

# **TOPIC : A SLEEP TRACKING FOR APP THE BETTER NIGHT'S REST**

## **TEAM MEMBERS:**

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# DESCRIPTION

- ▶ A good night's sleep is essential for a healthy, productive, and energized life. Better Night's Rest is the ultimate sleep tracking app, designed to help you understand and improve your sleep patterns for optimal well-being. Whether you're looking to wake up feeling refreshed, address sleep challenges, or simply learn more about your habits, this app is your perfect companion.
- ▶ Transform Your Sleep with Cutting-Edge Features
- ▶ Advanced Sleep Monitoring:
  - ▶ Track your sleep cycles, including light, deep, and REM stages, using the app's smart technology. With seamless integration into wearable devices or your phone's sensors, it provides accurate and detailed sleep data.
- ▶ Personalized Insights:
  - ▶ Receive tailored recommendations based on your sleep patterns. The app analyzes trends, highlights areas for improvement, and offers actionable tips to enhance your sleep quality.
- ▶ Smart Alarms:
  - ▶ Wake up at the optimal moment with the app's smart alarm feature. By monitoring your sleep stages, it ensures you rise during light sleep, reducing grogginess and helping you feel more alert.
- ▶ Relaxation Tools:
  - ▶ Drift off faster with a curated library of guided meditations, calming sounds, and breathing exercises designed to prepare your mind and body for rest.

# PROGRAM:

```
MainActivity.kt
```

```
package com.example.projectone
```

```
import android.content.Context
```

```
import android.content.Intent
```

```
import android.icu.text.SimpleDateFormat
```

```
import android.os.Bundle
```

```
import androidx.activity.ComponentActivity
```

```
import androidx.activity.compose.setContent
```

```
import androidx.compose.foundation.Image
```

```
import androidx.compose.foundation.layout.*
```

```
import androidx.compose.material.Button
```

```
import androidx.compose.material.MaterialTheme
```

```
import androidx.compose.material.Surface
```

```
import androidx.compose.material.Text
```

```
import androidx.compose.runtime.*
```

```
import androidx.compose.ui.Alignment
```

```
import androidx.compose.ui.Modifier
```

```
import androidx.compose.ui.draw.alpha
```

```
import androidx.compose.ui.layout.ContentScale
```

```
import androidx.compose.ui.res.painterResource
import androidx.compose.ui.unit.dp
import androidx.core.content.ContextCompat
import com.example.projectone.ui.theme.ProjectOneTheme
import java.util.*
```

```
class MainActivity : ComponentActivity() {
```

```
    private lateinit var databaseHelper: TimeLogDatabaseHelper
```

```
    override fun onCreate(savedInstanceState: Bundle?) {
```

```
        super.onCreate(savedInstanceState)
```

```
        databaseHelper = TimeLogDatabaseHelper(this)
```

```
        databaseHelper.deleteAllData()
```

```
        setContent {
```

```
            ProjectOneTheme {
```

```
                // A surface container using the 'background' color from
```

```
the theme
```

```
                Surface(
```

```
                    modifier = Modifier.fillMaxSize(),
```

```
                    color = MaterialTheme.colors.background
```

```
                ) {
```

```
MyScreen(this,databaseHelper)
```

```
}
```

```
}
```

```
}
```

```
}
```

```
}
```

```
@Composable
```

```
fun MyScreen(context: Context, databaseHelper:
```

```
TimeLogDatabaseHelper) {
```

```
    var startTime by remember { mutableStateOf(0L) }
```

```
    var elapsedTime by remember {
```

```
mutableStateOf(0L) }
```

```
    var isRunning by remember {
```

```
mutableStateOf(false) }
```

```
    val imageModifier = Modifier
```

```
Image(
```

```
painterResource(id = R.drawable.sleeptracking),
    contentScale = ContentScale.FillHeight,
    contentDescription = "",
    modifier = imageModifier
        .alpha(0.3F),
)

Column(
    modifier = Modifier.fillMaxSize(),
    horizontalAlignment = Alignment.CenterHorizontally,
    verticalArrangement = Arrangement.Center
) {
    if (!isRunning) {
        Button(onClick = {
            startTime = System.currentTimeMillis()
            isRunning = true
        })
    }
}
```

```
    }) {  
        Text("Start")  
        //databaseHelper.addTimeLog(startTime)  
    }  
} else {  
    Button(onClick = {  
        elapsedTime = System.currentTimeMillis()  
        isRunning = false  
    }) {  
        Text("Stop")  
        databaseHelper.addTimeLog(elapsedTime,startTime)  
    }  
}  
Spacer(modifier = Modifier.height(16.dp))  
Text(text = "Elapsed Time: ${formatTime(elapsedTime -  
startTime)}")
```

```
Spacer(modifier = Modifier.height(16.dp))  
Button(onClick = { context.startActivity(  
    Intent(  
        context,  
        TrackActivity::class.java  
    )  
})
```

```
    }) {  
        Text(text = "Track Sleep")  
    }  
  
}  
  
private fun startTrackActivity(context: Context) {  
    val intent = Intent(context, TrackActivity::class.java)  
    ContextCompat.startActivity(context, intent, null)  
}  
fun getCurrentDateTime(): String {  
    val dateFormat = SimpleDateFormat("yyyy-MM-dd  
HH:mm:ss", Locale.getDefault())  
    val currentTime = System.currentTimeMillis()  
    return dateFormat.format(Date(currentTime))  
}
```



LoginActivity.kt:

```
package com.example.projectone
```

```
import android.content.Context
import android.content.Intent
import android.os.Bundle
import androidx.activity.ComponentActivity
import androidx.activity.compose.setContent
import androidx.compose.foundation.Image
import androidx.compose.foundation.layout.*
import androidx.compose.material.*
import androidx.compose.runtime.*
import androidx.compose.ui.Alignment
import androidx.compose.ui.Modifier
import androidx.compose.ui.draw.alpha
import androidx.compose.ui.graphics.Color
import androidx.compose.ui.layout.ContentScale
import androidx.compose.ui.res.painterResource
```

```
import androidx.compose.ui.text.font.FontFamily
import androidx.compose.ui.text.font.FontWeight
import androidx.compose.ui.unit.dp
import androidx.compose.ui.unit.sp
import androidx.core.content.ContextCompat
import
com.example.projectone.ui.theme.ProjectOneTheme
```

```
class LoginActivity : ComponentActivity() {
    private lateinit var databaseHelper:
    UserDatabaseHelper
    override fun onCreate(savedInstanceState: Bundle?)
    {
        super.onCreate(savedInstanceState)
        databaseHelper = UserDatabaseHelper(this)
        setContent {
            ProjectOneTheme {
                // A surface container using the
                'background' color from the theme
                Surface(
                    modifier = Modifier.fillMaxSize(),
                    color = MaterialTheme.colors.background
                ) {
                    LoginScreen(this, databaseHelper)
                }
            }
        }
    }
}
```

```
@Composable
fun LoginScreen(context: Context, databaseHelper:
    UserDatabaseHelper) {
    var username by remember { mutableStateOf("") }
    var password by remember { mutableStateOf("") }
    var error by remember { mutableStateOf("") }
    val imageModifier = Modifier
    Image(
        painterResource(id = R.drawable.sleeptracking),
        contentScale = ContentScale.FillHeight,
        contentDescription = "",
        modifier = imageModifier
            .alpha(0.3F),
    )
    Column(
        modifier = Modifier.fillMaxSize(),
        horizontalAlignment = Alignment.CenterHorizontally,
        verticalArrangement = Arrangement.Center
    ) {
```

AndroidManifest.xml:

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

  <application
    android:allowBackup="true"
    android:dataExtractionRules="@xml/data_extraction_rule
s"
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@mipmap/ic_launcher"
    android:label="@string/app_name"
    android:supportsRtl="true"
    android:theme="@style/Theme.ProjectOne"
    tools:targetApi="31">
    <activity
      android:name=".TrackActivity"
      android:exported="false"
      android:label="@string/title_activity_track"
      android:theme="@style/Theme.ProjectOne" />
```

```
<activity
    android:name=".MainActivity"
    android:exported="false"
    android:label="@string/app_name"
    android:theme="@style/Theme.ProjectOne" />
<activity
    android:name=".MainActivity2"
    android:exported="false"
    android:label="RegisterActivity"
    android:theme="@style/Theme.ProjectOne" />
<activity
    android:name=".LoginActivity"
    android:exported="true"
    android:label="@string/app_name"
    android:theme="@style/Theme.ProjectOne">
    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
```

```
Android:name="android.intent.category.LAUNCHER" />
```

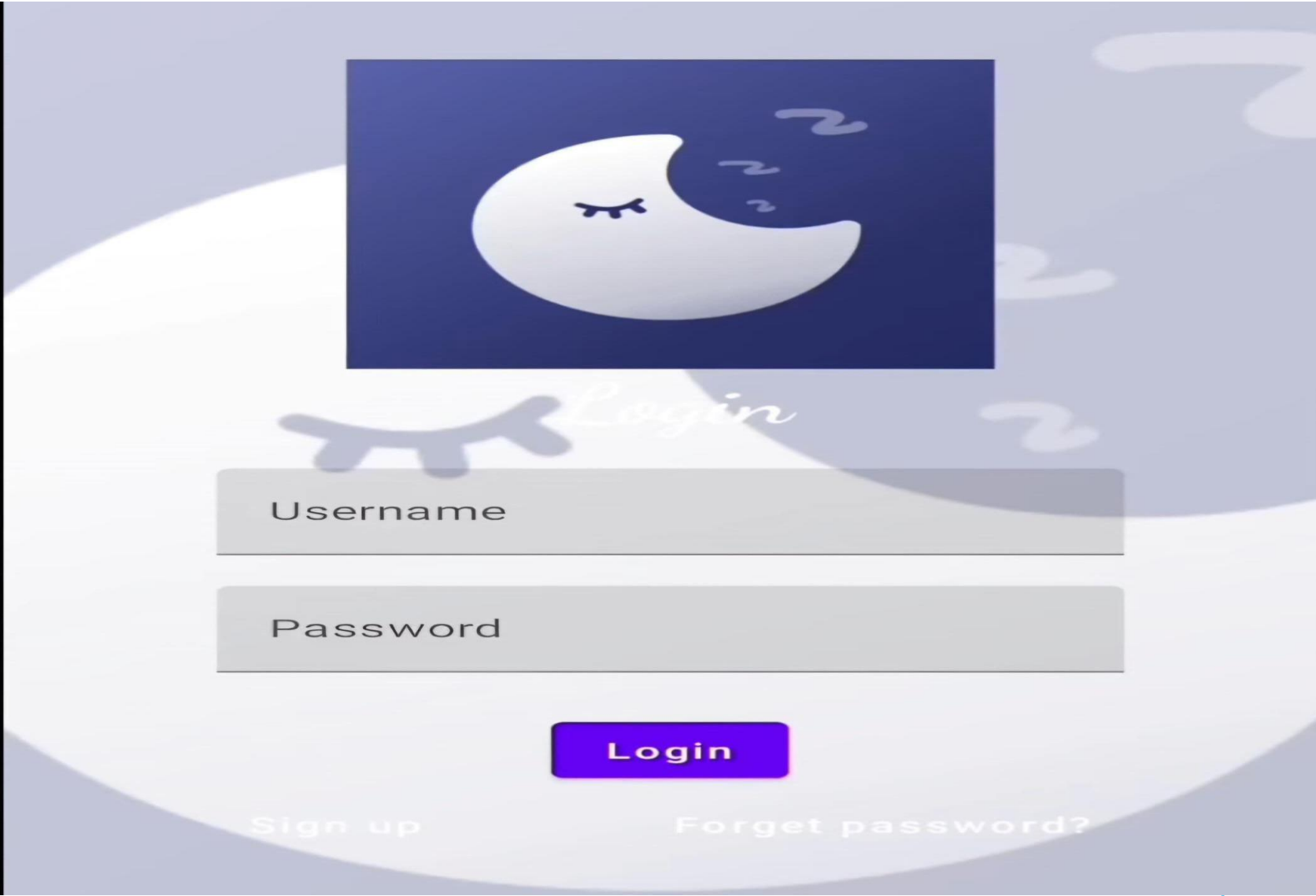
```
    </intent-filter>
```

```
  </activity>
```

```
</application>
```

```
</manifest>
```

Outputs:





*Register*

Username

Email

Password

**Register**

Have an account? [Log in](#)





# Sleep Tracking

Start time: 1970-01-01 05:30:00

End time: 2023-04-11 21:50:28

