



# Unity 5.x Game AI Programming Cookbook

By Jorge Palacios



**Unity 5.x Game AI Programming Cookbook** By Jorge Palacios

## Key Features

- Empower your agent with decision making capabilities using advanced minimaxing and Negamaxing techniques
- Discover how AI can be applied to a wide range of games to make them more interactive.
- Instigate vision and hearing abilities in your agent through collider based and graph based systems

## Book Description

Unity 5 comes fully packaged with a toolbox of powerful features to help game and app developers create and implement powerful game AI. Leveraging these tools via Unity's API or built-in features allows limitless possibilities when it comes to creating your game's worlds and characters. This practical Cookbook covers both essential and niche techniques to help you be able to do that and more.

This Cookbook is engineered as your one-stop reference to take your game AI programming to the next level. Get to grips with the essential building blocks of working with an agent, programming movement and navigation in a game environment, and improving your agent's decision making and coordination mechanisms - all through hands-on examples using easily customizable techniques. Discover how to emulate vision and hearing capabilities for your agent, for natural and humanlike AI behaviour, and improve them with the help of graphs. Empower your AI with decision-making functions through programming simple board games such as Tic-Tac-Toe and Checkers, and orchestrate agent coordination to get your AIs working together as one.

## What you will learn

- Use techniques such as A\* and A\*mbush to empower your agents with path finding capabilities.
- Create a representation of the world and make agents navigate it
- Construct decision-making systems to make the agents take different actions
- Make different agents coordinate actions and create the illusion of technical behavior
- Simulate senses and apply them in an awareness system

- Design and implement AI in board games such as Tic-Tac-Toe and Checkers
- Implement efficient prediction mechanism in your agents with algorithms such as N-Gram predictor and naive Bayes classifier
- Understand and analyze how the influence maps work.

### About the Author

**Jorge Palacios** is a software developer with seven years of professional experience. He has committed the last four years to game development working in various positions; from tool developer, to lead programmer. His main focus is AI and gameplay programming, and currently he works with Unity and HTML5. He's also a game development instructor, speaker, and game jam organizer.

You can find more about him on <http://jorge.palacios.co>

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5. Agent Awareness
6. Board Games AI
7. Learning Techniques
8. Miscellaneous

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### Editorial Review

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**James Bouchard:**

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