# The Influence of Theory of Mind (TOM) in a N-Player Game

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**Abstract**

The abstract should briefly summarize your project in 150–250 words.

# 1 Introduction

## 1.1 Problem

Key question 1: What is the problem addressed?

## 1.2 State of the art

Key question 2: What is the state of the art concerning this problem? Which publications are the inspiration for your project?

## 1.3 New idea

**Theory of mind in Dots and Boxes**

The aim of Dots-and-Boxes is to make the most boxes of all players. The boxes are made in a grid of dots. This grid can be of any size (chosen at the beginning of the game). At the start, the grid is empty. Players take turns. Per turn, a player can choose to connect two adjacent, unjoined dots with each other by either connecting those with a horizontal or a vertical line. The player that connects the fourth side of a 1x1 box, gets the box assigned (indicated by writing a defined initial in the box), and thus, earns a point. After winning a point, it is again that particular players turn.

When all dots have been chosen and all boxes are assigned, the game is over. The player who got assigned the most boxes, is the winner.

# 2 Method

## 2.1 Simulation model

Here you should describe your model. How similar to the one used in your state of the art reference is it? Which things did you change, and why?

### 2.2 Implementation details

Here you should describe the implementation of your simulation. Please explicitly mention any programming languages, tools or libraries you used.

### 2.3 Experiment design

Did you run multiple different versions of your simulation with different parameters? Then explain the different setups here and why you chose them.

You can also mention here what results you are expecting.

## 3 Results

### 3.1 Experiment findings

Key question 4: What are the results you obtained?

### 3.2 Interpretation of findings

Summarise your results. Are the results what you expected? Which results are surprising? How do you interpret them?

## 4 Conclusion

### 4.1 Discussion

What do you take away from your project? What did you learn?

### 4.2 Relevance

Key question 5: What is the relevance of this work?

Which new questions do you have now? Do you results suggest future research directions?

### 4.3 Team Work

How did you work together as a team? Who contributed how to this report and to the implementation? What should you have done differently?