

Game Contest Server

AIRES

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Introduction

Aires is an AI tournament runner. The goal of the web server is to accept different AIs and have them compete, in order to see which is the best out of them all. This project has been a consistent process since its beginning during 2013.

Taylor University, as well as several other schools with a Computer Science department, have assignments and courses that deal with AI and programming.

Why Have A Server?

Previously, students would upload their AIs to the professor, and the tournament process was a “black box” of sorts. This also required the professor to spend a lot of time putting together tournaments and matches.

This system allows students to see the results of their matches as they occur, so they can see how their AI compares to the others. They can also see a step-by-step replay, so they can see what went wrong and make improvements to their code. Students can even create challenge matches outside of the context of a class, allowing them to continuously improve their AI. Additionally, the tournament is completely automatic, meaning that professors are not left to create matches manually.

Tournaments

There are three different types of tournaments that we have considered when making Aires: Round Robin, Single Elimination, and King of the Hill. We included different tournament types, since they are largely popular methods to determine a good ranking for the players.

Round Robin

Round Robin Results Table												
	Rank	Wins	Player 0	Player 1	Player 2	Player 3	Player 4	Player 5	Player 6	Player 7		
Player 0 (John Luscombe)	6	1	--	55-45	3-97	70-30	57-43	33-67	67-33	95-5		
Player 1 (John Luscombe)	3	4	43-57	--	83-17	23-77	26-74	65-35	13-87	56-44		
Player 2 (John Luscombe)	4	3	29-71	80-20	--	81-19	99-1	37-63	9-91	51-49		
Player 3 (John Luscombe)	1	6	95-5	41-59	16-84	--	68-32	98-2	24-76	98-2		
Player 4 (John Luscombe)	3	4	26-74	73-27	34-66	51-49	--	38-62	20-80	90-10		
Player 5 (John Luscombe)	3	4	22-78	43-57	89-11	95-5	33-67	--	99-1	0-100		
Player 6 (John Luscombe)	5	2	50-50	92-8	20-80	96-4	70-30	54-46	--	24-76		
Player 7 (John Luscombe)	2	5	30-70	25-75	52-48	84-16	23-77	95-5	47-53	--		

Figure 1 - Round Robin Table

Single Elimination

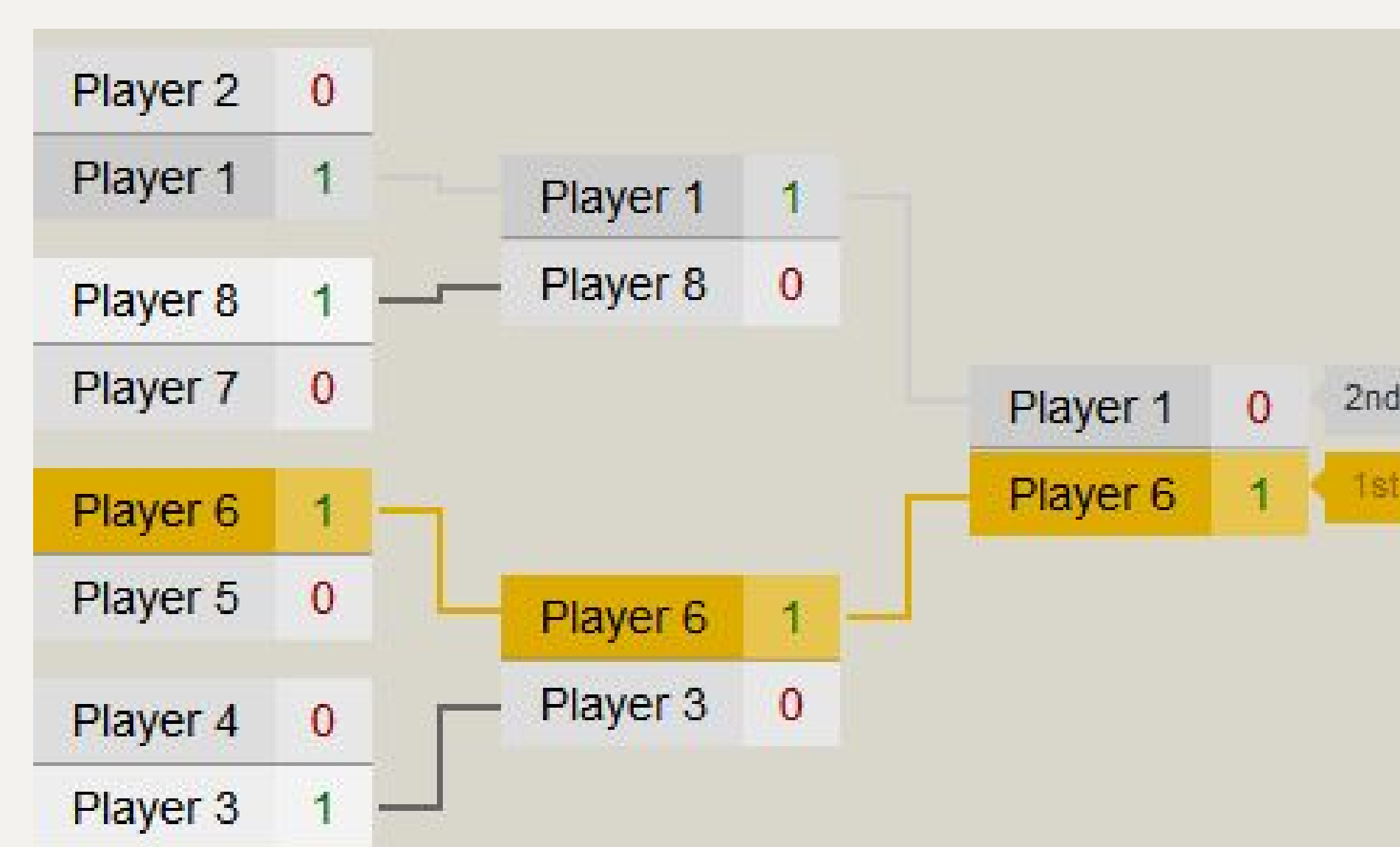


Figure 2 - Single Elimination Brackets

King Of The Hill

*Visualization currently not implemented

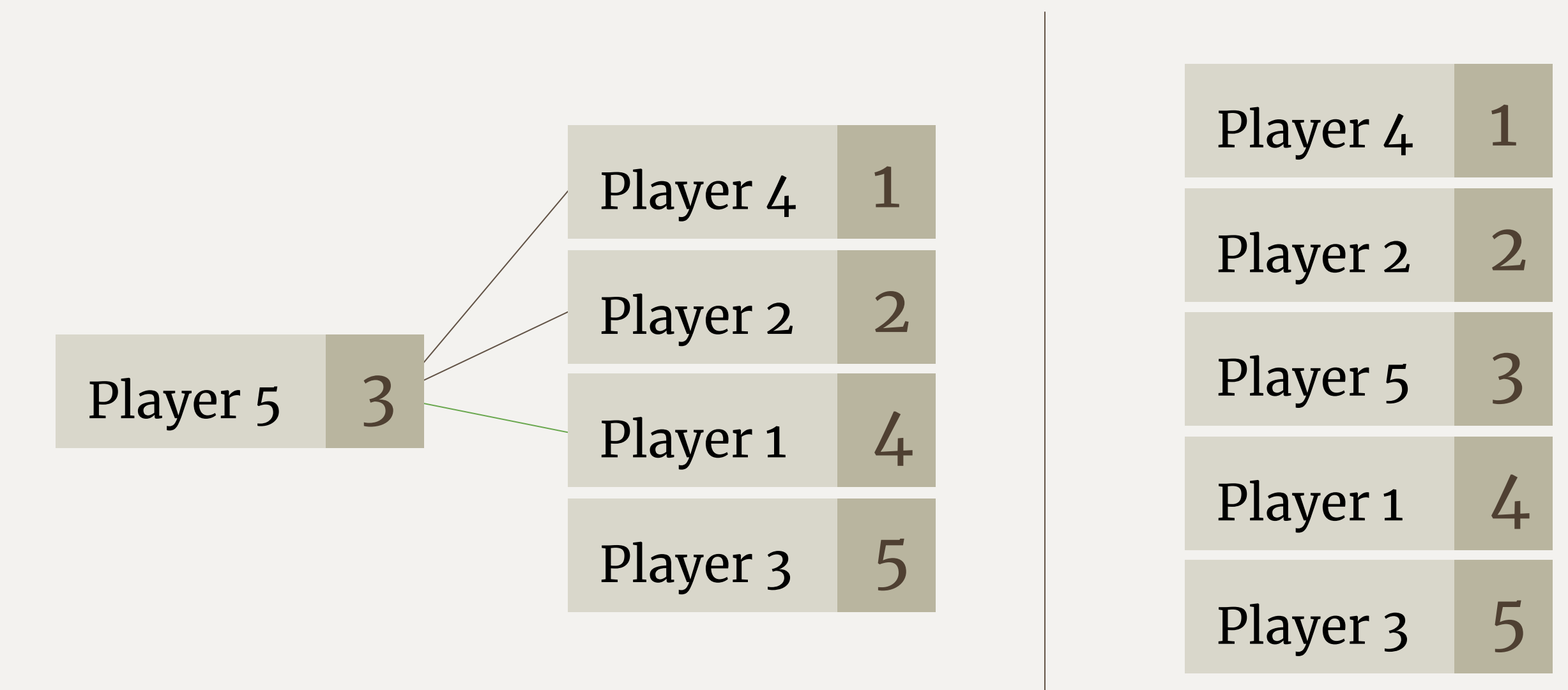


Figure 3 - King of the Hill Visualizer

Future Work

There are a few features that we would still like to implement, such as: a Double Elimination Tournament type, make the King of the Hill visualization, improve the logged in main page, adding email functionality, and adding testing for Docker.

Acknowledgements

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