COMPOSE INPUT: A DEMONSTRATION OF TEXT INPUT AND VALIDATION WITH ANDROID COMPOSE

1. INTRODUCTION

1.1 Overview

The app is a sample project that demonstrates how to use the Android Compose UI toolkit to build a survey app. The app allows the user to answer a series of questions. It showcases some of the key features of the Compose UI toolkit, data management, and user interactions.

Project Workflow:

- Users register into the application.
- After registration, user logins into the application.
- User enters into the main page
- From Admin Side he can login to the app and can view all the data.

1.2 Purpose

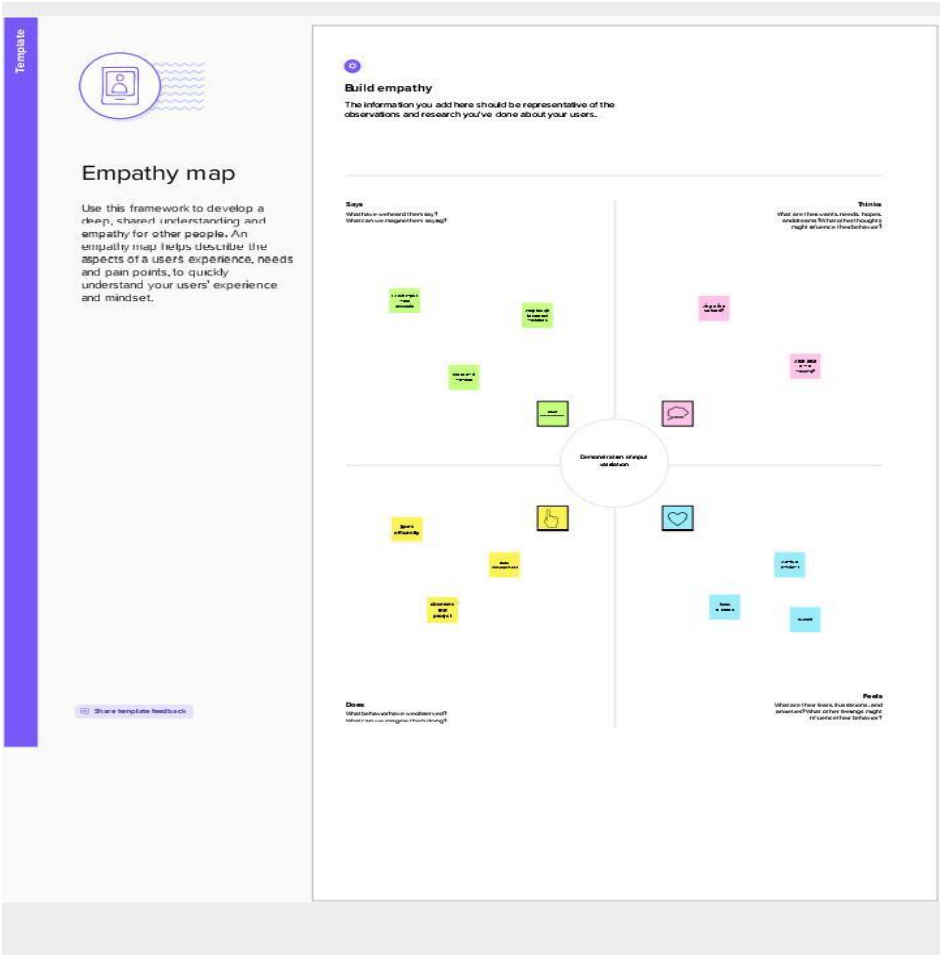
Text input and validation are common tasks in mobile app development, and Compose offers a modern, declarative way to

create UI components for handling text input. With Compose, developers can define text input fields with customizable attributes, such as text size, color, and placeholder text, and can add validation logic to ensure that user input meets specific criteria, such as minimum or maximum length, required format, or presence of certain characters.

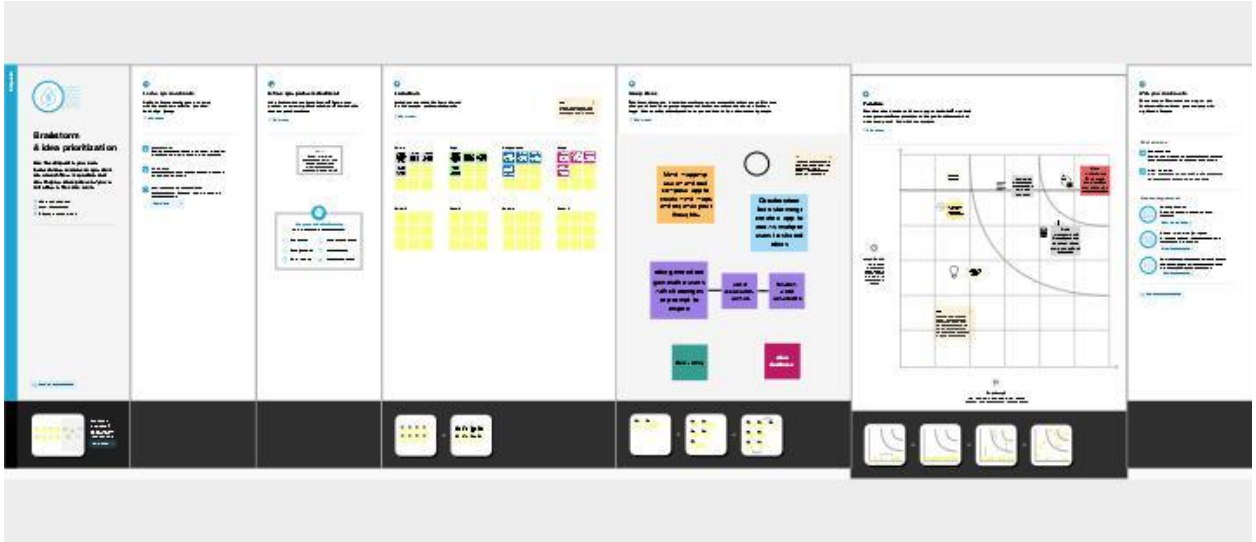
A demonstration of text input and validation with Android Compose can showcase how to create a form with multiple input fields, how to handle user input events, how to perform validation checks, and how to display error messages or feedback to the user. By demonstrating these concepts, developers can learn how to use Compose to create robust, user-friendly forms that provide a seamless user experience while also ensuring data accuracy and completeness.

2. Purpose Definition & Design Thinking

2.1 Empathy map

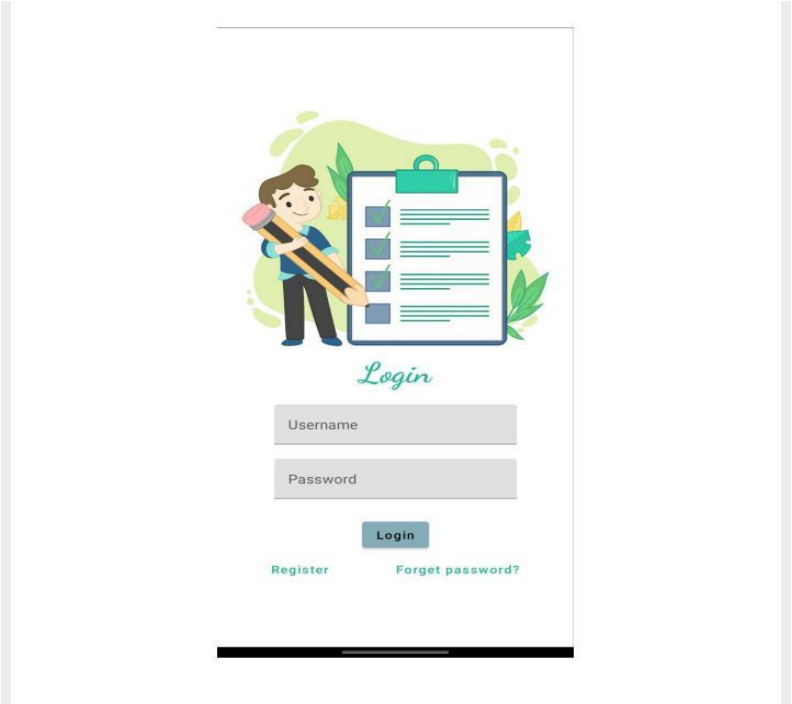


2.2 Ideation & Brainstorming Map

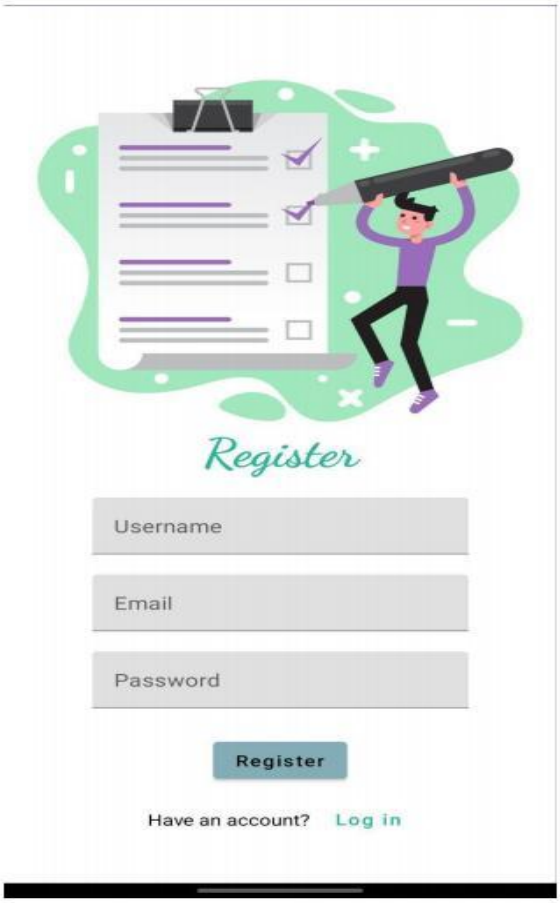


3. RESULT

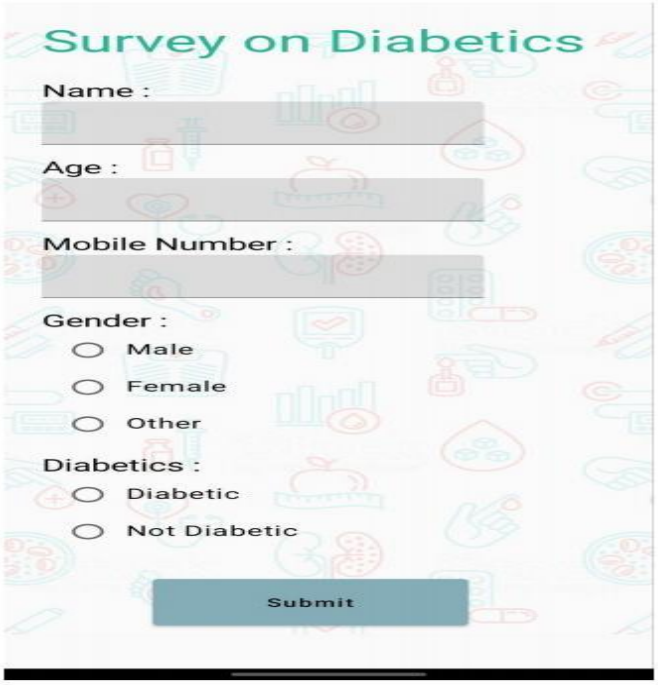
Login page:



Register page:



Main page:



4 ADVANTAGES AND DISADVANTAGES

Advantages:

Automatic validation: Compose provides built-in support for input validation, making it easy to ensure that user input meets your application's requirements.

Improved performance: Compose uses a more efficient rendering system, resulting in faster UI rendering and improved performance.

Disadvantages:

Limited documentation: Compose is still in its early stages, so there may be limited documentation and resources available.

Compatibility: Compose is only supported on newer versions of Android, so older devices may not be able to run applications built with Compose.

Complexity: While Compose simplifies many aspects of UI development, more complex UI elements can still be challenging to create.

5 APPLICATIONS

Login screens: User authentication is a common feature in many Android apps, and login screens typically require users to enter their email or username and password. Using the TextInputField component with validation can help ensure that users enter valid login credentials before attempting to log in.

Registration screens: Registration screens often require users to enter their name, email, password, and other personal information. Using the TextInputField component with validation can help ensure that the information entered is accurate and complete.

Search screens: Search screens allow users to enter keywords or phrases to find information within an app. using the TextInputField component with validation can

help ensure that the search query is valid and meets certain criteria, such as a minimum or maximum length..

Profile editing screens: Profile editing screens allow users to update their personal information, such as their name, email, and profile picture. Using the TextInputField component with validation can help ensure that the information entered is accurate and complete, and meets certain criteria, such as a valid email address.

6 Conclusion

In conclusion, Android Compose provides a powerful and flexible way to handle text input and validation in your app. With Compose, you can easily create custom input fields and apply validation logic to ensure that user input is correct and consistent. You can also take advantage of Compose's state management and event handling features to update your UI in real-time as the user interacts with your app.

When implementing text input and validation in your app with Compose, it's important to consider the specific needs of your app and your users. You should carefully design your input fields and validation logic to ensure that they

are intuitive and easy to use. You should also thoroughly test your implementation to catch any bugs or issues before releasing your app to users.

7 FUTURE SCOPES

Custom input fields: Compose allow developers to create custom input fields that are tailored to the specific needs of the application. This can include fields for email addresses, phone numbers, dates, and more. Developers can use Compose's built-in components to create these custom input fields and add validation logic to ensure that the user input meets the required format.

Input formatting: With Compose, it is easy to format user input as they type. For example, developers can use Compose's built-in TextFormatter class to format phone numbers as the user types them. This can improve the user experience and reduce errors caused by incorrect formatting.

Autocomplete and suggestions: Compose makes it easy to implement autocomplete and suggestion functionality in

text input fields. Developers can use Compose's built-in Autocomplete and Suggest classes to provide suggestions based on the user's input.

8 APPENDIX

A. Source code

Creating the database classes:

Step 1:

Create user data class

```
package com.example.surveyapplication

import androidx.room.ColumnInfo
import androidx.room.Entity
import androidx.room.PrimaryKey

@Entity(tableName = "user_table")
data class User(
```

```
    @PrimaryKey(autoGenerate = true) val id: Int?,
    @ColumnInfo(name = "first_name") val firstName:
String?,
    @ColumnInfo(name = "last_name") val lastName:
String?,
    @ColumnInfo(name = "email") val email: String?,
    @ColumnInfo(name = "password") val password:
String?,

    )
```

Step 2:

Create an UserDao interface

```
package com.example.surveyapplication

import androidx.room.*

@Dao
```

```
interface UserDao {

    @Query("SELECT * FROM user_table WHERE email = :email")
    suspend fun getUserByEmail(email: String): User?

    @Insert(onConflict = OnConflictStrategy.REPLACE)
    suspend fun insertUser(user: User)

    @Update
    suspend fun updateUser(user: User)

    @Delete
    suspend fun deleteUser(user: User)
}
```

Step 3:

Create an UserDatabase class

```
package com.example.surveyapplication

import android.content.Context
import androidx.room.Database
import androidx.room.Room
import androidx.room.RoomDatabase

@Database(entities = [User::class], version = 1)
abstract class UserDatabase : RoomDatabase() {

    abstract fun userDao(): UserDao

    companion object {

        @Volatile
        private var instance: UserDatabase? = null

        fun getDatabase(context: Context): UserDatabase {
            return instance ?: synchronized(this) {
```

```
            val newInstance = Room.databaseBuilder(
                context.applicationContext,
                UserDatabase::class.java,
                "user_database"
            ).build()
            instance = newInstance
            newInstance
        }
    }
}
```

Step 4:

Create an UserDatabaseHelper

```
package com.example.surveyapplication
```

```
import android.annotation.SuppressLint
import android.content.ContentValues
import android.content.Context
import android.database.Cursor
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper

class UserDatabaseHelper(context: Context) :
    SQLiteOpenHelper(context, DATABASE_NAME, null,
DATABASE_VERSION) {

    companion object {
        private const val DATABASE_VERSION = 1
        private const val DATABASE_NAME =
"UserDatabase.db"

        private const val TABLE_NAME = "user_table"
        private const val COLUMN_ID = "id"
        private const val COLUMN_FIRST_NAME =
"first_name"
```

```
        private const val COLUMN_LAST_NAME =
"last_name"
        private const val COLUMN_EMAIL = "email"
        private const val COLUMN_PASSWORD =
"password"
    }

    override fun onCreate(db: SQLiteDatabase?) {
        val createTable = "CREATE TABLE $TABLE_NAME
(" +
                "$COLUMN_ID INTEGER PRIMARY KEY
AUTOINCREMENT, " +
                "$COLUMN_FIRST_NAME TEXT, " +
                "$COLUMN_LAST_NAME TEXT, " +
                "$COLUMN_EMAIL TEXT, " +
                "$COLUMN_PASSWORD TEXT" +
                ")"

        db?.execSQL(createTable)
    }
```

```
    override fun onUpgrade(db: SQLiteDatabase?,
oldVersion: Int, newVersion: Int) {
        db?.execSQL("DROP TABLE IF EXISTS
$TABLE_NAME")
        onCreate(db)
    }

    fun insertUser(user: User) {
        val db = writableDatabase
        val values = ContentValues()
        values.put(COLUMN_FIRST_NAME, user.firstName)
        values.put(COLUMN_LAST_NAME, user.lastName)
        values.put(COLUMN_EMAIL, user.email)
        values.put(COLUMN_PASSWORD, user.password)
        db.insert(TABLE_NAME, null, values)
        db.close()
    }

    @SuppressLint("Range")
```

```
    fun getUserByUsername(username: String): User? {
        val db = readableDatabase
        val cursor: Cursor = db.rawQuery("SELECT * FROM
$TABLE_NAME WHERE $COLUMN_FIRST_NAME = ?",
arrayOf(username))
        var user: User? = null
        if (cursor.moveToFirst()) {
            user = User(
                id =
cursor.getInt(cursor.getColumnIndex(COLUMN_ID)),
                firstName =
cursor.getString(cursor.getColumnIndex(COLUMN_FIRST
_NAME)),
                lastName =
cursor.getString(cursor.getColumnIndex(COLUMN_LAST
_NAME)),
                email =
cursor.getString(cursor.getColumnIndex(COLUMN_EMAIL
)),
                password =
cursor.getString(cursor.getColumnIndex(COLUMN_PASS
WORD)),
```

```
            )
        }
        cursor.close()
        db.close()
        return user
    }
    @SuppressLint("Range")
    fun getUserById(id: Int): User? {
        val db = readableDatabase
        val cursor: Cursor = db.rawQuery("SELECT * FROM
$TABLE_NAME WHERE $COLUMN_ID = ?",
arrayOf(id.toString()))
        var user: User? = null
        if (cursor.moveToFirst()) {
            user = User(
                id =
cursor.getInt(cursor.getColumnIndex(COLUMN_ID)),
                firstName =
cursor.getString(cursor.getColumnIndex(COLUMN_FIRST
_NAME)),
```

```
            lastName =
cursor.getString(cursor.getColumnIndex(COLUMN_LAST
_NAME)),
            email =
cursor.getString(cursor.getColumnIndex(COLUMN_EMAIL
)),
            password =
cursor.getString(cursor.getColumnIndex(COLUMN_PASS
WORD)),
        )
    }
    cursor.close()
    db.close()
    return user
}

@SuppressLint("Range")
fun getAllUsers(): List<User> {
    val users = mutableListOf<User>()
    val db = readableDatabase
```

```
        val cursor: Cursor = db.rawQuery("SELECT * FROM
$TABLE_NAME", null)
        if (cursor.moveToFirst()) {
            do {
                val user = User(
                    id =
cursor.getInt(cursor.getColumnIndex(COLUMN_ID)),
                    firstName =
cursor.getString(cursor.getColumnIndex(COLUMN_FIRST
_NAME)),
                    lastName =
cursor.getString(cursor.getColumnIndex(COLUMN_LAST
_NAME)),
                    email =
cursor.getString(cursor.getColumnIndex(COLUMN_EMAIL
)),
                    password =
cursor.getString(cursor.getColumnIndex(COLUMN_PASS
WORD)),
                )
                users.add(user)
            } while (cursor.moveToNext())
```

```
        }
        cursor.close()
        db.close()
        return users
    }

}
```

Database 2

Step 1:

Create Survey data class

```
package com.example.surveyapplication

import androidx.room.ColumnInfo
import androidx.room.Entity
import androidx.room.PrimaryKey
```

```
@Entity(tableName = "survey_table")
data class Survey(
    @PrimaryKey(autoGenerate = true) val id: Int?,
    @ColumnInfo(name = "name") val name: String?,
    @ColumnInfo(name = "age") val age: String?,
    @ColumnInfo(name = "mobile_number") val
mobileNumber: String?,
    @ColumnInfo(name = "gender") val gender: String?,
    @ColumnInfo(name = "diabetics") val diabetics: String?,

    )
```

Step 2:

Create SurveyDao interface

```
package com.example.surveyapplication

import androidx.room.*
```

```
@Dao
interface SurveyDao {

    @Query("SELECT * FROM survey_table WHERE age
= :age")
    suspend fun getUserByAge(age: String): Survey?

    @Insert(onConflict = OnConflictStrategy.REPLACE)
    suspend fun insertSurvey(survey: Survey)

    @Update
    suspend fun updateSurvey(survey: Survey)

    @Delete
    suspend fun deleteSurvey(survey: Survey)
}
```

Step 3:

Create SurveyDatabase class

```
package com.example.surveyapplication

import android.content.Context
import androidx.room.Database
import androidx.room.Room
import androidx.room.RoomDatabase

@Database(entities = [Survey::class], version = 1)
abstract class SurveyDatabase : RoomDatabase() {

    abstract fun surveyDao(): SurveyDao

    companion object {

        @Volatile
        private var instance: SurveyDatabase? = null
```

```
        fun getDatabase(context: Context): SurveyDatabase
{
            return instance ?: synchronized(this) {
                val newInstance = Room.databaseBuilder(
                    context.applicationContext,
                    SurveyDatabase::class.java,
                    "user_database"
                ).build()
                instance = newInstance
                newInstance
            }
        }
    }
}
```

Step 4:

Create SurveyDatabaseHelper class

```
package com.example.surveyapplication

import android.annotation.SuppressLint
import android.content.ContentValues
import android.content.Context
import android.database.Cursor
import android.database.sqlite.SQLiteDatabase
import android.database.sqlite.SQLiteOpenHelper

class SurveyDatabaseHelper(context: Context) :
    SQLiteOpenHelper(context, DATABASE_NAME, null,
DATABASE_VERSION) {

    companion object {
        private const val DATABASE_VERSION = 1
        private const val DATABASE_NAME =
"SurveyDatabase.db"
```

```
        private const val TABLE_NAME = "survey_table"
        private const val COLUMN_ID = "id"
        private const val COLUMN_NAME = "name"
        private const val COLUMN_AGE = "age"
        private const val COLUMN_MOBILE_NUMBER=
"mobile_number"
        private const val COLUMN_GENDER = "gender"
        private const val COLUMN_DIABETICS = "diabetics"
    }

    override fun onCreate(db: SQLiteDatabase?) {
        val createTable = "CREATE TABLE $TABLE_NAME
(" +
                "$COLUMN_ID INTEGER PRIMARY KEY
AUTOINCREMENT, " +
                "$COLUMN_NAME TEXT, " +
                "$COLUMN_AGE TEXT, " +
                "$COLUMN_MOBILE_NUMBER TEXT, " +
                "$COLUMN_GENDER TEXT," +
```

```
            "$COLUMN_DIABETICS TEXT" +
            ")"

        db?.execSQL(createTable)
    }

    override fun onUpgrade(db: SQLiteDatabase?,
oldVersion: Int, newVersion: Int) {
        db?.execSQL("DROP TABLE IF EXISTS
$TABLE_NAME")
        onCreate(db)
    }

    fun insertSurvey(survey: Survey) {
        val db = writableDatabase
        val values = ContentValues()
        values.put(COLUMN_NAME, survey.name)
        values.put(COLUMN_AGE, survey.age)
        values.put(COLUMN_MOBILE_NUMBER,
survey.mobileNumber)
```

```
        values.put(COLUMN_GENDER, survey.gender)
        values.put(COLUMN_DIABETICS, survey.diabetics)
        db.insert(TABLE_NAME, null, values)
        db.close()
    }

    @SuppressLint("Range")
    fun getSurveyByAge(age: String): Survey? {
        val db = readableDatabase
        val cursor: Cursor = db.rawQuery("SELECT * FROM
$TABLE_NAME WHERE $COLUMN_AGE = ?",
arrayOf(age))
        var survey: Survey? = null
        if (cursor.moveToFirst()) {
            survey = Survey(
                id =
cursor.getInt(cursor.getColumnIndex(COLUMN_ID)),
                name =
cursor.getString(cursor.getColumnIndex(COLUMN_NAME
)),
```

```
            age =
cursor.getString(cursor.getColumnIndex(COLUMN_AGE))
,
            mobileNumber =
cursor.getString(cursor.getColumnIndex(COLUMN_MOBI
LE_NUMBER)),
            gender =
cursor.getString(cursor.getColumnIndex(COLUMN_GEND
ER)),
            diabetics =
cursor.getString(cursor.getColumnIndex(COLUMN_DIABE
TICS)),
        )
    }
    cursor.close()
    db.close()
    return survey
}
@SuppressLint("Range")
fun getSurveyById(id: Int): Survey? {
    val db = readableDatabase
```

```
        val cursor: Cursor = db.rawQuery("SELECT * FROM
$TABLE_NAME WHERE $COLUMN_ID = ?",
arrayOf(id.toString()))

        var survey: Survey? = null

        if (cursor.moveToFirst()) {

            survey = Survey(

                id =
cursor.getInt(cursor.getColumnIndex(COLUMN_ID)),

                name =
cursor.getString(cursor.getColumnIndex(COLUMN_NAME
)),

                age =
cursor.getString(cursor.getColumnIndex(COLUMN_AGE))
,

                mobileNumber =
cursor.getString(cursor.getColumnIndex(COLUMN_MOBI
LE_NUMBER)),

                gender =
cursor.getString(cursor.getColumnIndex(COLUMN_GEND
ER)),

                diabetics =
cursor.getString(cursor.getColumnIndex(COLUMN_DIABE
TICS)),
```

```
            )
        }
        cursor.close()
        db.close()
        return survey
    }

    @SuppressLint("Range")
    fun getAllSurveys(): List<Survey> {
        val surveys = mutableListOf<Survey>()
        val db = readableDatabase
        val cursor: Cursor = db.rawQuery("SELECT * FROM
$TABLE_NAME", null)
        if (cursor.moveToFirst()) {
            do {
                val survey = Survey(

cursor.getInt(cursor.getColumnIndex(COLUMN_ID)),
```

```
cursor.getString(cursor.getColumnIndex(COLUMN_NAME
)),

cursor.getString(cursor.getColumnIndex(COLUMN_AGE))
,

cursor.getString(cursor.getColumnIndex(COLUMN_MOBI
LE_NUMBER)),

cursor.getString(cursor.getColumnIndex(COLUMN_GEND
ER)),

cursor.getString(cursor.getColumnIndex(COLUMN_DIABE
TICS))
                )
                surveys.add(survey)
            } while (cursor.moveToNext())
        }
        cursor.close()
        db.close()
        return surveys
```

```
    }

}
```

Building application UI and connecting to database

Step 1:

Creating LoginActivity.kt with database

```
package com.example.surveyapplication

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.background
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.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.tooling.preview.Preview
import androidx.compose.ui.unit.dp
import androidx.compose.ui.unit.sp
import androidx.core.content.ContextCompat
import
com.example.surveyapplication.ui.theme.SurveyApplicatio
nTheme


class LoginActivity : ComponentActivity() {
    private lateinit var databaseHelper:
UserDatabaseHelper
    override fun onCreate(savedInstanceState: Bundle?) {
```

```
        super.onCreate(savedInstanceState)
        databaseHelper = UserDatabaseHelper(this)
        setContent {

            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("") }

    Column(
```

```
        modifier =
Modifier.fillMaxSize().background(Color.White),
        horizontalAlignment = Alignment.CenterHorizontally,
        verticalArrangement = Arrangement.Center
    ) {

        Image(painterResource(id =
R.drawable.survey_login), contentDescription = "")

        Text(
            fontSize = 36.sp,
            fontWeight = FontWeight.ExtraBold,
            fontFamily = FontFamily.Cursive,
            color = Color(0xFF25b897),
            text = "Login"
        )
        Spacer(modifier = Modifier.height(10.dp))

        TextField(
            value = username,
```

```
            onValueChange = { username = it },
            label = { Text("Username") },
            modifier = Modifier
                .padding(10.dp)
                .width(280.dp)
        )

        TextField(
            value = password,
            onValueChange = { password = it },
            label = { Text("Password") },
            visualTransformation =
PasswordVisualTransformation(),
            modifier = Modifier
                .padding(10.dp)
                .width(280.dp)
        )

        if (error.isNotEmpty()) {
```

```
            Text(
                text = error,
                color = MaterialTheme.colors.error,
                modifier = Modifier.padding(vertical = 16.dp)
            )
        }

        Button(
            onClick = {
                if (username.isNotEmpty() &&
password.isNotEmpty()) {
                    val user =
databaseHelper.getUserByUsername(username)
                    if (user != null && user.password ==
password) {
                        error = "Successfully log in"
                        context.startActivity(
                            Intent(
                                context,
                                MainActivity::class.java
```

```
                )
            )
            //onLoginSuccess()
        }
        if (user != null && user.password == "admin")
{
            error = "Successfully log in"
            context.startActivity(
                Intent(
                    context,
                    AdminActivity::class.java
                )
            )
        }
        else {
            error =  "Invalid username or password"
        }

    } else {
```

```
                error = "Please fill all fields"
            }
        },
        colors =
ButtonDefaults.buttonColors(backgroundColor =
Color(0xFF84adb8)),
        modifier = Modifier.padding(top = 16.dp)
    ) {
        Text(text = "Login")
    }
    Row {
        TextButton(onClick = {context.startActivity(
            Intent(
                context,
                RegisterActivity::class.java
            )
        )}
        )
        { Text(color = Color(0xFF25b897),text = "Register")
}
```

```
            TextButton(onClick = {
            })


            {
                Spacer(modifier = Modifier.width(60.dp))
                Text(color = Color(0xFF25b897),text = "Forget
password?")
            }
        }
    }
}
private fun startMainPage(context: Context) {
    val intent = Intent(context, MainActivity::class.java)
    ContextCompat.startActivity(context, intent, null)
}
```

Step 2:

Creating RegisterActivity.kt with database

```
package com.example.surveyapplication

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.background
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.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.tooling.preview.Preview

import androidx.compose.ui.unit.dp

import androidx.compose.ui.unit.sp

import androidx.core.content.ContextCompat

import
com.example.surveyapplication.ui.theme.SurveyApplicatio
nTheme


class RegisterActivity : ComponentActivity() {

    private lateinit var databaseHelper:
UserDatabaseHelper

    override fun onCreate(savedInstanceState: Bundle?) {

        super.onCreate(savedInstanceState)

        databaseHelper = UserDatabaseHelper(this)

        setContent {


                RegistrationScreen(this,databaseHelper)


        }

    }
```

```
}

@Composable
fun RegistrationScreen(context: Context, databaseHelper:
UserDatabaseHelper) {

    var username by remember { mutableStateOf("") }
    var password by remember { mutableStateOf("") }
    var email by remember { mutableStateOf("") }
    var error by remember { mutableStateOf("") }

    Column(
        modifier =
Modifier.fillMaxSize().background(Color.White),
        horizontalAlignment = Alignment.CenterHorizontally,
        verticalArrangement = Arrangement.Center
    ) {

        Image(painterResource(id =
R.drawable.survey_signup), contentDescription = "")
```

```
Text(
    fontSize = 36.sp,
    fontWeight = FontWeight.ExtraBold,
    fontFamily = FontFamily.Cursive,
    color = Color(0xFF25b897),
    text = "Register"
)

Spacer(modifier = Modifier.height(10.dp))
TextField(
    value = username,
    onValueChange = { username = it },
    label = { Text("Username") },
    modifier = Modifier
        .padding(10.dp)
        .width(280.dp)

)
```

```
        TextField(
            value = email,
            onValueChange = { email = it },
            label = { Text("Email") },
            modifier = Modifier
                .padding(10.dp)
                .width(280.dp)
        )

        TextField(
            value = password,
            onValueChange = { password = it },
            label = { Text("Password") },
            visualTransformation =
PasswordVisualTransformation(),
            modifier = Modifier
                .padding(10.dp)
                .width(280.dp)
```

```
        )



        if (error.isNotEmpty()) {
            Text(
                text = error,
                color = MaterialTheme.colors.error,
                modifier = Modifier.padding(vertical = 16.dp)
            )
        }

        Button(
            onClick = {
                if (username.isNotEmpty() &&
password.isNotEmpty() && email.isNotEmpty()) {
                    val user = User(
                        id = null,
                        firstName = username,
                        lastName = null,
```

```
                    email = email,
                    password = password
                )
                databaseHelper.insertUser(user)
                error = "User registered successfully"
                // Start LoginActivity using the current context
                context.startActivity(
                    Intent(
                        context,
                        LoginActivity::class.java
                    )
                )

            } else {
                error = "Please fill all fields"
            }
        },
        colors =
ButtonDefaults.buttonColors(backgroundColor =
Color(0xFF84adb8)),
```

```
            modifier = Modifier.padding(top = 16.dp),

        ) {
            Text(text = "Register")
        }
        Spacer(modifier = Modifier.width(10.dp))
        Spacer(modifier = Modifier.height(10.dp))

        Row() {
            Text(
                modifier = Modifier.padding(top = 14.dp), text =
"Have an account?"
            )
            TextButton(onClick = {
                context.startActivity(
                    Intent(
                        context,
                        LoginActivity::class.java
                    )
```

```
            )
        })


        {
            Spacer(modifier = Modifier.width(10.dp))
            Text( color = Color(0xFF25b897),text = "Log in")
        }
    }
  }
}
private fun startLoginActivity(context: Context) {
    val intent = Intent(context, LoginActivity::class.java)
    ContextCompat.startActivity(context, intent, null)
}
```

Step 3:

Creating MainActivity.kt file

```
package com.example.surveyapplication

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.graphics.Color
import androidx.compose.ui.layout.ContentScale
import androidx.compose.ui.res.painterResource
import androidx.compose.ui.text.style.TextAlign
import androidx.compose.ui.tooling.preview.Preview
import androidx.compose.ui.unit.dp
```

```
import androidx.compose.ui.unit.sp

import
com.example.surveyapplication.ui.theme.SurveyApplicatio
nTheme


class MainActivity : ComponentActivity() {

    private lateinit var databaseHelper:
SurveyDatabaseHelper

    override fun onCreate(savedInstanceState: Bundle?) {

        super.onCreate(savedInstanceState)

        databaseHelper = SurveyDatabaseHelper(this)

        setContent {

            FormScreen(this, databaseHelper)

        }

    }

}


@Composable

fun FormScreen(context: Context, databaseHelper:
SurveyDatabaseHelper) {
```

```
    Image(
        painterResource(id = R.drawable.background),
contentDescription = "",
        alpha =0.1F,
        contentScale = ContentScale.FillHeight,
        modifier = Modifier.padding(top = 40.dp)
        )




    // Define state for form fields
    var name by remember { mutableStateOf("") }
    var age by remember { mutableStateOf("") }
    var mobileNumber by remember { mutableStateOf("") }
    var genderOptions = listOf("Male", "Female", "Other")
    var selectedGender by remember { mutableStateOf("") }
    var error by remember { mutableStateOf("") }
```

```
    var diabeticsOptions = listOf("Diabetic", "Not Diabetic")
    var selectedDiabetics by remember { mutableStateOf("")
}

    Column(
        modifier = Modifier.padding(24.dp),
        horizontalAlignment = Alignment.Start,
        verticalArrangement = Arrangement.SpaceEvenly
    ) {

        Text(
            fontSize = 36.sp,
            textAlign = TextAlign.Center,
            text = "Survey on Diabetics",
            color = Color(0xFF25b897)
        )

        Spacer(modifier = Modifier.height(24.dp))
```

```
Text(text = "Name :", fontSize = 20.sp)
TextField(
    value = name,
    onValueChange = { name = it },
)

Spacer(modifier = Modifier.height(14.dp))

Text(text = "Age :", fontSize = 20.sp)
TextField(
    value = age,
    onValueChange = { age = it },
)

Spacer(modifier = Modifier.height(14.dp))

Text(text = "Mobile Number :", fontSize = 20.sp)
TextField(
    value = mobileNumber,
```

```
    onValueChange = { mobileNumber = it },
)

Spacer(modifier = Modifier.height(14.dp))

Text(text = "Gender :", fontSize = 20.sp)
RadioGroup(
    options = genderOptions,
    selectedOption = selectedGender,
    onSelectedChange = { selectedGender = it }
)

Spacer(modifier = Modifier.height(14.dp))

Text(text = "Diabetics :", fontSize = 20.sp)
RadioGroup(
    options = diabeticsOptions,
    selectedOption = selectedDiabetics,
    onSelectedChange = { selectedDiabetics = it }
```

```
        )

        Text(
            text = error,
            textAlign = TextAlign.Center,
            modifier = Modifier.padding(bottom = 16.dp)
        )
        // Display Submit button
        Button(
            onClick = {  if (name.isNotEmpty() &&
age.isNotEmpty() && mobileNumber.isNotEmpty() &&
genderOptions.isNotEmpty() &&
diabeticsOptions.isNotEmpty()) {
                val survey = Survey(
                    id = null,
                    name = name,
                    age = age,
                    mobileNumber = mobileNumber,
                    gender = selectedGender,
                    diabetics = selectedDiabetics
```

```
                )
                databaseHelper.insertSurvey(survey)
                error = "Survey Completed"


            } else {
                error = "Please fill all fields"
            }
            },
            colors =
ButtonDefaults.buttonColors(backgroundColor =
Color(0xFF84adb8)),
            modifier = Modifier.padding(start =
70.dp).size(height = 60.dp, width = 200.dp)
        ) {
            Text(text = "Submit")
        }
    }
}
@Composable
fun RadioGroup(
```

```
    options: List<String>,
    selectedOption: String?,
    onSelectedChange: (String) -> Unit
) {
    Column {
        options.forEach { option ->
            Row(
                Modifier
                    .fillMaxWidth()
                    .padding(horizontal = 5.dp)
            ) {
                RadioButton(
                    selected = option == selectedOption,
                    onClick = { onSelectedChange(option) }
                )
                Text(
                    text = option,
                    style =
MaterialTheme.typography.body1.merge(),
```

```
                modifier = Modifier.padding(top = 10.dp),
                fontSize = 17.sp
            )
        }
    }
  }
}
```

Step 4:

Creating AdminActivity.kt file

```
package com.example.surveyapplication

import android.os.Bundle
import android.util.Log
import androidx.activity.ComponentActivity
import androidx.activity.compose.setContent
import androidx.compose.foundation.Image
import androidx.compose.foundation.layout.*
```

```
import androidx.compose.foundation.lazy.LazyColumn
import androidx.compose.foundation.lazy.LazyRow
import androidx.compose.foundation.lazy.items
import androidx.compose.material.MaterialTheme
import androidx.compose.material.Surface
import androidx.compose.material.Text
import androidx.compose.runtime.Composable
import androidx.compose.ui.Modifier
import androidx.compose.ui.graphics.Color
import androidx.compose.ui.layout.ContentScale
import androidx.compose.ui.res.painterResource
import androidx.compose.ui.tooling.preview.Preview
import androidx.compose.ui.unit.dp
import androidx.compose.ui.unit.sp
import
com.example.surveyapplication.ui.theme.SurveyApplicatio
nTheme

class AdminActivity : ComponentActivity() {
```

```
    private lateinit var databaseHelper:
SurveyDatabaseHelper
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        databaseHelper = SurveyDatabaseHelper(this)
        setContent {
            val data = databaseHelper.getAllSurveys();
            Log.d("swathi", data.toString())
            val survey = databaseHelper.getAllSurveys()
            ListListScopeSample(survey)
        }
    }
}
@Composable
fun ListListScopeSample(survey: List<Survey>) {


    Image(
        painterResource(id = R.drawable.background),
contentDescription = "",
        alpha =0.1F,
```

```
        contentScale = ContentScale.FillHeight,
        modifier = Modifier.padding(top = 40.dp)
    )

    Text(
        text = "Survey Details",
        modifier = Modifier.padding(top = 24.dp, start =
106.dp, bottom = 24.dp),
        fontSize = 30.sp,
        color = Color(0xFF25b897)
    )
    Spacer(modifier = Modifier.height(30.dp))
    LazyRow(
        modifier = Modifier
            .fillMaxSize()
            .padding(top = 80.dp),

        horizontalArrangement =
Arrangement.SpaceBetween
    ) {
```

```
item {

    LazyColumn {
        items(survey) { survey ->
            Column(
                modifier = Modifier.padding(
                    top = 16.dp,
                    start = 48.dp,
                    bottom = 20.dp
                )
            ) {
                Text("Name: ${survey.name}")
                Text("Age: ${survey.age}")
                Text("Mobile_Number:
${survey.mobileNumber}")
                Text("Gender: ${survey.gender}")
                Text("Diabetics: ${survey.diabetics}")
            }
        }
```

```
            }
        }
    }
}
```

Modifying AndroidManifest.xml

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

    <application
        android:allowBackup="true"
```

```
android:dataExtractionRules="@xml/data_extraction_rules
"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:supportsRtl="true"
        android:theme="@style/Theme.SurveyApplication"
        tools:targetApi="31">
        <activity
            android:name=".RegisterActivity"
            android:exported="false"
            android:label="@string/title_activity_register"
            android:theme="@style/Theme.SurveyApplication"
/>
        <activity
            android:name=".MainActivity"
            android:exported="false"
            android:label="MainActivity"
```

```
            android:theme="@style/Theme.SurveyApplication"
/>
        <activity
            android:name=".AdminActivity"
            android:exported="false"
            android:label="@string/title_activity_admin"
            android:theme="@style/Theme.SurveyApplication"
/>
        <activity
            android:name=".LoginActivity"
            android:exported="true"
            android:label="@string/app_name"

android:theme="@style/Theme.SurveyApplication">
            <intent-filter>
                <action
android:name="android.intent.action.MAIN" />


                <category
android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
```

```
        </activity>
    </application>

</manifest>
```