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DDWC 3723 SOFTWARE DEVELOPMENT

SOFTWARE USER MANUAL (SUM) REPORT

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CALTACTOE APP DEVELOPMENT

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## **1.0 Introduction:**

CalTacToe (calculator + tic tac toe) is a simple calculator app that perform regular arithmetic operations like addition, subtraction, division and multiplication with additional operation which is percentage. That's not all, CalTacToe also embedded with Tic Tc Toe for fun factor. A two-players strategic games with one player marked one of a 3x3 grid with noughts (O's) while other marking with crosses (X's) every turn. The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal row is the winner. Include the release date.

Every app needs its own user manual, so that is why we, developer team also provided one even for our merely calculator app. a Software User Manual (SUM) will guide users effectively. A well-crafted user manual can enhance the user experience and reduce support requests.

## **2.0 System Requirements:**

At least the 'Nougat' version of Android is required to run the app. The app can run even with the lowest RAM because it does not contain complex code and functions. It takes up 19.26 MB of your phone internal storage and does not need any additional permission to use it.

### 3.0 Installation:

In the future, users will be able to download the app in Play Store by simply searching for ‘CalTacToe’ but for now, user can extract the app zip file. The steps are:

1. Download the App Zip File:

Users can obtain the app zip file (download link shared in GitHub).

2. Extract the Zip File:

Unzip the downloaded file to reveal its contents.

3. Navigate to the App Directory:

Within the extracted files, locate the app directory (named after our app, “CalTacToe”).

4. Find the Gradle Build File:

- Look for a file named ‘build.gradle’ within the app directory.
- This file contains configuration settings for our Android project.

5. Open Android Studio:

If not already installed, download and install Android Studio (available for Windows, macOS, and Linux).

6. Import the Build File:

- Open Android Studio.
- Click on “Open an existing Android Studio project.”
- Navigate to the location of your build.gradle file and select it.
- Android Studio will load your project.

7. Connect Your Phone:

- Connect your Android phone to your computer using a USB cable.
- Ensure that USB debugging is enabled on your phone (found in Developer Options).
- If using Wi-Fi, follow these steps:
  - Pair your phone and computer using a QR code or a 6-digit code.
  - Once paired, Android Studio will deploy the app wirelessly.

8. Run the App:

- In Android Studio, click the “Run” button (usually a green triangle) to build and run our app.
- Select your connected phone as the deployment target.
- Android Studio will install the app on your phone.

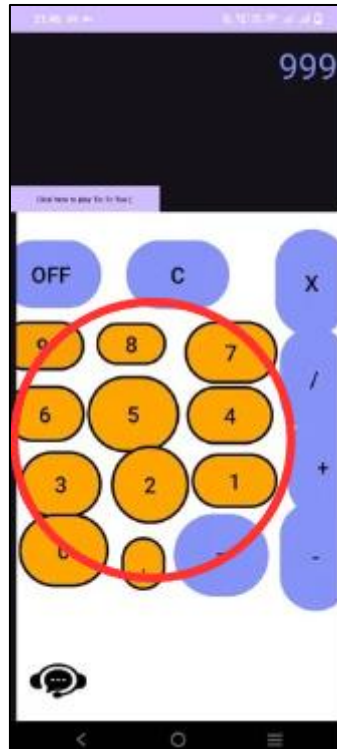
9. Launch the App:

- On your phone, find the CalTacToe app icon.
- Tap it to open the app and start using the calculator and playing tic-tac-toe!

## 4.0 Getting Started:

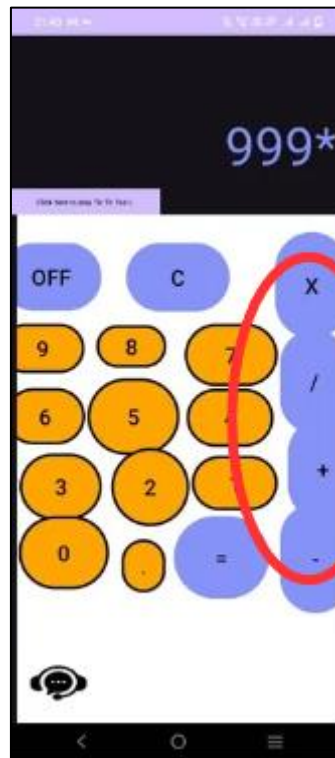
### 4.1 Calculator Features/Usages:

a) Select Operand:



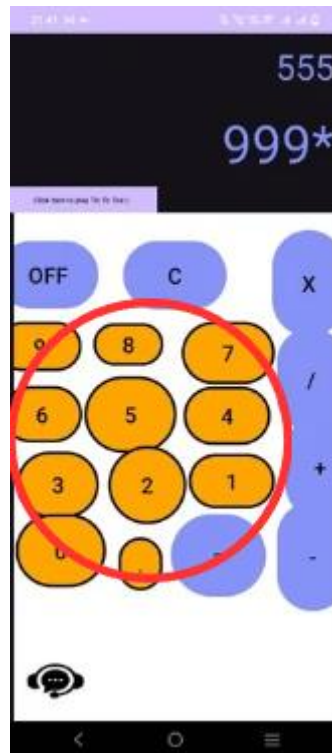
- i. Tap the buttons representing the digits (0-9) to input your operands.
- ii. For example, to enter the number 999, tap the buttons for “9”, “9” and “9” again.

b) Choose Operator:



- i. Tap the operator buttons to select the desired operation:
- Addition (+): To add two numbers.
  - Subtraction (-): To subtract one number from another.
  - Multiplication ( $\times$ ): To multiply two numbers.
  - Division ( $\div$ ): To divide one number by another.

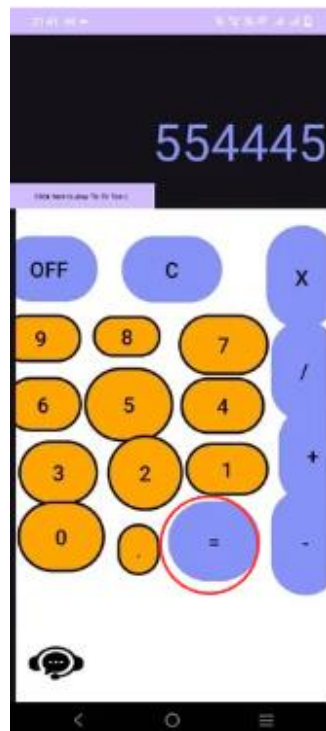
c) Enter Second Operand:



- i. After selecting the first operand and operator, tap the buttons for the second operand.
- ii. For example, if you want to calculate  $999 * 555$ , enter “555”.

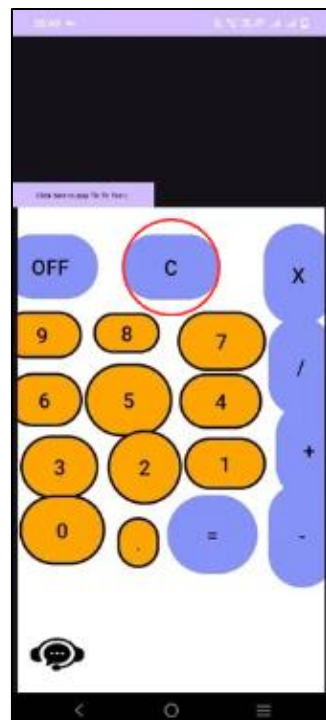


d) Calculate the Result:



- i. Finally, tap the “equals” button (=) to compute the result.
- ii. The result will be displayed on the screen.

e) Clear the Calculation:

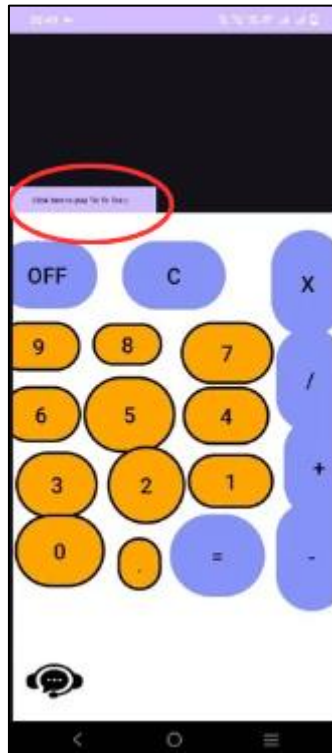


- i. To start a new calculation, tap the “clear” button ©.

## 4.2 Tic-Tac-Toe Game Features:

When open the app, user will firstly intent to Calculator mode (main page). To switch to Tic Tac Toe mode, simply:

a) Switch to Tic-Tac-Toe Mode:



- On the calculator screen, locate the result area.
- Tap the button labelled “Click here to play Tic Tac Toe (:)”.
- The app will transition to the Tic-Tac-Toe mode.

b) Setting Player Names

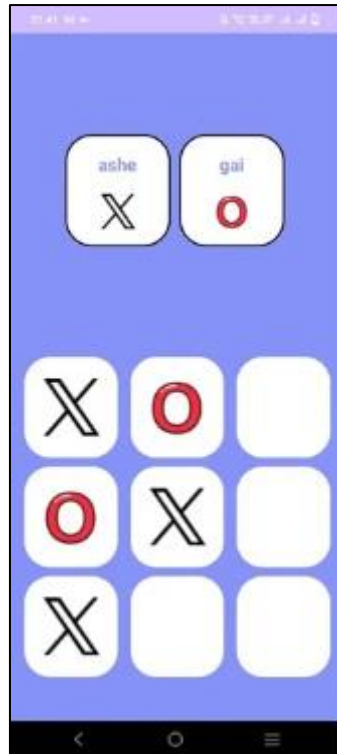
- Enter Player Names:



- You'll be prompted to enter names for the two players:
- Player 1 (Cross): Enter a name for the player who will use X (cross) symbols.
- Player 2 (Circle): Enter a name for the player who will use O (circle) symbols.

c) Start the Game:

- After entering the player names, tap the “Start Game” button.
- The app will take you to the Tic-Tac-Toe game board.
- Play the game.



d) Game Board:

- The game board consists of a 3x3 grid.
- Each cell can hold an X or O symbol.

e) Taking Turns:

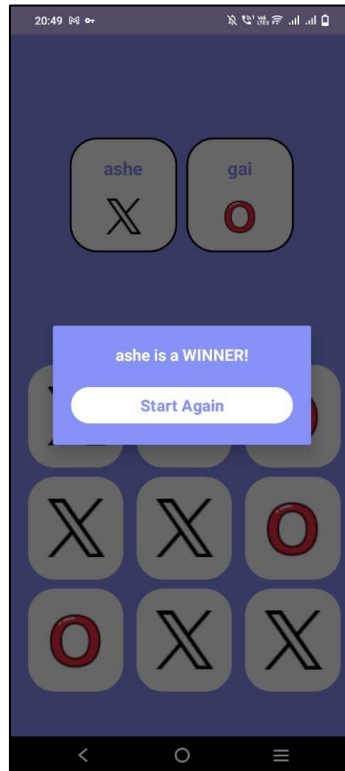
- Players take turns tapping empty cells to place their symbols.
- Player 1 (Cross) goes first, followed by Player 2 (Circle).

f) Winning Conditions:

- The game ends when one of the following occurs:
  - A player gets three of their symbols in a row (horizontally, vertically, or diagonally).
  - The entire grid is filled without a winner (draw).

g) Result Prompt:

- If a player wins or the game ends in a draw, a result board will appear at the centre of the screen.
- It will display the winner's name or indicate a draw.



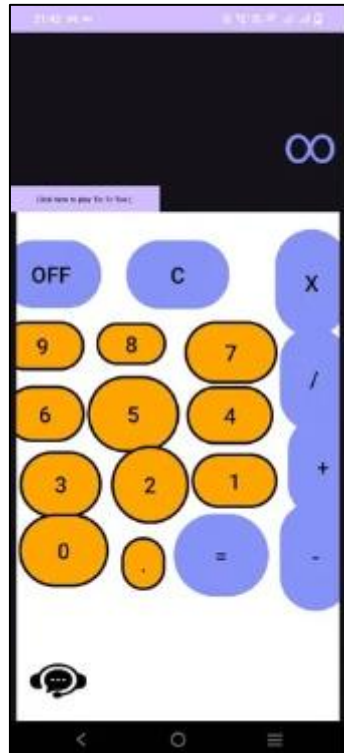
h) Restarting the Game

- Restart Button:
  - To play another round, tap the “Start Again” button.
  - The game board will reset, and players can compete again.

## 5.0 Troubleshooting and FAQs:

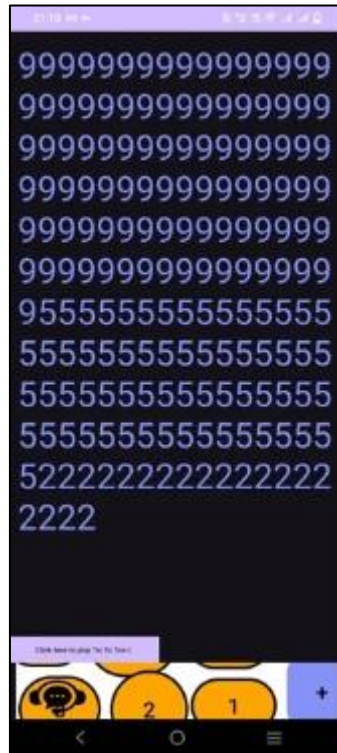
In this section, we will do our best to address common issues users might encounter when navigating this app. Hopefully it will answer all of the frequently asked questions (FAQs).

- a) Can it perform division by zero in the calculator?



No. it will always resulting infinity. For example, “4 / 0” resulting infinity.

b) Can you enter as many as you want, digits in the calculator screen?

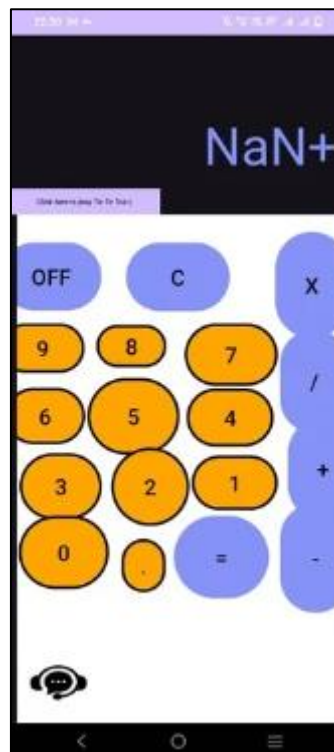


Yes, but the buttons for calculator functions will become smaller and smaller until it appears no more.

c) Is there any invalid moves in tic-tac-toe?

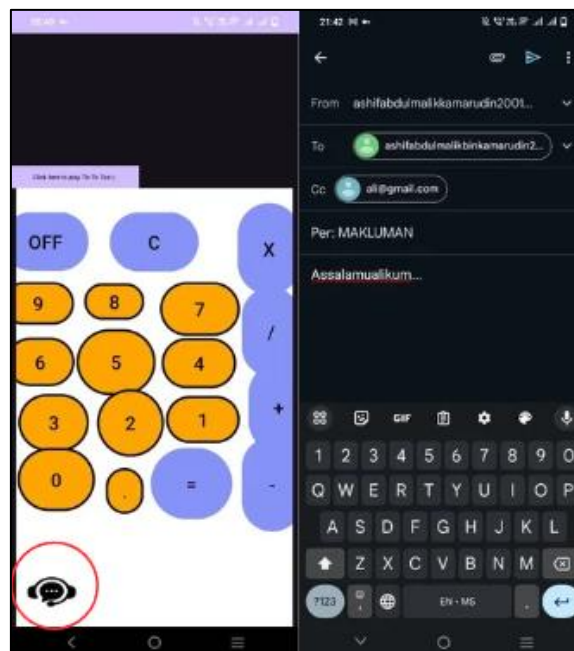
No, we are carefully code it to never let any player pulling tricks under their sleeves.

- d) What if, in calculator, user input any operators or “.” First instead of operand?



The screen will output “Nan”, means “Not-a-Number”.

- e) If users want to send feedback to developer if they had any issues, where or how they can achieve that?



The app is embedded with “customer service” button at the bottom of screen. It will direct user to developer’s email.



## 6.0 Glossary:

Words / Phrases	Meaning
arithmetic	the branch of mathematics dealing with the properties and manipulation of numbers
grid	a network of lines that cross each other to form a series of squares or rectangles
nought	another word for circle