

Assignment 2

By using the Flutter widgets and Dart programming language, design and implement a game mobile application. This game called Tic-Tac-Toe game.

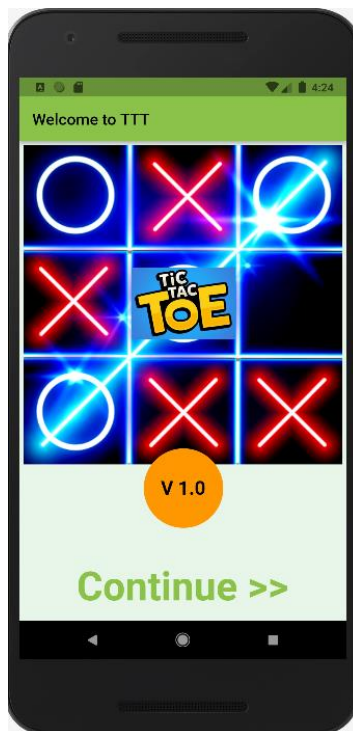


Figure 1: Welcome Page.

All images needed to design this page will be supplied to you. If the user click the TextButton (Continue>>), then the user will navigate to players_info.dart page using the dynamic stack navigation method.

3. players_info.dart: It is a stateful widget to show the players panel as shown in Figure 2.

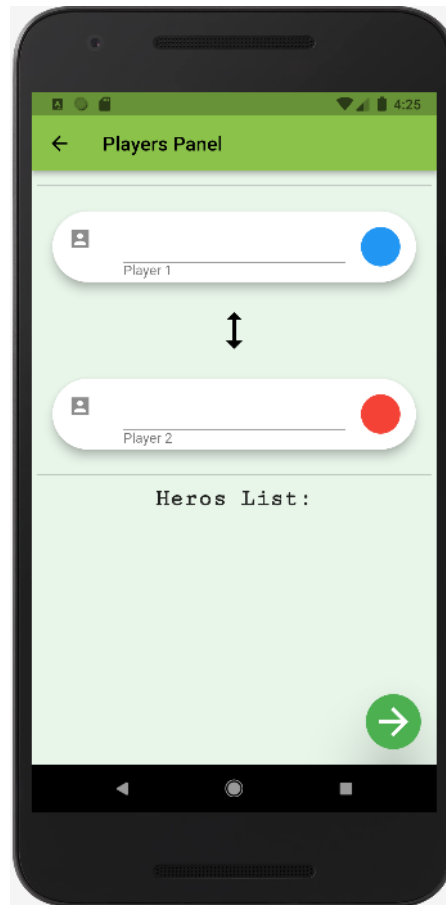


Figure 2: Players panel.

When the user clicks on the first Card, the user can enter the name of the first player using a keyboard. When the user clicks on the second Card, the user can enter the name of the second player using a keyboard. Furthermore, there is an IconButton between the two Cards with icon of two-direction arrow. This button will swap the name of players, that is, the entered name of player 1 will be for player 2 and vice versa. Moreover, under the two Cards, there is a list of heroes. Initially, it will be empty.

Finally, at the bottom of this page, there is a FloatingActionButton that has an icon of right arrow. This button will send the entered name of players and navigate to game_panel.dart page using the dynamic stack navigation method. Also, it will await until the user return back to this page again after playing in order to update the heroes list.

4. game_panel.dart: It is a stateful widget to show the players panel as shown in Figure 3.

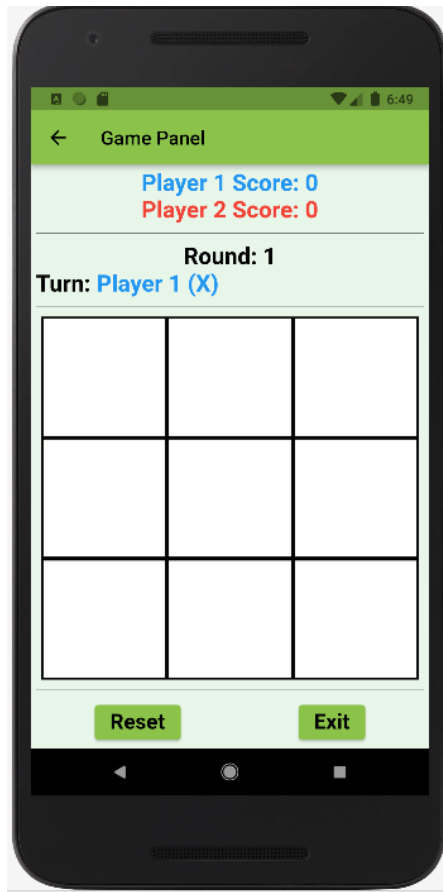


Figure 3: game panel.

5. Initially, the scores are zeros and the round is 1. The game will start with first entered name that will have the blue-colored X. This player can click any empty white box and his symbol will appear immediately as shown in Figure 4.

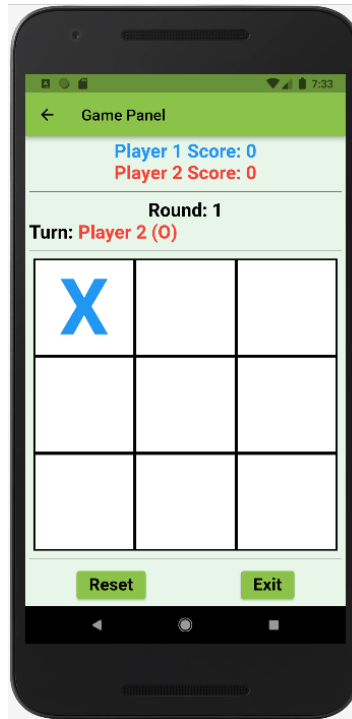


Figure 4: Player 1 turn.

6. After that, the turn will be transferred to the second entered name that will have the red-colored O. This player can click any empty white box and his symbol will appear immediately as shown in Figure 5.

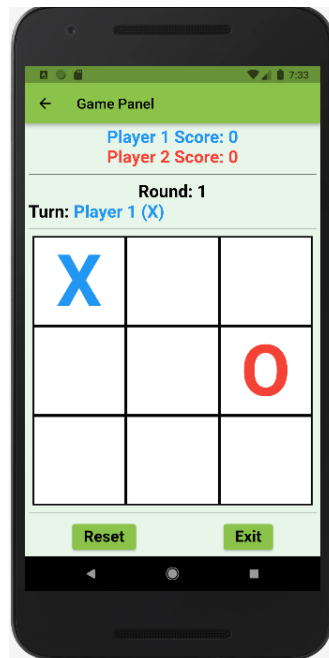


Figure 5: Player 2 turn.

1. If any user clicks on any filled box, nothing will change. For each click on empty boxes, the game will check for horizontal, vertical, or diagonal lines for that user and if finds any of them, the user that has the current turn will win. Otherwise, the game will continue until filling all empty boxes by the users as shown in Figure 6.

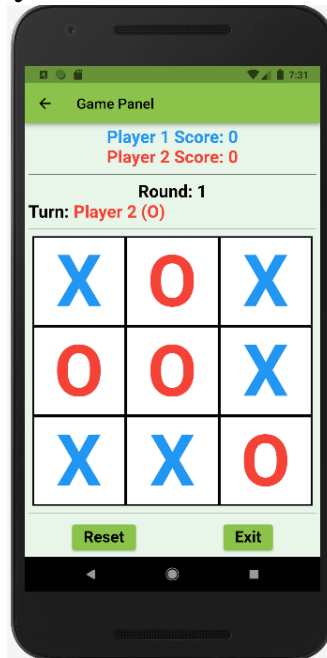


Figure 6: Filling all boxes.

In this case, the result is draw and a SimpleDialog message will appear as shown in Figure 7. When the user clicks (Ok), one point will be added for each player and a new round will be started (first entered name player will have the turn) as shown in Figure 8.

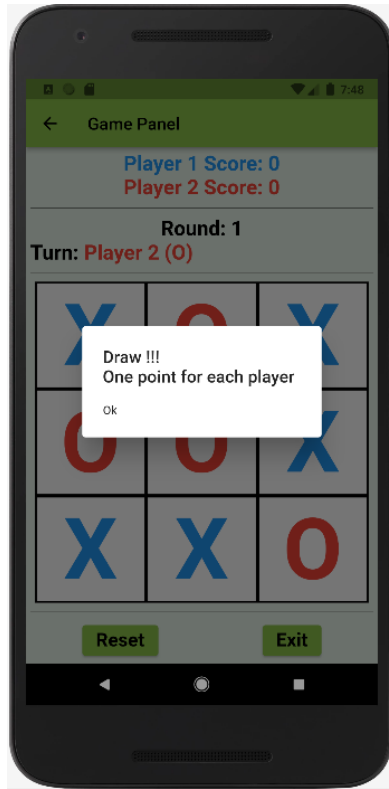


Figure 7: Draw result message.

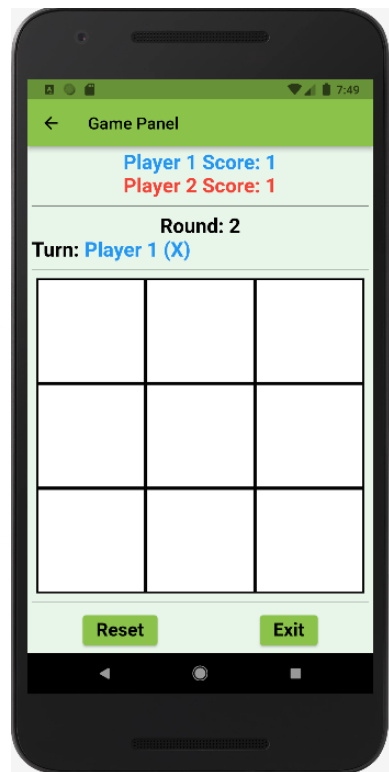


Figure 8: Draw points and a new round.

If any user completes successfully one line (horizontal, vertical, or diagonal) as shown in Figure 9, the result is the user won and a SimpleDialog message will appear as shown in Figure 10. When the user clicks (Ok), three points will be added for the winner player and a new round will be started (the winner player will have the turn) as shown in Figure 11.

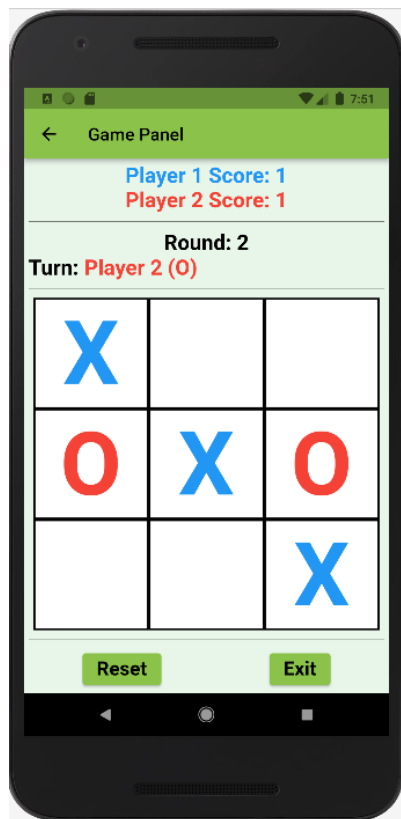


Figure 9: Completing a line.

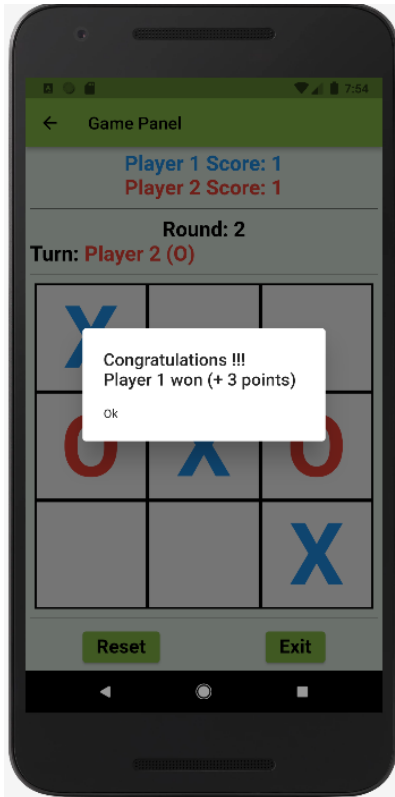


Figure 10: won result message.

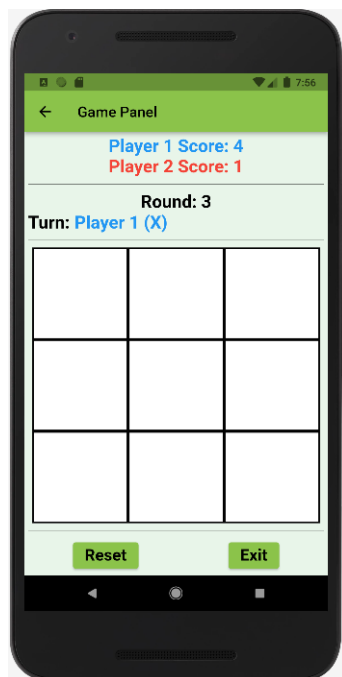


Figure 11: Winning points and a new round.

At the end of this page, there are two ElevatedButtons, namely, Reset and Exit. If the user presses the Reset button, the game will be reset as initially started, that is, all scores will become zeros and round 1 will started with turn of first entered name player as shown in Figure 12.



Figure 12: The game after Resetting.

Moreover, at any time the user can press the Exit button as shown in Figure 13. When the user presses the Exit button, an AlertDialog message will appear with Yes and No TextButtons as shown in Figure 14. If the user clicks No button, the game will continue normally from the current point as shown in Figure 15. However, if the user clicks Yes button, the game will be ended and the winner player name, his symbol (X or O), and his score will be sent again to the players_info.dart page using the dynamic stack navigation method. The heroes list at the end of players_info.dart page will be updated with the received information as shown in Figure 16.



Figure 13: Pressing Exit button.

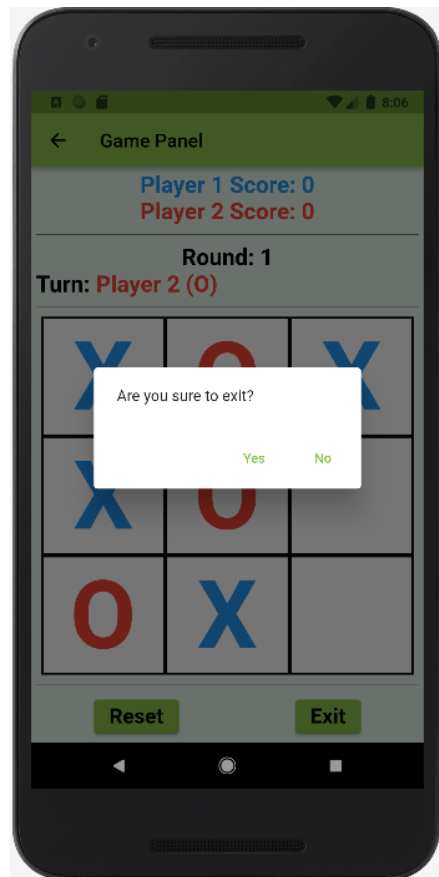


Figure 14: AlertDialog message for Exiting.



Figure 15: Game after pressing No.

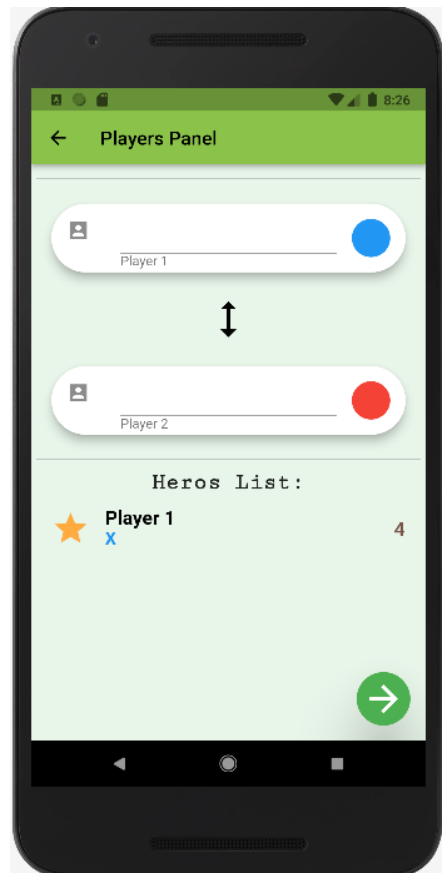


Figure 16: Game after pressing Yes.

The heroes list has the Dismissible items that can be dismissed if the user moves any item from left to right with red background and icon of recycle bin as shown in Figure 17. If the user dismisses any item from the heroes list, it will be removed from the list as shown in Figure 18.

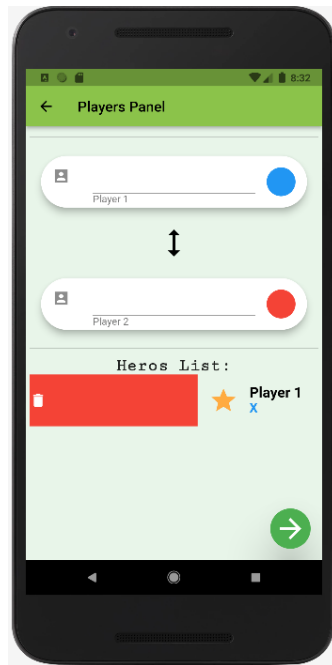


Figure 17: Dismissing an item from the heroes list.

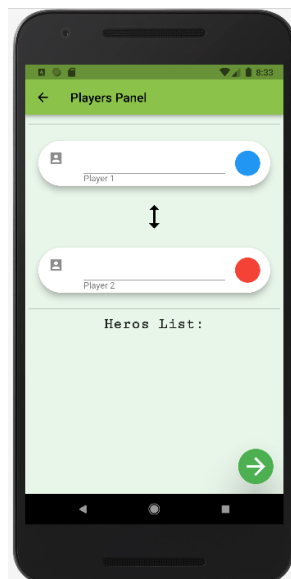


Figure 18: players_info.dart after dismissing an item.

