



**KTH Computer Science  
and Communication**

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February 12, 2009

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## **OPPOSITION FOR MASTER'S PROJECT**

The duties of an opponent are to:

- Critically review the report in question
- Pay particular attention to the problem approach, the methodology chosen and to the interpretation/evaluation of results
- Make annotations on the report of clerical errors, other minor errors, incomprehensible or ambiguous text
- Complete this Opponent Record (use a computer or black ink)
- In advance – at the time stipulated – give this record to the persons stipulated in the instructions for your exjobb subject.
- Orally present your general opinion of and comments on the work during about 5 minutes after the author's presentation of the work
- Put questions to the author of the report following his/her presentation: you may put forward the questions set down in the Opponent Record, or some of these questions, but it is also reasonable to expect the presentation to generate new questions.
- Give the Opponent Record and the annotated report to the author at the conclusion of the seminar

You may contact the person responsible for the degree project, e.g. to test programs.

The Opponent Record can be completed either using a computer or manually. If writing by hand, use red or black ink and write distinctly. The Record copies must be legible but not necessarily aesthetically pleasing.

Master's projects vary considerably. Consequently, at times not all of the questions will be relevant to the project you are opposing. It can be appropriate to rephrase the questions to fit the project. You may also introduce one or two additional questions.

Attempt to answer the questions in the Opponent Record in relative detail. Answers such as **Yes** and **Good** are insufficient.

# OPPONENT RECORD

**Thesis compiled by**

MIRAN ALI

VLADAN NIKOLIC

**Title of thesis:**

Silverfish Simulation

**Opponent:**

Jon Nilsson

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

No, not specified why this survey should be performed. Unclear whether this is a real problem or if it's a toy problem.

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

Yes. Possibly Evolution could have been added (Silverfish Evolution Simulation). But Silverfish Simulation is good.

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

Not really. I would have liked some source/sources, acknowledging the two different behaviours of silverfish described.

**To what degree did the author justify his/her choice of method of tackling the problem? Did the author discuss the extent to which the prerequisites for the application of such a method are fulfilled?**

Well justified why the simulation should be kept as simple as possible. It is stated that Java had been chosen instead of MATLAB that was initially intended after encountering problems during work with the project. What kind of problems encountered are not specified.

I think that some of the assumptions of the silverfish's behaviours should have been stated in the problem specification rather than being in the method. In e.g. when a silverfish is born and how it dies, is in my point of view apart of the problem and not apart of the methodology for solving the problem

**Is the method adequately described?**

For the most part yes. I miss statements telling me which of the silverfish that are allowed outside the hive if the limit of 45% is reached and also which of the silverfish that is allowed to reproduce if the population limit is reached.

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

The following is a quote from the result part of the report: "It was chosen to present the data in histograms because it was felt that uniform intervals along the X-axis would make it easier for the reader to find an answer for the problem statement; what kind of silverfish will prevail?"

This choice is absurd to me since the goal of the authors should be to make it as easy as possible for the readers to understand the results as possible, not the opposite.

Except for this choice the results are presented in a good and clear way.

I have found an error in the heading for figure 4.3, where the CL is stated to be 0.0 instead of 1.0.

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

This is the main problem of the report. In the method the authors make some seriously questionable choices.

1. The authors give a silverfish who has feigned death and survived on average 6.67 times more babies than one who has successfully fled without supplying credible reasons for why this should be the case giving the silverfish with low CL a huge evolutionary advantage in this model. In my opinion this error alone is big enough to make the results of the report irrelevant and incredible.
2. The offspring of a silverfish who has feigned death inherits its parent's CL in addition to a variation of -0,06 to +0,04 while one who's parent has fled gets the variation of -0.05 to +0.05. This will cause the population to have an unmotivated decrease in CL. This is another reason for the results being that there are only silverfish with low CL after 300 iterations.
3. The authors also state the following: "In order for the simulation to give just results, the aforementioned variables must be chosen and used in such a way that the silverfishes with a low CL have similar chances of survival as the silverfishes with a high CL." Why should they be, isn't the chances of survival what this report is about?

Combining these three, the results will mostly be reflect the high birthrates if the silverfish who have tendency to feign death, in other words, the silverfish who have a low CL and has very little to do with the chances of survival when fleeing or feigning death. Why the authors have made these choices is highly questionable and give a very unscientifically impression.

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

There are only two references to literature in the report plus two pictures. The ones supplied are relevant and seem credible but I would like some more independent sources and also some sources on silverfish behaviour.

### **Which sections of the report were difficult to understand?**

I think the report was on the most part, easy to understand with good language for the most part. However, where there are examples of code in the report, I would have liked some more text explaining what the code did and what relevance it had.

**Other comments on the report and its structure.**

The report structure is overall very good apart from that I am missing a part with background to the problem.

**What are the stronger features of the work/report?**

The stronger features are in my opinion the good layout. It is very aesthetic to look at. The structure is also good and the headings are very describing making the report easy to follow.

**What are the weaker features of the work/report?**

The absolutely biggest weakness of the report are the strange assumptions in the methodology, making the work unbelievable.

The choice to present the result in a way to make them harder for a reader to understand is also a critical mistake.

I would also have liked a clearer background to the problem, why is this research done? Is this a real problem or is it a toy problem?

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

Because of the low credibility of the report I find the news value very low. I don't think that the evolution of silverfish would be of interest to the general public either.

**Summarize the work in a few lines.**

Sadly the work is ruined by some unmotivated assumptions in the method making the results very incredible. However the report has a good layout, a good language and nice layout and if these assumptions are corrected the work could be a lot more interesting.

Questions:

1. I don't understand why silverfish who has recently feigned death should get more babies. In the report you say it is because feigning death more beneficial to the species. But you don't say why, and I can't see any reason to why such an individual would get more offspring. Could you please explain this?
2. Why does a silverfish who has recently feigned death get offspring with a variation of -0.06 to +0.04? It would seem more reasonable if the once fleeing parents would get a variation of -0.04 to +0.06. But this is not the case? Why have you made this choice?
3. In the report you state: "In order for the simulation to give just results, the aforementioned variables must be chosen and used in such a way that the silverfishes with a low CL have similar chances of survival as the silverfishes with a high CL." I thought your work was about determining the difference in the chances of survival, not tweaking the variables so they became similar. Why then would you choose this?
4. In the report you also state: "It was chosen to present the data in histograms because it was felt that uniform intervals along the X-axis would make it easier for the reader to find an answer for the problem statement; what kind of silverfish will prevail?" Why would you present data in a way that would make it harder for the reader to see the answer to the problem statement?