

# Laravel Tic-Tac-Toe Game Presentation

## Non-Interactive Version

June 10, 2025

## 1 Introduction

This document presents the **Laravel Tic-Tac-Toe** game, a simple turn-based, non-interactive implementation of the classic two-player game, developed using the Laravel PHP framework. The game allows two players to take turns playing Tic-Tac-Toe, with the game state managed through Laravel's session handling. Designed for straightforward gameplay, it includes essential features like winner detection and game reset functionality, making it an accessible and educational project for demonstrating web development concepts.

## 2 Game Overview

The Laravel Tic-Tac-Toe game is a web-based application where two players alternate turns to place their symbols (X or O) on a 3x3 grid. The objective is to align three identical symbols horizontally, vertically, or diagonally. The game is non-interactive in the sense that it relies on page reloads for turn updates rather than real-time interactions. The game state is stored in the session, eliminating the need for a database.

## 3 Features

The game includes the following features:

- **Two-Player Mode:** Supports two players taking turns on the same device.
- **Turn-Based Play:** Players alternate turns, with the game state updated via page reloads.
- **Winner Detection:** Automatically detects and declares a winner or a draw.
- **Game Reset Functionality:** Allows players to restart the game with a single action.

## 4 Technical Details

- **Framework:** Laravel (PHP)
- **State Management:** Laravel sessions for storing game state (e.g., board configuration, current player, and game outcome).
- **Frontend:** Basic HTML and Blade templating for rendering the game interface.
- **No Database:** The game does not require a database, as all data is managed through sessions.
- **Deployment:** Served via Laravel's built-in development server (`php artisan serve`).

## 5 Installation Instructions

To set up and run the game locally, follow these steps:

1. Clone the project repository or download the source code.
2. Run `composer install` to install all necessary dependencies.
3. Copy `.env.example` to `.env` and generate an application key using `php artisan key:generate`.
4. Start the Laravel development server with `php artisan serve`.
5. Open a web browser and navigate to `http://localhost:8000` to start playing.

## 6 Additional Notes

- The game does not require any database configuration, making setup quick and straightforward.
- The use of Laravel sessions ensures that the game state persists across page reloads without additional storage requirements.
- The non-interactive nature of the game (relying on page reloads) simplifies the implementation but may be extended in future iterations for real-time gameplay using technologies like WebSockets.

## 7 Conclusion

The Laravel Tic-Tac-Toe game serves as a practical example of building a web-based game using the Laravel framework. Its simplicity, combined with session-based state management, makes it an excellent project for learning about web development, game logic, and user interaction in a turn-based environment. Future enhancements could include real-time gameplay, a single-player mode with AI, or a more advanced user interface.