

19CSE463 Mobile Application Development

Project Report

Tic Tac Toe Mobile App

Title:

Tic Tac Toe - A Fun and Interactive Two-Player Game

Team Members:

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Project Scope:

The Tic Tac Toe project is a mobile application designed to provide users with an engaging, user-friendly platform to play the classic two-player game. The app allows players to take turns marking their moves in a 3x3 grid with intuitive controls and responsive design.

Key Objectives:

- To deliver an accessible gaming experience.
 - To enhance understanding of mobile app development tools, design patterns, and multithreading.
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Features:

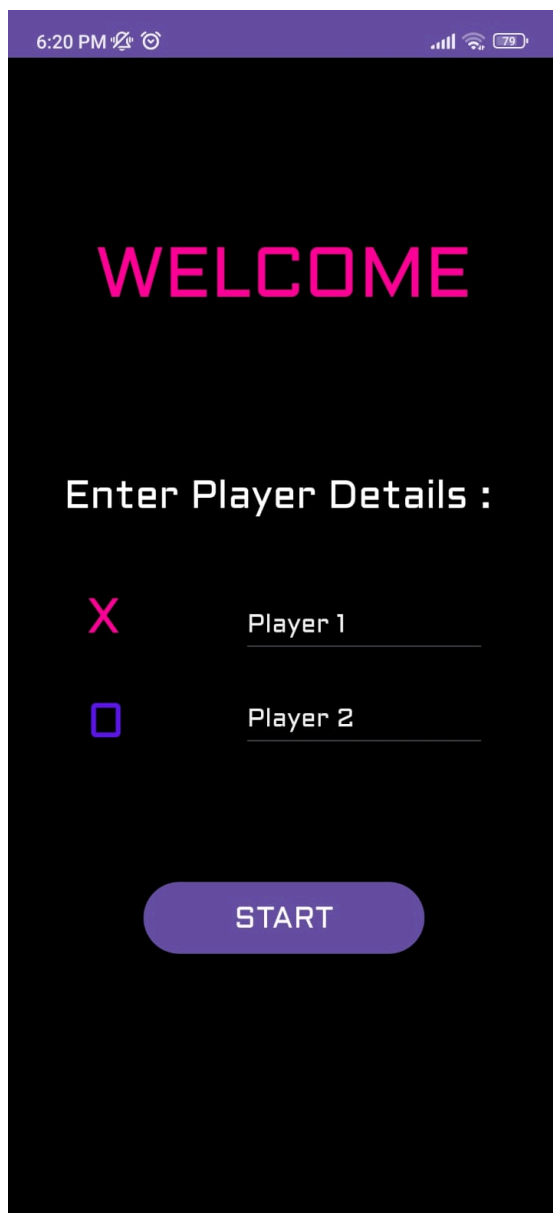
1. Two-player support with alternating turns.
 2. Easy-to-use interface with touch controls.
 3. Winner detection based on the classic rules of Tic Tac Toe.
 4. Draw detection when no moves are left.
 5. Interactive and visually appealing animations.
 6. Reset functionality for replaying the game.
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Design of the Mobile App:

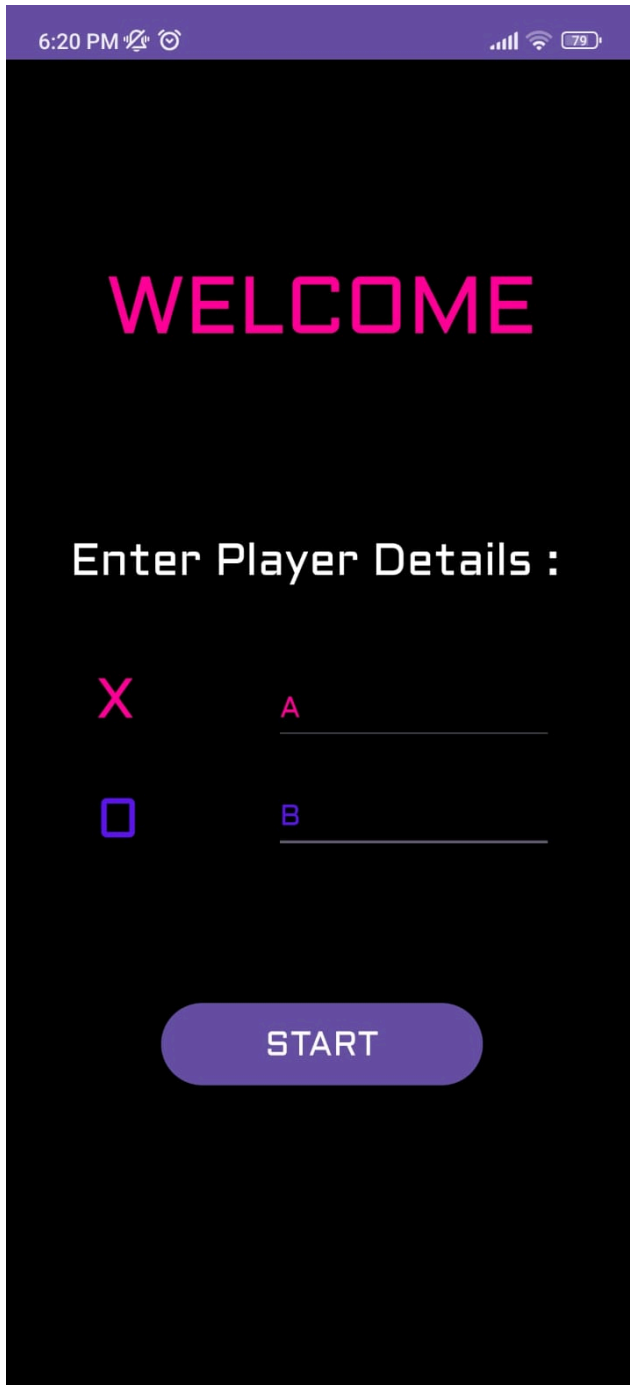
The app follows a clean and minimalistic design approach to provide an intuitive experience. The main interface consists of:

- A 3x3 grid for gameplay.
- Indicators showing the current player's turn.
- Buttons for resetting or restarting the game.

Screenshots of the Front-End:

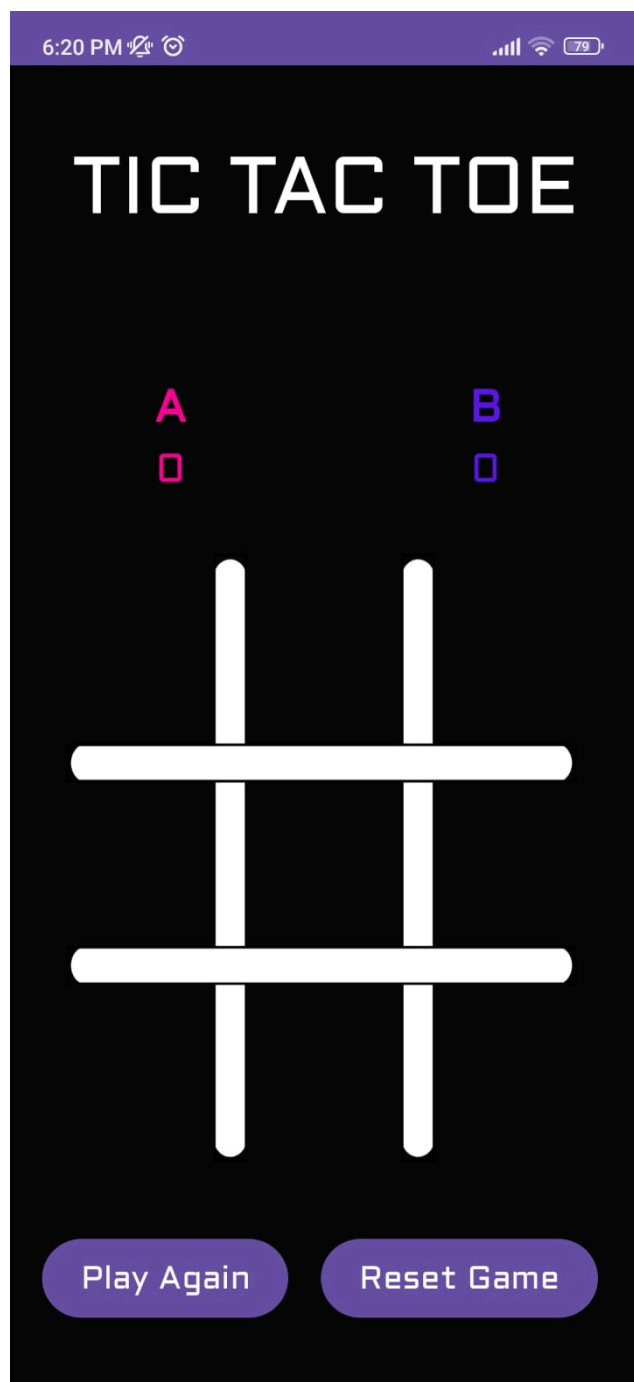


After entering player details :



The image shows a mobile application interface on a black background. At the top, there is a status bar with the time 6:20 PM, signal strength, Wi-Fi, and battery level (79%). Below the status bar, the word "WELCOME" is displayed in large, bold, pink capital letters. Underneath, the text "Enter Player Details :" is shown in white. There are two input fields: the first has a pink "X" icon and the letter "A" in pink; the second has a purple square icon and the letter "B" in purple. At the bottom, there is a purple rounded rectangular button with the word "START" in white capital letters.

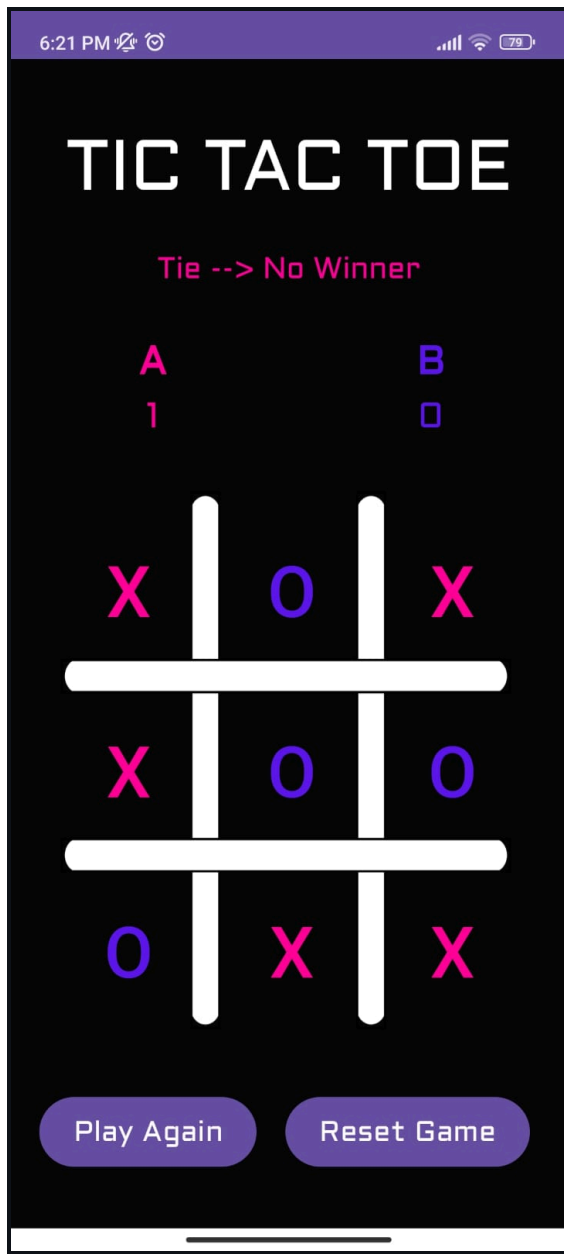
On clicking the start button :



When either player wins :



In case of a tie :



Snippets of Important Code:

1. Splash Screen Animation

Source: [SplashActivity.java](#)

```
YoYo.with(Techniques.Flash).duration(2100).repeat(1).playOn(t1);  
YoYo.with(Techniques.Flash).duration(2100).repeat(1).playOn(t2);  
YoYo.with(Techniques.Flash).duration(2100).repeat(1).playOn(t3);
```

This snippet appears in your `SplashActivity.java` file and is used to animate the text elements during the splash screen.

2. Intent Handling

Source: `MainActivity.java`

```
Intent intent = new Intent(this, game.class);  
intent.putExtra("namePlayer1", namePlayer1);  
intent.putExtra("namePlayer2", namePlayer2);  
startActivity(intent);
```

This snippet is from `gameScreen` method in the `MainActivity.java` file, where it starts the game activity and passes the player names.

3. Game Logic

Source: `game.java`

```
private boolean checkWinner() {  
    for (int[] winningPositions : winningPositions) {  
        if (game[winningPositions[0]] == game[winningPositions[1]] &&  
            game[winningPositions[1]] == game[winningPositions[2]] &&  
            game[winningPositions[0]] != -1) {  
            return true;  
        }  
    }  
}
```

```
        }  
    }  
    return false;  
}
```

This snippet is from the `checkWinner` method in `game.java` file, used to check for a winning condition.

4. Game Reset

Source: `game.java`

```
private void play() {  
    rounds = 0;  
    playerOnePlaying = true;  
    for (int i = 0; i < 9; i++) {  
        game[i] = -1;  
        b[i].setText("");  
    }  
    status.setText("");  
}
```

This is the `play` method in `game.java` file, which resets the game board for a new round.

5. AndroidManifest Setup

Source: **AndroidManifest.xml**

```
<activity android:name=".SplashActivity"
    android:theme="@style/Theme.Design.NoActionBar"
    android:exported="true">
    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
```

This snippet is from **AndroidManifest.xml** file, defining the splash screen activity as the launcher activity.