A probabilistic movement model for shortest path formation in virtual ant-like agents

Colin Chibaya and Shaun Bangay

August 6, 2007

Summary of how the reviewers' comments were addressed

We would like to thank the SAICSIT committee and reviewers for the job well done. The reviewers' questions, comments and/or suggestions were very encouraging, helpful and provided valuable hints on possible omissions and mis-representation of facts in the paper. We have tried to address their concerns as indicated below:

1. We accept reviewer #1's suggestion of using the term *"adaptability"* in place of what we referred to as *"fault tolerance"*. We replaced every occurence of "*fault tolerance*" by "*adpatability*" in the abstract, problem statement (third bullet), experimental setup (section 4 and 4.3) and the results section 5.3.

2. In the related work section, we have included a paragraph where we distinguish our model from cellular automata as suggested by reviewer #1.

3. We also highlighted that the simulator we use is our own invention (in response to reviewer #1's question: "*Did you implement your own .....*").

4. We explained that variation of agents speed was not an experiment variable in this study responding to reviewer # 2's last question.

5. We included a line that reads "*The pheromone perception equations are of our own making although they are inspired by related work in [8,10]*" addressing reviewer # 2's suggestion to explain them. The rest of the paper focuses on explaining how these equations influence agent behaviour.

6. We acknowledge the fact that we had not indicated that random guess is what we refer to as strategy D in table 5, which we rectified, thanks to reviewer #3.

7. We also accepted and adopted reviewer # 3's suggestion that we start section 4.2 as "*In the second experiment.....*".

8. The readability of fonts in figure labels were improved as suggested by reviwer # 3.

9. In response to reviewer #1's last question. It is our broad goal to establish global causes of emergent behaviour. We have therefore indicated in our conclusions that our work is rather on the initial levels of a study aimed at provide agent controls that result in desired emergent behaviour.

Any further comments and suggestions are welcome.