OPPONENT RECORD

Thesis compiled by Kalle Sederblad & Johan Törnebohm

Title of thesis: Optimal Yatzy Strategy

Opponent: Daniel Swensson

Was it easy to understand the underlying purpose of the project? Comments.

Yes, they clearly state the purpose of optimization and within what restrictions in the Problem Statement. What version of the game they are researching, the rules and number of players. However they do not mention the bonus point-element until later under Conclusions when comparing to another research paper.

Do you consider that the report title justly reflects the contents of the report?

Yes, though a bit vague. A longer more detailed title explaining what the algorithm tries to do could be an improvement. Also clarifying in the title that it is Scandinavian Yatzy.

How did the author describe the project background? Was there an introduction and general survey of this area?

There is a short introduction and good explanation of the game, different versions of the game and rules. Under "Previous work" the author only briefly mentions a couple of reports on the same subject. Details from these reports are later used in Conclusion.

To what degree did the author justify his/her choice of method of tackling the problem?

Under "Approach" they break down the game events and describe the algorithm. A couple of reasons are given to why they have chosen to trace backwards and introduce roll number 0.

Did the author discuss the extent to which the prerequisites for the application of such a method are fulfilled?

Since the algorithm was too inefficient they restricted their simulation to 1-5 empty categories and discuss how this effects the results.

Is the method adequately described?

The algorithm is described in detail under Approach but is at times hard to follow. Implementation however is not described in such detail.

Has the author set out his/her results clearly and concisely?

The results are concise but the graphs are somewhat unclear. No description for the X- and Y-axis.

Do you consider the author's conclusions to be credible?

Yes, they have taken in consideration that they did not reach their initial goal of creating an algorithm for a full game of Yatzy and adjusted their conclusions accordingly.

What is your opinion of the bibliography? What types of literature are included? Do you feel they are relevant?

They have included two other studies surrounding the same subject and two homepages with information about the game. The studies are highly relevant. To understand how the game works the link to Alga with official game rules is also relevant. However the link to Hasbro with "The history of Yahtzee" is not directly related to the research more than showing that it is a popular game that is an interesting subject to study.

Which sections of the report were difficult to understand?

Mainly the Approach and also understanding the two graphs in the Results-section.

Other comments on the report and its structure.

Some of the details discussed in Conclusions could have been briefly mentioned earlier in Background. Such as the comparison with the other studies. The results from those studies and the mention of the bonus-element came unanticipated in the end without reference to earlier sections.

What are the stronger features of the work/report?

The overall explanation of the problem and rules of the game and the fact that they adapted and restricted their research and conclusions. With a few exceptions the structure and general flow of the report was easy to follow.

What are the weaker features of the work/report?

Even though the algorithm is described in detail under Approach more could have been mentioned under Implementation. Such as why the author chose to make a Java-implementation, problems during development and in more detail how the actual program worked and presented the results.

What is your estimation of the news value of the work?

Not very high since, as the author also mentions, there has been similar studies made. But using other methods and different versions of the game.

Summarize the work in a few lines.

They have made an algorithm for calculating the expected value of points in a game of Yatzy with Scandinavian rules. Using a graph data structure, calculating the expected value for each step they trace backwards from the last roll. Due to the algorithm being too inefficient they had to limit their research to less score-categories giving them a lower boundary as a result.

Questions to author:

- **1.** Why was the bonus-element not included?
- 2. What are the units for the X- and Y-axises on the graphs in result?
- **3.** Why did you chose to make a Java-implementation?
- 4. Did you have any problems during development?
- 5. How did the implementation worked and presented the output?
- 6. How does your method differ from the other study on Scandinavian Yatzy mentioned in the report?