	210.228
Mellow	10.019	198.22	208.239
Star Player	9	199.062	208.062
Sheepatitis B	11.816	193.778	205.594
LuckyLuke	8	188.708	196.708
SheepWatson	11.013	183.982	194.995
212My Player	7.709	186.78	194.489
LittleRedRidingHood	8	185.817	193.817
Name not defined	7.605	183.235	190.84
Java Master Race	9.077	181.209	190.286
The Sheepinator	9	180.516	189.516
boogie	8.517	177.291	185.808
A Fools Player	8.974	174.522	183.496
PM_player	6.966	168.061	175.027
Buckethead	6.862	165.644	172.506
myPlayer	10.695	161.479	172.174
WorsheepMe	7.594	164.167	171.761
TouchMyTralala	7.868	163.698	171.566
Selbstmord	9	152.625	161.625
counting_sheep	6.677	154.611	161.288
Electric sheep 42	6.173	153.483	159.656
Sheeple	6.114	140.256	146.37
Sheep Gank	3.261	138.751	142.012
Fuccboi69	10	124.815	134.815
Star Lord	6.439	126.107	132.546
ARealStar	4.608	122.626	127.234
Sleepy Player	7.413	119.13	126.543
Silence of the lambs	6.031	117.689	123.72
AI Caramba	7.137	105.158	112.295
Bernie	7.759	92.363	100.122
The_One	5.458	90.875	96.333
AISHEEP	3	86.651	89.651
Bitch Player	4	85.504	89.504
Doug Dimmadome owner of the Dimmsdale Dimmadome	1.687	86.063	87.75
smartsheep	3	84.324	87.324
nightgown	1	61	62
amazing_agent	0	15.466	15.466

Table 1: Score results per student. Score_p = score against pre-given agents, score_s = score against fellow students, score_t = total score.

The grade is designed such that when a student was able to defeat the random agent for all games and the greedy agent for half of the games, they would get a passing score (4). To reward students who beat all games against the pre-given agents, an extra 0.5 bonus was awarded, resulting in the maximum score of 6.5.

The part of the score regarding competing against fellow students is assigned based on the relative performance against the best achieved of any submission score in S. Table 2 lists all submissions ordered by final score for the assignment.

Table 3 lists the counts of different game outcomes for all the games each submission has played. Sheep eaten, timeout and other errors are individually specified: it was only counted if that student's sheep died or that student's code timed out. The types of the other errors will be listed in the comment of your grade, in case you have other errors and are interested what kind they were.

NOTE: there were four students who's nickname was too close to their UZH shortname. Because we are not allowed to publicly publish grades of students without their consent, four nicknames were changed to keep their privacy: cool_agent, awesome_agent, rad_agent and amazing_agent. For these four students, this newly given nickname will be given in the remark of the grade on OLAT, so they can still see their results in this document. They are advised to change your nickname for the next assignments.

nickname	final score
Intrepid Ibex	6.50
awesome_agent	6.40
Rasenmaeher	6.35
InfiniPi	6.31
Bublik	6.31
masern_at_IFI	6.27
cool_agent	6.22
WoolE	6.21
Nepomuk	6.12
Luigi	6.11
Pjotr	6.10
Hurra die Gams	6.04
BStar	5.94
rad_agent	5.88
Sheepatitis B	5.87
My Player ADV	5.83
Barash	5.82
Lamborghini	5.72
SheepRunner	5.64
SheepWatson	5.60
GLaDOS v42	5.58
GoldenRetrieverPlayer	5.53
Mellow	5.45
myPlayer	5.35
0 points	5.33
NotLikeThis	5.27
yep	5.21
Star Player	5.20
Black - slightly suicidal - Sheep	5.18
Sheep Thrills	5.16
Java Master Race	5.09
The Sheepinator	5.07
A Fools Player	5.02
boogie	4.92
Fuccboi69	4.91
LuckyLuke	4.88
Selbstmord	4.86
LittleRedRidingHood	4.86
212My Player	4.79
Name not defined	4.74
TouchMyTralala	4.66
WorsheepMe	4.60
PM_player	4.47
Buckethead	4.43
counting_sheep	4.30
Sleepy Player	4.22
Electric sheep 42	4.16
Bernie	4.11
Sheeple	4.05
AI Caramba	4.05
Star Lord	4.03
Silence of the lambs	3.87
ARealStar	3.55
The_One	3.53
Sheep Gank	3.33
Bitch Player	3.12
AISHEEP	2.88
smartsheep	2.87
Doug Dimmadome owner of the Dimmsdale Dimmadome	2.55
nightgown	2.20
amazing_agent	1.61

Table 2: Final assignment score results per student

nickname	sheep_eaten	max_iterations	timeout	other_error
Intrepid Ibex	1	191	0	0
awesome_agent	23	179	0	0
Rasenmaeher	23	151	0	0
InfiniPi	2	227	0	0
Bublik	2	227	0	0
masern_at_IFI	4	205	0	0
cool_agent	7	220	0	0
WoolE	15	230	0	0
Luigi	6	216	0	0
Nepomuk	5	221	0	0
Pjotr	63	150	0	0
Hurra die Gams	32	202	7	0
BStar	0	218	19	0
rad_agent	20	206	0	0
My Player ADV	9	259	0	0
Barash	28	210	0	0
Sheepatitis B	58	149	0	45
Lamborghini	24	228	0	0
SheepRunner	1	147	80	3
GLaDOS v42	6	169	34	44
GoldenRetrieverPlayer	31	227	0	0
SheepWatson	100	151	0	0
Mellow	49	214	0	0
0 points	19	263	1	0
NotLikeThis	61	185	0	0
yep	45	223	0	0
Sheep Thrills	0	206	29	0
myPlayer	157	81	0	0
Star Player	12	247	0	0
Black - slightly suicidal - Sheep	37	237	0	0
Java Master Race	101	126	19	0
The Sheepinator	22	143	83	0
A Fools Player	82	186	0	0
boogie	8	169	98	0
LuckyLuke	4	192	0	77
LittleRedRidingHood	7	146	0	107
212My Player	1	160	106	0
Selbstmord	131	133	0	0
Name not defined	2	122	129	0
Fuccboi69	119	52	95	0
TouchMyTralala	32	104	123	0
WorsheepMe	64	142	0	59
PM_player	21	175	1	91
Buckethead	5	176	0	116
counting_sheep	6	169	116	0
Electric sheep 42	12	165	113	0
Sleepy Player	108	65	112	4
Sheeple	67	132	0	95
Star Lord	193	87	0	0
Bernie	99	84	123	0
AI Caramba	132	131	0	0
Silence of the lambs	84	107	109	2
ARealStar	3	93	201	0
The_One	251	49	0	0
Sheep Gank	52	77	0	139
Bitch Player	71	61	150	30
AISHEEP	71	60	152	29
smartsheep	73	60	151	30
Doug Dimmadome owner of the Dimmsdale Dimmadome	1	55	264	0
nightgown	264	47	0	0
amazing_agent	5	12	0	345

Table 3: Game results per student