

# **Mobile Application Development**

Project Report

## **Total Fitness**

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### 1. Overview:

**a. User Needs:** Every person should have a fitness regime and the knowledge about the type of workouts to be performed to maintain healthy lifestyle. To help people continue their workout from anywhere, we have designed an app which demonstrates different exercises that can be carried out by everyone according to their age.

This application has exercises bifurcated with respect to their age category. This had to be done so that every person can exercise without risking his life. For instance, children below 18 years of age are not advised to perform weight lifting exercises as that can damage their muscles. Thus they are assigned cardio exercises to increase their stamina and agility.

**b. Problem Statement:** Create an application which encourages people to exercise with proper demonstration and instructions. This application should be user friendly for all age groups.

### 2. Description:

#### a. Tools and Components learned:

- i. **LinearLayout:** A layout that arranges other views either horizontally in a single column or vertically in a single row.
- ii. **TextView:** A user interface element that displays text to the user.

- iii. Button: A user interface element the user can tap or click to perform an action.
- iv. ImageView: Displays image resources, for example Bitmap or Drawable resources. ImageView is also commonly used to apply tints to an image and handle image scaling.
- v. onCreate: call and recreate the activity and load all data from savedInstanceState.
- vi. onClickListener: method that is called when the view (component) is clicked. The code for a component's functionality is written inside this method.
- vii. startActivity: Launch a new activity.

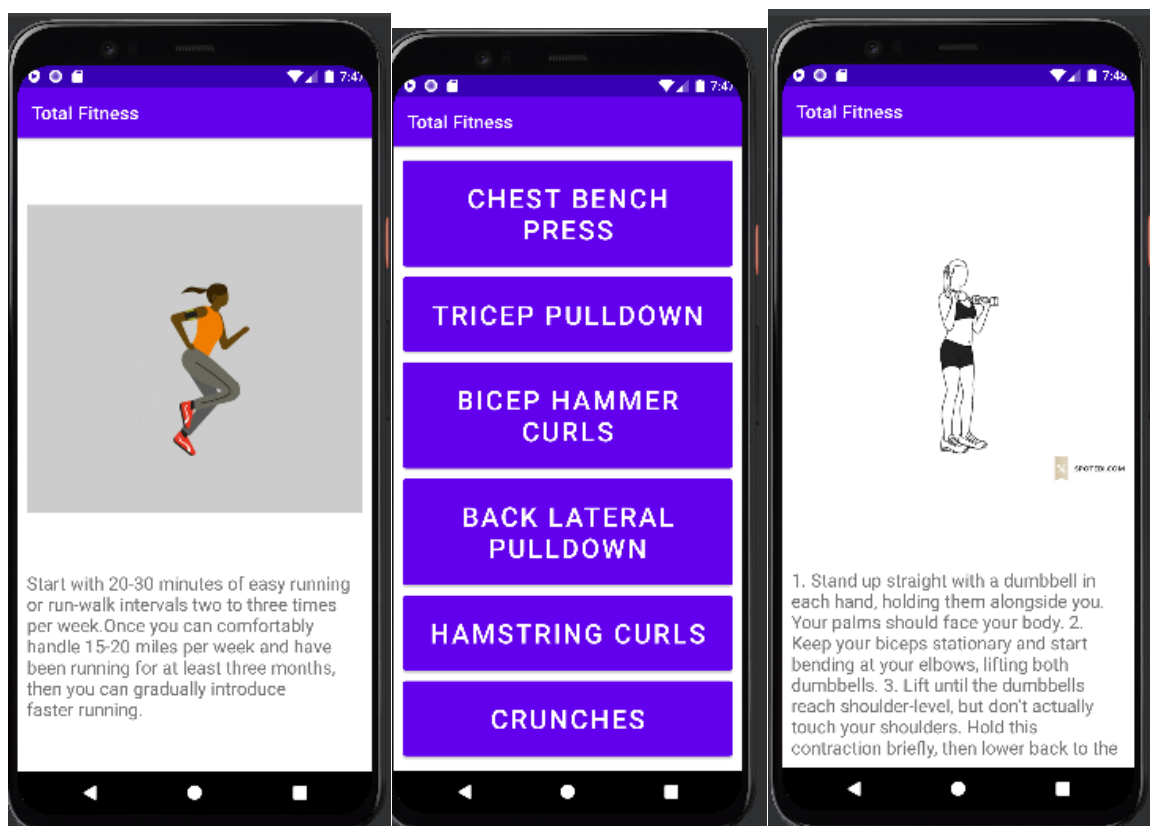
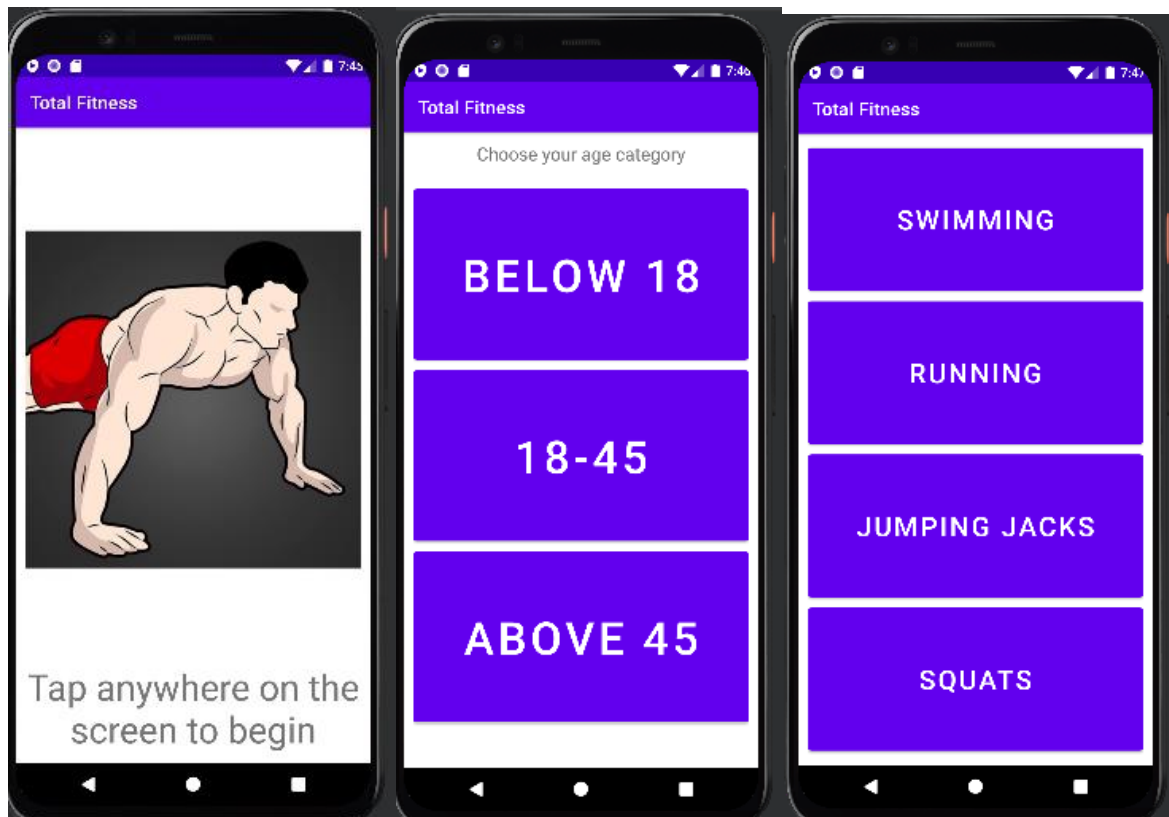
**b. Tools and Components self-learned:**

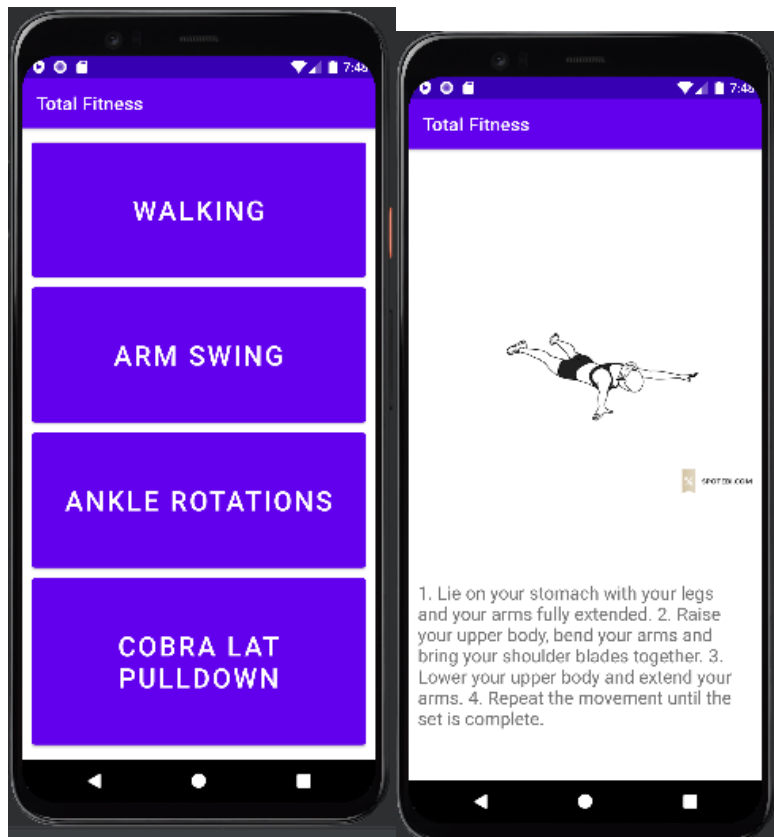
- i. `pl.droidsonroids.gif.GifImageView`: Allows to play a .gif file in an ImageView.

**3. Standardized Workable App:**

**a. User Manual (Step-by-Step screenshot and brief about the working of app).**

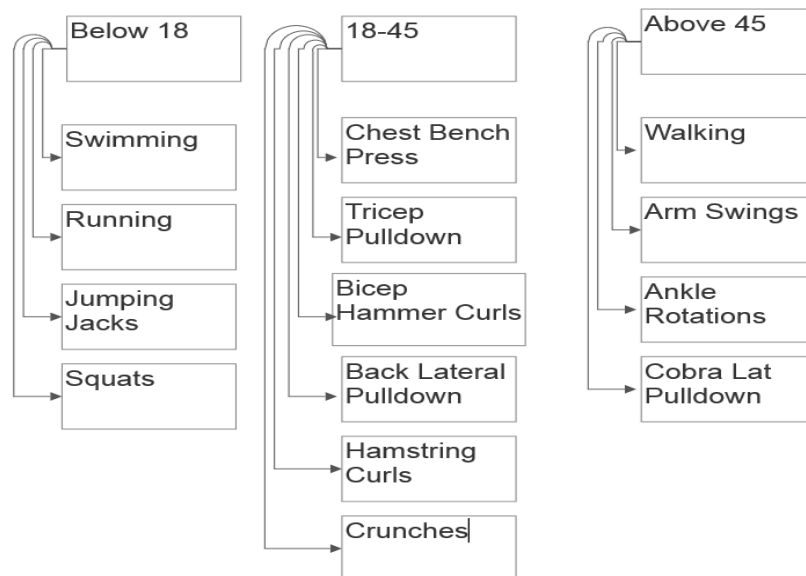
- i. Home screen: Entire screen has a onClickListener which takes the user inside the application.
- ii. Age Category Screen: This screen displays 3 buttons out which the user clicks the button with the age range he belongs to. The onClickListener attached to each button takes the user to the respective workout lists associated with the age range.
- iii. Below 18, 18-45, Above 45: These screens have several buttons of different exercises which the user can perform based on the age category he selects.
- iv. Every exercise the user selects has a demonstration displayed in the form of a gif along with its procedure.





## 4. Modules:

### a. Block Diagram:



### b. Important Code

MainActivity.java

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="10dp"
    android:id="@+id/home"
    tools:context=".MainActivity">

    <ImageView
        android:layout_width="match_parent"
        android:layout_height="580dp"
        android:src="@drawable/home" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Tap anywhere on the screen to begin"
        android:gravity="center_horizontal"
        android:textSize="40dp"
        />

</LinearLayout>
```

Activity\_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="10dp"
    android:id="@+id/home"
    tools:context=".MainActivity">

    <ImageView
        android:layout_width="match_parent"
        android:layout_height="580dp"
        android:src="@drawable/home" />

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Tap anywhere on the screen to begin"
        android:gravity="center_horizontal"
        android:textSize="40dp"
        />

</LinearLayout>

```

## AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    package="com.example.workitout">

    <application
        android:allowBackup="true"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.WorkitOut">
        <activity
            android:name=".Crunches"
            android:exported="false" />
        <activity
            android:name=".Hamstring"
            android:exported="false" />
        <activity
            android:name=".Chest"
            android:exported="false" />
        <activity
            android:name=".Tricep"
            android:exported="false" />
        <activity
            android:name=".Bicep"
            android:exported="false" />
        <activity
            android:name=".Back"
            android:exported="false" />
        <activity
            android:name=".Swim"
            android:exported="false" />
    </application>

```

```

        <activity
            android:name=".Squat"
            android:exported="false" />
        <activity
            android:name=".Run"
            android:exported="false" />
        <activity
            android:name=".Jump"
            android:exported="false" />
        <activity
            android:name=".Cobra"
            android:exported="false" />
        <activity
            android:name=".Hand"
            android:exported="false" />
        <activity
            android:name=".Ankle"
            android:exported="false" />
        <activity
            android:name=".Walking"
            android:exported="false" />
        <activity
            android:name=".Below"
            android:exported="false" />
        <activity
            android:name=".Middle"
            android:exported="false" />
        <activity
            android:name=".Above"
            android:exported="false" />
        <activity
            android:name=".MainActivity2"
            android:exported="false"
            android:label="@string/title_activity_main2"
            android:theme="@style/Theme.WorkitOut.NoActionBar" />
        <activity
            android:name=".Category"
            android:exported="false" />
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category
android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>
</manifest>

```

## Strings.xml

```

<resources>
    <string name="app_name">Total Fitness</string>
    <string name="title_activity_main2">MainActivity2</string>
    <string name="navigation_drawer_open">Open navigation
drawer</string>
    <string name="navigation_drawer_close">Close navigation

```



```
drawer</string>
    <string name="nav_header_title">Android Studio</string>
    <string
name="nav_header_subtitle">android.studio@android.com</string>
    <string name="nav_header_desc">Navigation header</string>
    <string name="action_settings">Settings</string>

    <string name="menu_home">Home</string>
    <string name="menu_gallery">Gallery</string>
    <string name="menu_slideshow">Slideshow</string>
</resources>
```

### c. Things tackled/learned in the team:

- i. Unable to play the gif file. The gif file was first added to the ImageView and while running the application it showed up as a static image. While searching on the internet we came across implementing dependencies and adding repositories to the gradle file. On adding those files still the gif file didn't work as expected. On further googling the issue we came to know that the repositories files to be added must be coded at the top of the gradle file.
- ii. Finding the proper gif for the exercise because a wrong demonstration may risk the life of the user. Thus gif files were to be searched with utmost care keeping in mind the impact it could make on the user.

### d. Reference

Button spacing: <https://material.io/design/layout/spacing-methods.html#spacing>

## 5. Conclusion

We have successfully implemented the project and all the learning outcomes were fulfilled.