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Title:Real time river water quality

Monitoring using IOT

Date:19-11-2022

The **Dashboard design** is one of the key elements which engages the user with the functionality of the application. It provides information about the overall functionality of the application in one place. The dashboard designing is like putting all the application features on a single page. Designing the dashboard needs a bit of effort in choosing the right kind of color, creating icons (to not get copyright issues), placing the things at the right position of the screen, managing the user account, etc. In this article, it's been discussed how we can implement the beautiful dashboard for the application.

Code for app creation.

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<androidx.constraintlayout.widget.ConstraintLayout
```

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:background="#e4e4e4"

tools:context=".MainActivity"

tools:ignore="HardcodedText">

<View

android:id="@+id/view"

android:layout\_width="match\_parent"

android:layout\_height="128dp"

android:background="@drawable/custom\_rectangle"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<ImageButton

android:id="@+id/backB"

android:layout\_width="wrap\_content"

```
android:layout_height="wrap_content"  
android:layout_marginStart="16dp"  
android:layout_marginTop="16dp"
```

```
android:background="?attr/selectableItemBackground"  
android:padding="8dp"  
android:src="@drawable/ic_back"  
app:layout_constraintStart_toStartOf="parent"  
app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
```

```
    android:id="@+id/textView"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginStart="8dp"  
    android:layout_marginTop="16dp"  
    android:gravity="center_horizontal"  
    android:letterSpacing="0.025"  
    android:text="GEEKSFORGEEKS"  
    android:textColor="@color/white"  
    android:textSize="28sp"  
    android:textStyle="bold"  
    app:layout_constraintStart_toEndOf="@+id/backB"
```

```
app:layout_constraintTop_toTopOf="parent" />
```

```
<ImageButton
```

```
    android:id="@+id/logOutB"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginTop="16dp"
```

```
    android:layout_marginEnd="16dp"
```

```
    android:background="?attr/selectableItemBackground"
```

```
    android:padding="8dp"
```

```
    android:src="@drawable/ic_logout"
```

```
    app:layout_constraintCircleRadius="24dp"
```

```
    app:layout_constraintEnd_toEndOf="parent"
```

```
    app:layout_constraintTop_toTopOf="parent" />
```

```
<androidx.cardview.widget.CardView
```

```
    android:id="@+id/cardView"
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="128dp"
```

```
    android:layout_marginStart="16dp"
```

```
    android:layout_marginTop="16dp"
```

```
    android:layout_marginEnd="16dp"
```

```
        android:elevation="12dp"
        app:cardCornerRadius="8dp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.0"
        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toBottomOf="@+id/textView"
    ">
```

```
<androidx.constraintlayout.widget.ConstraintLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginTop="16dp"
        android:text="FIRSTNAME
LASTNAME"
        android:textAllCaps="true"
        android:textColor="@color/green_500"
        android:textSize="16sp"
```

android:textStyle="bold"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<TextView

android:id="@+id/textView3"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:layout\_marginTop="4dp"

android:text="College Name"

android:textColor="@android:color/black"

android:textSize="14sp"

app:layout\_constraintStart\_toStartOf="@+id/textView2"

app:layout\_constraintTop\_toBottomOf="@+id/textView  
2" />

<com.google.android.material.button.MaterialButton

android:id="@+id/todoB"

android:layout\_width="wrap\_content"

```
        android:layout_height="wrap_content"
        android:layout_marginStart="16dp"
        android:layout_marginBottom="8dp"
        android:text="TODO LIST"
```

```
    app:layout_constraintBottom_toBottomOf="parent"
```

```
    app:layout_constraintStart_toStartOf="parent" />
```

```
<com.google.android.material.button.MaterialButton
    android:id="@+id/editProfileB"
```

```
    style="@style/Widget.MaterialComponents.Button.OutlinedButton"
```

```
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="8dp"
        android:text="EDIT PROFILE"
        android:textColor="@color/green_500"
```

```
    app:layout_constraintBottom_toBottomOf="@+id/todoB"
"
```

```
    app:layout_constraintStart_toEndOf="@+id/todoB" />
```

```
<ImageButton
    android:id="@+id/profileB"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginEnd="16dp"

    android:background="?attr/selectableItemBackground"
    android:padding="8dp"
    android:src="@drawable/profile"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintTop_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

</androidx.cardview.widget.CardView>

<LinearLayout
    android:id="@+id/linearLayout"
```



```
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="12dp"
        android:gravity="center_horizontal"
        android:orientation="horizontal"
        android:weightSum="2"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toBottomOf="@+id/cardView"
    ">
```

```
    <androidx.cardview.widget.CardView
        android:id="@+id/contributeCard"
        android:layout_width="128dp"
        android:layout_height="128dp"
        android:layout_margin="8dp"
        android:layout_marginEnd="16dp"
        android:clickable="true"
        android:elevation="12dp"
        android:focusable="true"

        android:foreground="?android:attr/selectableItemBackground"
    >
```

```
app:cardCornerRadius="8dp">
```

```
<androidx.constraintlayout.widget.ConstraintLayout  
    android:layout_width="match_parent"  
    android:layout_height="match_parent">
```

```
    <ImageView  
        android:id="@+id/image_view1"  
        android:layout_width="0dp"
```

```
        android:layout_height="wrap_content"  
        android:src="@drawable/write"
```

```
        app:layout_constraintBottom_toTopOf="@+id/textView  
1"
```

```
        app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintHorizontal_bias="0.5"
```

```
        app:layout_constraintStart_toStartOf="parent"
```

```
        app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView1"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
        android:gravity="center"
        android:text="CONTRIBUTE"
        android:textAllCaps="true"

    android:textColor="@color/green_500"
        android:textSize="14sp"
        android:textStyle="bold"

    app:layout_constraintBottom_toBottomOf="parent"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.5"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toBottomOf="@+id/image_view1" />
```

</androidx.constraintlayout.widget.ConstraintLayout>

</androidx.cardview.widget.CardView>

<androidx.cardview.widget.CardView

android:id="@+id/practiceCard"

android:layout\_width="128dp"

android:layout\_height="128dp"

android:layout\_margin="8dp"

android:layout\_marginStart="16dp"

android:clickable="true"

android:elevation="12dp"

android:focusable="true"

android:foreground="?android:attr/selectableItemBackground"

app:cardCornerRadius="8dp">

<androidx.constraintlayout.widget.ConstraintLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

```
<ImageView
    android:id="@+id/image_view20"
    android:layout_width="0dp"

    android:layout_height="wrap_content"
    android:src="@drawable/practice"

    app:layout_constraintBottom_toTopOf="@+id/textView
20"

    app:layout_constraintEnd_toEndOf="parent"

    app:layout_constraintHorizontal_bias="0.5"

    app:layout_constraintStart_toStartOf="parent"

    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
    android:id="@+id/textView20"

    android:layout_width="match_parent"

    android:layout_height="wrap_content"
    android:gravity="center"
```

```
        android:text="PRACTICE"
        android:textAllCaps="true"

        android:textColor="@color/green_500"
        android:textSize="14sp"
        android:textStyle="bold"

        app:layout_constraintBottom_toBottomOf="parent"

        app:layout_constraintEnd_toEndOf="parent"

        app:layout_constraintHorizontal_bias="0.5"

        app:layout_constraintStart_toStartOf="parent"

        app:layout_constraintTop_toBottomOf="@+id/image_view"
    </androidx.constraintlayout.widget.ConstraintLayout>

</androidx.cardview.widget.CardView>

</LinearLayout>
```

<LinearLayout

android:id="@+id/linearLayout2"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center\_horizontal"

android:orientation="horizontal"

android:weightSum="2"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/linearLayout2" out">

<androidx.cardview.widget.CardView

android:id="@+id/learnCard"

android:layout\_width="128dp"

android:layout\_height="128dp"

android:layout\_margin="8dp"

android:layout\_marginEnd="16dp"

android:clickable="true"

android:elevation="12dp"

android:focusable="true"

```
        android:foreground="?android:attr/selectableItemBackground"
```

```
        app:cardCornerRadius="8dp">
```

```
<androidx.constraintlayout.widget.ConstraintLayout
```

```
    android:layout_width="match_parent"
```

```
    android:layout_height="match_parent">
```

```
    <ImageView
```

```
        android:id="@+id/image_view21"
```

```
        android:layout_width="0dp"
```

```
        android:layout_height="wrap_content"
```

```
        android:src="@drawable/learn"
```

```
        app:layout_constraintBottom_toTopOf="@+id/textView21"
```

```
        app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintHorizontal_bias="0.5"
```

```
        app:layout_constraintStart_toStartOf="parent"
```



app:layout\_constraintTop\_toTopOf="parent" />

<TextView

android:id="@+id/textView21"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center"

android:text="LEARN"

android:textAllCaps="true"

android:textColor="@color/green\_500"

android:textSize="14sp"

android:textStyle="bold"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

app:layout\_constraintStart\_toStartOf="parent"

```
        app:layout_constraintTop_toBottomOf="@+id/image_view21" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

```
</androidx.cardview.widget.CardView>
```

```
<androidx.cardview.widget.CardView
```

```
    android:id="@+id/interestsCard"
```

```
    android:layout_width="128dp"
```

```
    android:layout_height="128dp"
```

```
    android:layout_margin="8dp"
```

```
    android:layout_marginStart="16dp"
```

```
    android:clickable="true"
```

```
    android:elevation="12dp"
```

```
    android:focusable="true"
```

```
        android:foreground="?android:attr/selectableItemBackground"
```

```
        app:cardCornerRadius="8dp"
```

```
<androidx.constraintlayout.widget.ConstraintLayout
```

```
    android:layout_width="match_parent"
```

```
android:layout_height="match_parent">
```

```
<ImageView
```

```
    android:id="@+id/image_view22"
```

```
    android:layout_width="0dp"
```

```
    android:layout_height="wrap_content"
```

```
    android:src="@drawable/interests"
```

```
    app:layout_constraintBottom_toTopOf="@+id/textView22"
```

```
    app:layout_constraintEnd_toEndOf="parent"
```

```
    app:layout_constraintHorizontal_bias="0.5"
```

```
    app:layout_constraintStart_toStartOf="parent"
```

```
    app:layout_constraintTop_toTopOf="parent" />
```

```
<TextView
```

```
    android:id="@+id/textView22"
```

```
    android:layout_width="match_parent"
```

android:layout\_height="wrap\_content"

android:gravity="center"

android:text="INTERESTS"

android:textAllCaps="true"

android:textColor="@color/green\_500"

android:textSize="14sp"

android:textStyle="bold"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/image\_view22" />

</androidx.constraintlayout.widget.ConstraintLayout>

</androidx.cardview.widget.CardView>

</LinearLayout>

<LinearLayout

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center\_horizontal"

android:orientation="horizontal"

android:weightSum="2"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/linearLayout2">

<androidx.cardview.widget.CardView

android:id="@+id/helpCard"

android:layout\_width="128dp"

android:layout\_height="128dp"

android:layout\_margin="8dp"

android:layout\_marginEnd="16dp"

android:clickable="true"

android:elevation="12dp"

android:focusable="true"

android:foreground="?android:attr/selectableItemBackground"

app:cardCornerRadius="8dp">

<androidx.constraintlayout.widget.ConstraintLayout

android:layout\_width="match\_parent"

android:layout\_height="match\_parent">

<ImageView

android:id="@+id/image\_view23"

android:layout\_width="0dp"

android:layout\_height="wrap\_content"

android:src="@drawable/help"

app:layout\_constraintBottom\_toTopOf="@+id/textView23"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

<TextView

android:id="@+id/textView23"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center"

android:text="HELP"

android:textAllCaps="true"

android:textColor="@color/green\_500"

android:textSize="14sp"

android:textStyle="bold"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

```
app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toBottomOf="@+id/image_view23" />
```

```
</androidx.constraintlayout.widget.ConstraintLayout>
```

```
</androidx.cardview.widget.CardView>
```

```
<androidx.cardview.widget.CardView
```

```
    android:id="@+id/settingsCard"
```

```
    android:layout_width="128dp"
```

```
    android:layout_height="128dp"
```

```
    android:layout_margin="8dp"
```

```
    android:layout_marginStart="16dp"
```

```
    android:clickable="true"
```

```
    android:elevation="12dp"
```

```
    android:focusable="true"
```

```
    android:foreground="?android:attr/selectableItemBackground"
```

```
    app:cardCornerRadius="8dp">
```



```
<androidx.constraintlayout.widget.ConstraintLayout
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
    <ImageView
        android:id="@+id/image_view"
        android:layout_width="0dp"
```

```
        android:layout_height="wrap_content"
        android:src="@drawable/settings"
```

```
        app:layout_constraintBottom_toTopOf="@+id/textView
4"
```

```
        app:layout_constraintEnd_toEndOf="parent"
```

```
        app:layout_constraintHorizontal_bias="0.5"
```

```
        app:layout_constraintStart_toStartOf="parent"
```

```
        app:layout_constraintTop_toTopOf="parent" />
```

```
    <TextView
```

android:id="@+id/textView4"

android:layout\_width="match\_parent"

android:layout\_height="wrap\_content"

android:gravity="center"

android:text="SETTINGS"

android:textAllCaps="true"

android:textColor="@color/green\_500"

android:textSize="14sp"

android:textStyle="bold"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintHorizontal\_bias="0.5"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toBottomOf="@+id/image\_view" />

</androidx.constraintlayout.widget.ConstraintLayout>

</androidx.cardview.widget.CardView>

</LinearLayout>

</androidx.constraintlayout.widget.ConstraintLayout>

Output:

