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## **EXPERIMENT - 4**

**Aim :** To create an interactive form using widgets.

**Theory :** Form validation is an essential feature in mobile applications to ensure the correctness of user inputs before processing them. In Flutter, `Form` and `TextFormField` widgets are used to create forms with built-in validation capabilities.

### **Key Concepts:**

- 1. GlobalKey:** Used to uniquely identify the form and manage its state.
- 2. TextFormField:** A widget that allows users to enter input and supports validation.
- 3. Validation Logic:** Defines conditions to verify the correctness of input.
- 4. Submit Button:** Triggers form validation and processes the input if valid.

Code implementation :

signup.dart

```
import 'package:flutter/material.dart';
import 'package:google_fonts/google_fonts.dart';
import 'package:email_validator/email_validator.dart';

class SignupScreen extends StatefulWidget {
  @override
  _SignupScreenState createState() => _SignupScreenState();
}

class _SignupScreenState extends State<SignupScreen> {
  bool _isPasswordVisible = false;
  bool _isConfirmPasswordVisible = false;
  String? selectedBloodGroup;
  final _formKey = GlobalKey<FormState>();

  // Controllers for form fields
```

```
final _nameController = TextEditingController();
final _emailController = TextEditingController();
final _passwordController = TextEditingController();
final _confirmPasswordController = TextEditingController();
final _contactController = TextEditingController();
```

```
@override
void dispose() {
  _nameController.dispose();
  _emailController.dispose();
  _passwordController.dispose();
  _confirmPasswordController.dispose();
  _contactController.dispose();
  super.dispose();
}
```

```
@override
Widget build(BuildContext context) {
  return Scaffold(
    backgroundColor: Colors.brown[900],
    body: SafeArea(
      child: SingleChildScrollView(
        child: Padding(
          padding: const EdgeInsets.symmetric(horizontal: 24.0),
          child: Form(
            key: _formKey,
            child: Column(
              children: [
                SizedBox(height: 40),
                // Logo
                Center(
                  child: Container(
                    height: 120,
                    width: 120,
                    decoration: BoxDecoration(
                      shape: BoxShape.circle,
                      color: Colors.white,
                      boxShadow: [
                        BoxShadow(
                          color: Colors.black.withOpacity(0.2),
                          spreadRadius: 2,
                          blurRadius: 8,
                          offset: Offset(0, 4),
                        ),
                      ],
                    ),
                  ),
                ),
              ],
            ),
          ),
        ),
      ),
    ),
  );
}
```

```

    ],
  ),
  padding: EdgeInsets.all(16),
  child: Image.asset(
    'assets/logo.png',
    fit: BoxFit.contain,
  ),
),
),
),

    SizedBox(height: 40),
// Form Fields
    _buildTextField(
      "Full Name",
      _nameController,
      validator: (value) {
        if (value == null || value.isEmpty) {
          return 'Please enter your name';
        }
        return null;
      },
    ),

    _buildPasswordField("Password", true, _passwordController),
    _buildPasswordField("Confirm Password", false, _confirmPasswordController),
    _buildTextField(
      "Contact",
      _contactController,
      validator: (value) {
        if (value == null || value.isEmpty) {
          return 'Please enter your contact number';
        }
        if (!RegExp(r'^\+?[0-9]{10,}$').hasMatch(value)) {
          return 'Please enter a valid contact number';
        }
        return null;
      },
    ),
    _buildDropdown("Blood Group"),
    SizedBox(height: 40),
    _buildSubmitButton(),
    SizedBox(height: 24),
  ],
),

```

```

    ),
    ),
    ),
    ),
    );
}

```

**Conclusion :** In this experiment, we successfully created an interactive form in Flutter using various widgets. By leveraging TextFields, DropdownButtons, Checkboxes, RadioButtons, and Buttons, we provided a dynamic and user-friendly experience for data input. Additionally, we implemented form validation to ensure data accuracy and enhance usability.