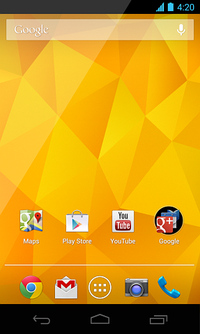
Introduction:

Software development lab helps us to practically implement a particular programming project using different programming language such as android, c, c++ etc. For this kind programs we need operating systems like windows, linux, Ubuntu, android etc. The purpose of this software development lab is to purify our high thinking and to increase creativity on how we develop a software like any kind of management systems or games. In this lab we are going to develop a game as our project on android operating system.

What is Android (Operating System):

**Android** is linux –base operating system designed primarily for touch screen mobile devices such as smartphones and tablet computers. Initially developed by Android, Inc., which Google backed financially and later bought in 2005. It is [open source](https://en.wikipedia.org/wiki/Open_source) and Google releases the code under the [Apache License](https://en.wikipedia.org/wiki/Apache_License). This open source code and permissive licensing allows the software to be freely modified and distributed by device manufacturers, wireless carriers and enthusiast developers. Google says that over 1.3 million Android cell phones are sold every day. Programs for Android, also called "apps", come from the Google Play store. The android programs have an extension of .apk. Android programs are built in C and C++ programming languages but the UI is made using Android. There are over 900,000 apps available for Android. Android's user interface is based on [direct manipulation](https://en.wikipedia.org/wiki/Direct_manipulation_interface), using touch inputs that loosely correspond to real-world actions, like swiping, tapping, pinching and reverse pinching to manipulate on-screen objects. Android devices boot to the home screen, the primary navigation and information point on the device, which is similar to the [desktop](https://en.wikipedia.org/wiki/Desktop_metaphor) found on PCs. Android home screens are typically made up of app icons and widgets.

Necessary soft-wares for Android:

Android applications are developed in the [Android](https://en.wikipedia.org/wiki/Java_(programming_language)) language using the [Android software development](https://en.wikipedia.org/wiki/Android_software_development) kit (SDK). The SDK includes a comprehensive set of development tools, including a [debugger](https://en.wikipedia.org/wiki/Debugger), [software libraries](https://en.wikipedia.org/wiki/Software_library), a handset [emulator](https://en.wikipedia.org/wiki/Emulator) based on [QEMU](https://en.wikipedia.org/wiki/QEMU), documentation, sample code, and tutorials. The officially supported [integrated development environment](https://en.wikipedia.org/wiki/Integrated_development_environment) (IDE) is [Eclipse](https://en.wikipedia.org/wiki/Eclipse_(software)) using the Android Development Tools (ADT) plug-in. Other development tools are available, including a [Native Development Kit](https://en.wikipedia.org/wiki/Native_development_kit) for applications or extensions in C or C++, [Google App Inventor](https://en.wikipedia.org/wiki/Google_App_Inventor), a visual environment for novice programmers, and various [cross platform mobile web applications frameworks](https://en.wikipedia.org/wiki/Multiple_phone_web_based_application_framework).

The game “Tic-Tac-Toe”:

We have chosen tic-tac-toe game as our project. We are going to make this game on android platform. It’s one of the easiest game we have ever played. **Tic-tac-toe** (or **Noughts and crosses**, **Xs and Os**) is a [paper-and-pencil game](http://en.wikipedia.org/wiki/Paper-and-pencil_game) for two players, *X* and *O*, who take turns marking the spaces in a 3×3 grid.

How to play the game:

Easiest game with simple rules. There will be 3 into 3 rows and columns in a board in tic- tac- toe. Two players will play the game either player vs player or player vs computer. The players have to choose their signs between X and O. The player who will choose the X sign, has to start first by clicking the box. Then the box will be marked as the X sign of the first player. The 2nd player who has chosen the O sign will mark a box by that sign. Their tendency will be to block the opponent players so that they can’t match 3 of the X or O signs horizontally, vertically or diagonally. The player matching the 3 of the boxes with his sign will be declared as winner. He will score one point for matching the signs. Then the game will start from the beginning. When it is such situation that nobody can match any of the 3 boxes with his signs horizontally, vertically or diagonally then the match will be drawn. In short it’s an enjoyable game to play for time pass.

Game Features:

Our game has the following features:

1. New Game: There will be a button named “new game”. By clicking this button we can start the game.
2. Instruction: It’s a button where the user can get the necessary instructions how to play the game.
3. About: It’s the button where one can find the game info, the versions and the creators.
4. Exit: By clicking the exit button the user can terminate the program.

Tasks Distribution amongst the group members:

**Coder:**

**(1).Somik Das: (11.02.04.003)**

**He is the main coder of the game. His job is to implement the maximum code of the game as the instruction of the Leader.**

**(2). Arefin Naveed: (11.02.04.002)**

**He will help the main coder with the codes. He will also help to gather external source codes.**

**Leader:**

**Rauful Jamil Nibir: (11.02.04.025)**

**He will give instructions of this game and will manage the whole team. He will also give proposal as the game needed.**

**Tester:**

**Naimul Mukit: (11.02.04.009)**

**He will collect the necessary game related images and sounds. And he will also test the whole game from the beginning.**

Week wise progress:

**1st week:** In the 1st week we will collect the necessary images and sounds for the game project and will convert them according to our necessity. We will also create the main menu and layout (3\*3 grid) of the tic-tac-toe game.

**2nd week:** In this week we will start our main coding of the game. How to take the button input , X’s and O’s for the two player etc will be done in the 2nd week.

**3rd week:** In 3rd week we will provide in code how actually the player wins by completing the game. That means we will code on how to win the tic-tac-toe game.

**4th week:** In the last week we check the whole game project from first to last. We will include any other object if necessary and finally will present it to our teacher.

Conclusion:

In terms of creating projects on the basis of platforms, android is quite a new one. So from the beginning we have planned to work hand in hand and do all the needful things so that we can successfully complete the whole project. It’s our belief that if we can make good coordination between the group members then we can reach our destination.