

The Code Room (Pty) Ltd.

Tic-Tac-Toe

Scope Document Ver 1.0



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Revision & Sign-off Sheet

Document Properties

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Business Requirements

Requirement / Opportunity Statement

@ Code House we are serious enthusiast of tic-tac-toe. So serious that we have a regular championship against each other which includes prizes and the honour of being declared Code House CHAMPION!

Unfortunately this has led to a serious environmental hazard and is killing our rain forests! If you walk through the passages you will find sticky notes, serviettes, pieces of toilet paper, games on the white boards almost anything you can think of with a tic-tac-toe game on it!

The second problem we have; there are a few dodgy characters in the office that will inexplicably cause some of the games to disappear... This makes it very difficult to identify the winners of the month – this can cause a serious CODE HOUSE WAR!

TO OUR RESCUE – our junior development team!

Scope

Build a multiplayer real time tic-tac-to game.

The application must allow the user to:

1. Login / Register with system.
2. Play a game.
3. View the high score leader board.
4. Please note that more than 2 players can be connected to the game server.

Technology

The solution must be developed using one of the three technology stacks (A/B/C) below.

Stack A:

- MSSQL Database
- Synchronous Server and Client Sockets
- XML Serialization
- Console App for Server
- Windows Forms App for player

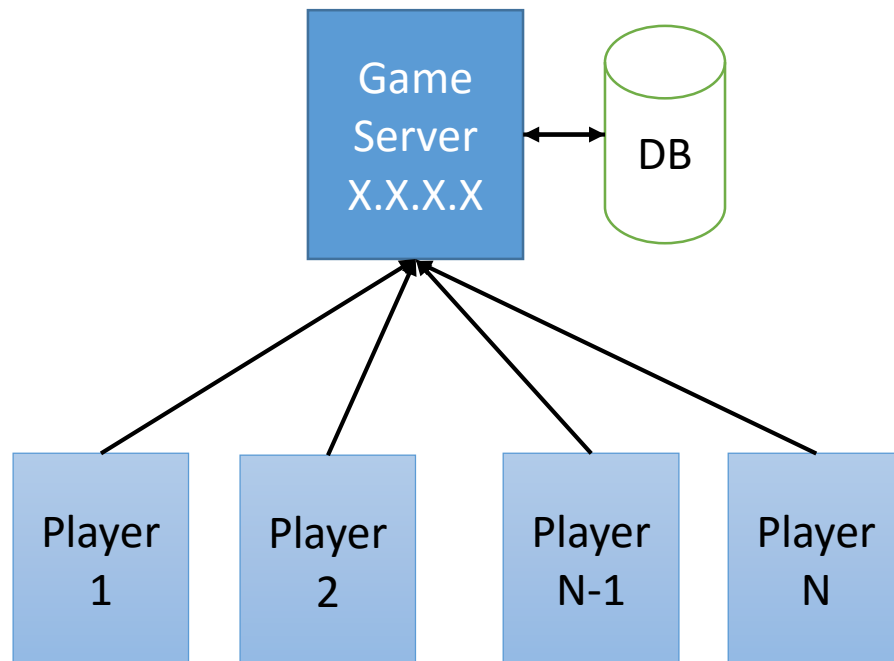
Stack B:

- MSSQL Database
- WCF Web Services
- IIS Server
- Windows Forms App for player

Stack C:

- MSSQL Database
- MVC Web API
- IIS Server
- Windows Forms App for player

Deployment Diagram



Functional Requirements

The following requirements have been identified for the Solution. **Note:** Numbering is used for traceability and not sequence.

Requirement Number	Requirement Name	Use Case Reference
Req. 1.1	A user should be able register/log in with a username and password.	UC 1.1
Req. 1.3	A user should be able to play a game	UC 1.3
Req. 1.4	The system must keep a history of all games played.	UC 1.3
Req. 1.5	The system must be able to display a leader board.	UC 1.2

Usage Requirements/Scenarios

Usage Scenarios

UC 1.1 – Login

Use Case ID:	UC 1.1	
Use Case:	Register and/or login	
Notes:	User must be able to securely login to the application	
Type:	Basic Path	
Scenario:	Basic Path	
	Step	Action
	1	User enters Username and Password
	2	User clicks the login button.
	3	System verifies user name exists.
	4	System verifies that the password matches.
	5	User is logged in and directed to the home screen.
Type:	Alternate	
Scenario:	User name does not exists	
	Step	
	1	System creates a new user record with the password and auto registers the user.
	2	System redirects user to home screen.
Type:	Exception	
	Password wrong	System displays "Incorrect password" error message.

Tic-Tac-Code

Username

Password

UC 1.2 – Leader Board

Use Case ID:	UC 1.2	
Use Case:	Leader Board	
Notes:		
Type:	Basic Path	
Scenario:	Leader Board	
	Step	Action
	1	System calculates leaders using (2 points for a win and 1 point for a Tie)
	2	System presents top 3 players.

Tic-Tac-Toe

Leader: 59 - Kwagga 22 Wins, 4 Losses, 15 Ties
2nd Place: 43 - Willie 16 Wins, 12 Losses, 11 Ties
3rd Place: 21 - Franche 4 Wins, 12 Losses, 13 Ties

PLAY

You are playing against : XXXXX

X	O	X
O	X	O
O		X

UC 1.3 – Play Game

Use Case ID:	UC 1.3	
Use Case:	Play Game	
Notes:		
Type:	Basic Path	
Scenario:	Leader Board	
	Step	Action
	1	User clicks on PLAY button.
	2	System waits for second user to click play
	3	Next user that clicks play will be joined in a game with this user.
	4	Once game is joined the opponents name will be added to the screen.
	5	User that started the game can make the first move and will be X
	6	User clicks on board to place an X
	7	Opponents screen registers the X
	8	Opponent places an O
	9	User screen registers an O
	10	Winner declared when 3 x X or 3 x O on board.
	11	Tie declared when no more moves possible.
	12	End of game, system registers record for leader board.
	13	All connected player leaders boards must be updated.

