

ROYAL HOLLOWAY, UNIVERSITY OF LONDON

FULL UNIT PROJECT

FINAL PROJECT REPORT

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# Cooperative Strategies in Multi-Agent Systems

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Miguel Grinberg, Vince Knight, Nikoleta Glynetski, Owen Campbell, Annie Ogborne, Martin A. Nowak, Robert Axelrod

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## **Abstract**

Hello this is my abstract

<https://users.ece.cmu.edu/~koopman/essays/abstract.html>



# Chapter 1

## Introduction

How to structure:

- Introduction and review on past work on indirect reciprocity and the evolution of cooperation
- Methods:
  - My model of reciprocity, it's variables etc.
  - System design (Prolog + environ)
  - Interesting programming techniques
  - Software engineering techniques, tools and processes
- Results
  - Analysis and evaluation of the results produced by my model
- Discussion and Conclusion
  - Impacts in real life and intelligent agents
  - Limitations of the system and how this could be improved
  - Issues in the development process and how these could have been avoided/accounted for
- Professional issues



## Chapter 2

# Review of Literature

Evol Coop [1] Milestone: The report should describe the theory behind indirect reciprocity and its strategies in relation to game-theory

Milestone: The report should describe the link between indirect reciprocity theory and real life biological and intelligent agent interactions



## Chapter 3

# Contents and Knowledge

Methods Milestone: The report should describe the onlookers and gossip aspects of indirect reciprocity

Milestone: The report should contain a design of the web application and environment, Prolog service and agents, and the connection between them

Milestone: The report should provide an analysis and evaluation of strategies in indirect reciprocity tournaments

Milestone: The report should contain a discussion of the software engineering techniques, tools and processes used and issues encountered

Milestone: The report should contain any interesting programming techniques employed to develop the final prototype

Talk about design choice between kostas' idea and mine.





## **Chapter 4**

# **Discussion and conclusions**

Discussion



# Bibliography

- [1] Robert Axelrod and William D. Hamilton. The evolution of cooperation. *Science*, 211:1390–1396, 1981.



# Professional Issues

Professional Issues