"Tic Tac Toe"
Browser Game
Test
Report

Version 1.0

"Tic-Tac-Toe" Browser Game	Version: 1.0
Test Report	Date: 27.09.2018

Revision History

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Date	Version	Description	Author
27.09.2018	1.0	Created	Topolov A.

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1. Introduction

1.1 Purpose

The purpose of this document is to describe the process of testing of "Tic-Tac-Toe" Browser game. This document allows you to get an idea of testing, ways of testing, description of the defects and improvements that can be made to the game.

1.2 Background

Tic-tac-toe (also known as noughts and crosses or Xs and Os) is a browser game for two players, who take turns marking the spaces in a 3×3 grid. The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal row wins the game.

Also in the game there is a chat in which players can correspond via messages.

The game can be played at the following location: http://qatest.fora-soft.com:4234/.

1.3 Scope

The purpose of testing this browser game was to check its compliance, check its main functionality and UI.

The final results of the testing process is test report with test results.

2. Test Strategy

Compatibility testing was tested first. The game was tested on different operational systems and different screen resolutions. Then, correct working of the game was tested in different web-browsers. After that, main functionality was tested.

UI testing took place after that. All found defects were described and analyzed.

When verifying input data, such test design techniques as *equivalent classes* and *boundary values* were used.

3. Compatibility testing.

The correct operation of the game was tested on the following operating systems with different screen resolutions:

Operational System	Screen Resolution	Result
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows XP 32-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows XP 64-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows Vista 32-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
Microsoft Windows Vista 64-bit	1024 x 768	Incorrect
	1280 x 600	Incorrect
	1280 x 720	Incorrect

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	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows 7 32-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows 7 64-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows 8 32-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows 8 64-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows 10 32-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Microsoft Windows 10 64-bit	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct

4. Cross browser testing.

The game was tested in the following web browsers with different screen resolution:

	800x600	Incorrect
	1024 x 768	Incorrect
Google Chrome 58.0.3029.110 (64-bit)	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Internet Explorer 10	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct
	800x600	Incorrect
	1024 x 768	Incorrect
Mozilla Firefox 62.0.2	1280 x 600	Incorrect
	1280 x 720	Incorrect
	1920 x 1080	Correct

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5. Defects.

All defects are divided into three subgroups with end-to-end numbering: launch, game process, chat box and overall functionality. Defects are sorted by the SEVERITY criteria. Testing environment is the same for all defects in the testing process.

5.1. Launch defects.

During the launching of the game following bugs were found.

Bug_01: the link to the game contains localhost.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora- soft.com:4234/	The following link appears: localhost:4234?	When entering the game, the correct link should be displayed	S2 (Critical) / P1 (High)
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Bug_02: one link can connect the third party to the game.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora- soft.com:4234/ 2. Send the link to 2 different players	The link can be sent to the 3 rd player. He will see "successful connect" and a blank window	The link can be sent only to one player	S2 (Critical) / P1 (High)
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	actor for R. Jose *	$\begin{array}{c} \\ \text{Present e.i.} \\ \text{By} & \text{i. cf. (i)} \\ \end{array}$	

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5.2. Game process defects.

In the game process following bugs were found.

Bug_03: diagonal from the top left cell does not win the game.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	The game continues	Player wins the game	S3 (Major) / P2 (Medium)
soft.com:4234/			
2. Send the link to the 2 nd			
player			
3. Make the diagonal from			
the top left cell			
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Bug_04: when you click on the second cell of the bottom row, you can make a move twice.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	Player can make another	Player can make only one	S3 (Major) / P2 (Medium)
soft.com:4234/	move with either X/O	move at a time	
2. Send the link to the 2 nd	instead of the opponent		
player			
3. Click on the 2 nd cell in the			
bottom row			
NO N	O C C CONTROL CALLETT O C C CONTROL CALLETT O C C C C C C C C C C C C C C C C C C	X	© I

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Bug_05: the winning combination is not highlighted.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	There is no indication on	The winning combination	S3 (Major) / P2 (Medium)
soft.com:4234/	the field that the	is crossed out by the line	
2. Send the link to the 2 nd	combination has won		
player	the game		
3. Make the winning			
combination with X/O.			
	Benefits 1 to 1	C C	

Bug_06: when you click on the field outside your turn, a blue square appears.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	The blue square appears	Nothing happens	S4 (Minor) / P2 (Medium)
soft.com:4234/	in the field		
2. Send the link to the 2 nd			
player			
3. Click on the field when			
it's not your turn.			
	From the State and State and State and State and State	Changain () Johann Warman () Sarama () Sa	

5.3. Chat Box defects.

Following bugs were found in the chat box of the game.

Bug_07: player can't use Enter button to send the message.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-soft.com:4234/ 2. Send the link to the 2 nd player	Nothing happens. Message can't be sent with the Enter button.	Message is sent.	S4 (Minor) / P2 (Medium)
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3. Send the message with		
the Enter button		

Bug_08: in the chat window it is not clear what message belongs to the player.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	There is no identification	Each message should be	S4 (Minor) / P3 (Low)
soft.com:4234/	in the chat window on	given the name of the	
2. Send the link to the 2 nd	which message was	player who wrote it	
player	written by a certain		
3. Send the message two	player		
times			
← → C O □ water	st fore-soft com 424	* (C) Scienciae ** ** ** ** ** ** ** ** **	(a) (a) (b) (b) (c) (b) (c) (c) (c) (c) (c) (c) (c) (c) (c) (c
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Bug_09: incorrect sorting of messages in the chat.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	Messages are sorted	Messages are sorted from	S4 (Minor) / P3 (Low)
soft.com:4234/	from late to early	early to late	
2. Send the link to the 2 nd			
player			
3. Send the message two			
times			
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 ${\tt Bug_10: message\ highlighting\ disappears\ when\ scrolling\ to\ the\ right.}$

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	When you exit beyond	Message is highlighted	S4 (Minor) / P3 (Low)
soft.com:4234/	the boundaries of	regardless of it's lenght	
2. Send the link to the 2 nd	visibility (to the right)		
player	and when scrolling to		
3. Send the long message to	the right, message		
the chat box	highlighting disappears		
4. Scroll to the right			
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Bug_11: the time in the chat does not match the local time.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.forasoft.com:4234/ 2. Send the link to the 2 nd player	The time in the chat box is one hour longer	The time in the chat box equals local time	S4 (Minor) / P3 (Low)
3. Send the message to the	2		
chat box			
### (Section & Stope of Section Se	idis doodiye	Bishim © Cardy Integrases € Princes congrue.	© mention or X Market Market

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Bug_12: there is no space between the colon and the beginning of the message.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	There is no space	There is space between	S4 (Minor) / P3 (Low)
soft.com:4234/	between the colon and	the colon and the	
2. Send the link to the 2 nd	the beginning of the	beginning of the message	
player	message		
3. Send the message to the			
chat box			
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Bug_13: when you enter 3 spaces before the message, the message appears with only one space.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	The message appears	The number of spaces	S4 (Minor) / P3 (Low)
soft.com:4234/	with only one space	equals the number of	
2. Send the link to the 2 nd		entered spaces	
player			
3. Send the message to the			
chat box with 3 spaces			
before the message			
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Bug_14: message longer than 15 lines is duplicated when sent.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	The message is	Only single message is	S5 (Trivial) / P3 (Low)
soft.com:4234/	duplicated	sent to the chat box	
2. Send the link to the 2 nd			
player			
3. Send the message longer			
than 15 lines			
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5.4. Other defects.

During the testing process of the game several other defects were found.

Bug_15: when the window is reduced, the game field shifts.

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	The game field shifts	The game field stays at	S2 (Critical) / P1 (High)
soft.com:4234/	(moves)	the same position	
2. Send the link to the 2 nd			
player			
3. Resize the browser			
window			
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Bug 16: errors in writing the phrase: "Oh God".

Description	Actual result	Expected result	Severity / Priority
1. Open http://qatest.fora-	The phrase: "Oh	The phrase should be	S5 (Trivial) / P3 (Low)
soft.com:4234/	God!!YOU WIN!!!	written as follows: "Oh,	
2. Send the link to the 2 nd	appears	God! You won!"	
player			
3. Make the winning			
combination			
← → ♂ ☼ © qatestfora-soft.com 4234/hd		x / □ Totactor x	(a) (c) (ii) (iii) (b) (c) (iii) (iii) (c)
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6. Improvements.

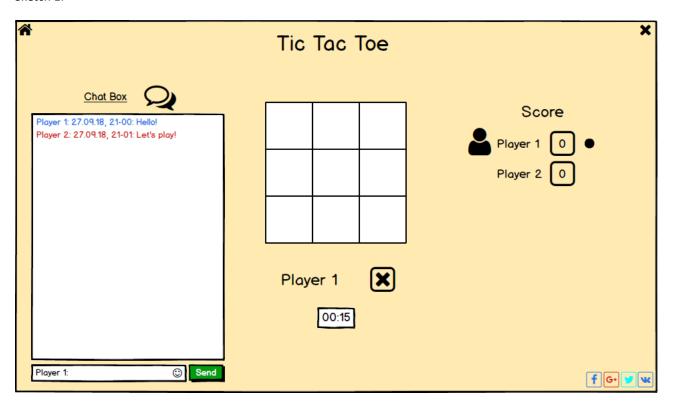
For a better gameplay, the following improvements were proposed, which can be implemented into the game:

- 1. The ability to assign nicknames to players.
- 2. Indication in the game window about the player's name: Player 1, Player 2
- 3. Ability to send messages to the chat by pressing the Enter button.
- 4. Specify the name (number) of the player in the chat when displaying messages.
- 5. Adding the ability of the game against AI (Computer)
- 6. Adding a runtime timer
- 7. Adding the ability to play an additional game without closing the window.
- 8. Adding a game account indication
- 9. Adding Emodji to the chat.
- 10. Possibility to expand the playing field to 5x5.

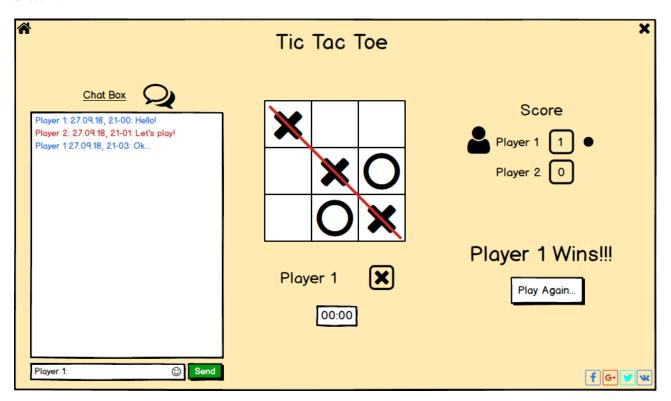
Also, several sketches were made for a better understanding of how the game and its functionality should look.

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Sketch 1:



Sketch 2:



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7. Test report.

During the testing process of the "Tic-Tac-Toe" browser game following things were tested and analyzed:

- 1. Compatibility
- 2. Cross browser testing
- 3. Launching of the game
- 4. Functionality
- 5. User interface

16 defects were found in the game. For better understanding there are several diagrams listed below.

Diagram 1:

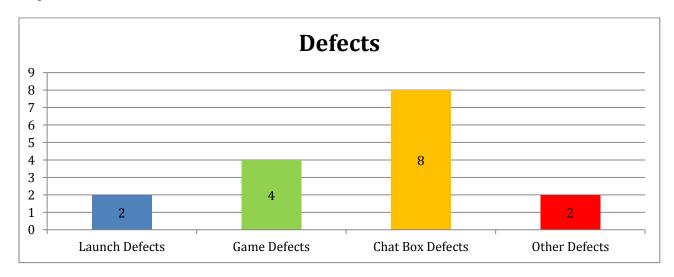
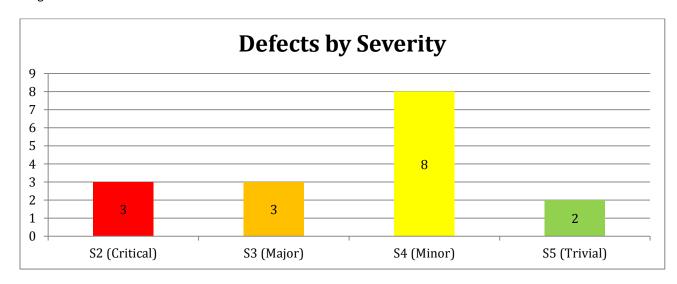
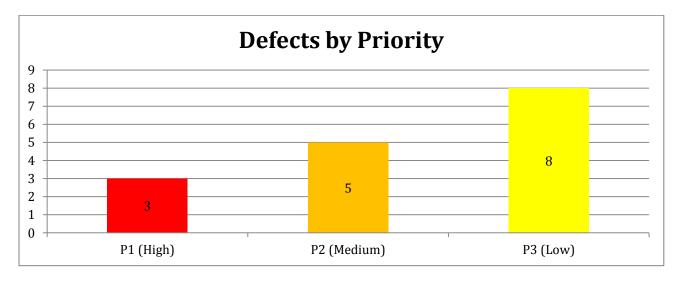


Diagram 2:



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Diagram 3:



8. Final conclusion.

Since 3 Critical (S2) defects were found during the testing process, as well as 3 Major (S3) defects according to SEVERITY that require immediate elimination, release of the "Tic-Tac-Toe" Game should be postponed until all Critical and Major (S2 and S3) defects are eliminated.