EXPERIMENT NO: - 04

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AIM: - To create an interactive Form using form widget.

Forms in Flutter

Forms in Flutter are essential components used to collect and manage user input efficiently. They are widely used in login screens, registration pages, and feedback forms. Flu er provides a Form widget that works alongside TextFormField and other input elements, offering features such as validation, error handling, and state management to improve user experience.

Key Components of a Form in Flu er

1.Form Widget

The Form widget acts as a container that groups multiple input fields and manages their validation. Requires a GlobalKey<FormState> to uniquely identify the form and interact with it.

- Helps in structuring form fields and handling user input efficiently.

2.Form Fields (TextFormField)

The TextFormField widget is used for user input, such as entering names, emails, or phone numbers.

- It supports input validation using the validator property.
- Allows customization with InputDecoration (e.g., labels, icons, borders, hint text).
- Different TextInputType op ons can be set for appropriate keyboard input (e.g., TextInputType.emailAddress for emails).

3.Validation in Forms

Ensuring valid user input is crucial. The validator property in TextFormField helps check whether the entered data meets specified criteria before submission.

- Valida on can be triggered manually using formKey.currentState!.validate().
- The autovalidateMode property can enable automatic validation during user input.

4. State Management in Forms

To ensure data persistence and processing, proper state management is required.

- The FormState class provides methods like validate(), save(), and reset() to manage form behavior.
- The save() method stores user input when validation is successful.
- The reset() method clears the form fields and restores the initial state.

5.Submit Button
A submit button is necessary to trigger form validation and submit user data.
When pressed, it checks validation using formKey.currentState!.validate().

If validation succeeds, the form data is saved and processed accordingly.

Important Properties & Methods of Form Widget

Proper es

key → A GlobalKey<FormState> that uniquely identifies the form.

child → Contains form fields, typically wrapped in a Column or ListView.

autovalidateMode → Defines when the form should auto-validate.

Methods

validate() → Checks if all form fields are valid and returns true or false.

save() → Stores the current values of form fields a er successful validation.

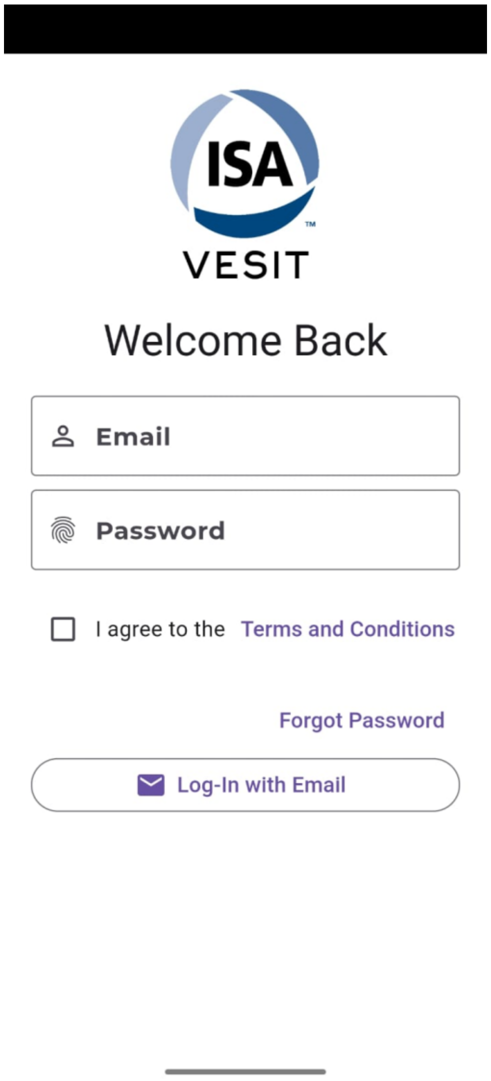
reset() → Clears user input and resets the form to its initial state.

Code :

```
import 'package:flutter/material.dart';
import 'package:get/get.dart';
import 'package:inventory/lumina/src/fea-
tures/main_app/main_screen/main_screen.dart';
import 'package:shared_preferences/shared_preferences.dart';
import 'email_input_screen.dart';
import 'package:inventory/lumina/src/features/authentication/controllers/emailcontrol-
ler.dart';
import 'package:supabase_flutter/supabase_flutter.dart';

class LoginForm extends StatefulWidget {
  const LoginForm({
    super.key,
  });

  @override
  State<LoginForm> createState() => _LoginFormState();
}

class _LoginFormState extends State<LoginForm> {
  final supabase = Supabase.instance.client;

  final TextEditingController emailcontroller = TextEditingController();
  final TextEditingController passwordcontroller = TextEditingController();

  final Emailcontroller emailGet = Get.put(Emailcontroller());

  bool isTermsAccepted = false;

  Future<void> emailsignin() async {
    if (!isTermsAccepted) {
      ScaffoldMessenger.of(context).showSnackBar(
        const SnackBar(
            content:
                Text("Please accept the terms and conditions to proceed.")),
      );
      return;
    }

    try {
      final response = await supabase.auth.signInWithPassword(
        email: emailcontroller.text,
        password: passwordcontroller.text,
      );

      if (response.user != null) {
        emailGet.emailget.value = emailcontroller.text;
        emailcontroller.clear();
        passwordcontroller.clear();
        Get.to(MainScreen(), transition: Transition.fade);
        final session = response.session;
        await supabase.auth.setSession(session as String);
        final prefs = await SharedPreferences.getInstance();
        prefs.setString('email', emailGet.emailget.value);
      }
    } on AuthException catch (e) {
      // Handle Supabase AuthException explicitly
      ScaffoldMessenger.of(context).showSnackBar(
        SnackBar(content: Text(e.message)),
      );
    } on Exception catch (e) {
      // Handle other exceptions
      ScaffoldMessenger.of(context).showSnackBar(
        const SnackBar(
            content: Text("Something went wrong! Please try again.")),
      );
    }
  }

  @override
  void initState() {
    super.initState();

    supabase.auth.refreshSession().then((session) {
      if (session != null) {
        emailGet.emailget.value = session.user!.email!;
        emailGet.mailchecker();
      }
    });
  }

  TextStyle termsTextStyle = TextStyle(
    fontSize: 16.0,
    color: Colors.black,
  );

  @override
  Widget build(BuildContext context) {
    return Form(
      child: Container(
        padding: EdgeInsets.symmetric(vertical: 20),
        child: Column(
          crossAxisAlignment: CrossAxisAlignment.start,
          children: [
            TextFormField(
              controller: emailcontroller,
  decoration: const InputDecoration(
      prefixIcon: Icon(Icons.person_outline_outlined),
      labelText: "Email",
      hintText: "Email",
      border: OutlineInputBorder()),
),
SizedBox(
  height: 10,
),
TextFormField(
  obscureText: true,
  controller: passwordcontroller,
  decoration: const InputDecoration(
      prefixIcon: Icon(Icons.fingerprint),
      labelText: "Password",
      hintText: "Password",
      border: OutlineInputBorder()),
),
const SizedBox(height: 20),
Row(
  children: [
    Checkbox(
      value: isTermsAccepted,
      onChanged: (bool? value) {
        setState(() {
          isTermsAccepted = value ?? false;
        });
      },
    ),
    const Text('I agree to the'),
    TextButton(
      onPressed: () {
        _showTermsAndConditions();
      },
      child: Text("Terms and Conditions"),
    ),
  ],
),
const SizedBox(height: 20),
Align(
  alignment: Alignment.centerRight,
  child: TextButton(
    onPressed: () {
      Navigator.push(
        context,
        MaterialPageRoute(
            builder: (context) => const ForgotPasswordScreen()),
      );
    },
            child: const Text("Forgot Password"),
          ),
        ),
        Padding(
          padding:
              const EdgeInsets.symmetric(vertical: 20.0, horizontal: 10.0),
          child: SizedBox(
            width: double.infinity,
            child: Container(
              decoration: BoxDecoration(
                gradient: const LinearGradient(
                  colors: [Color(0xFF507DBC), Color(0xFF70A1D7)],
                  begin: Alignment.topLeft,
                  end: Alignment.bottomRight,
                ),
                borderRadius: BorderRadius.circular(
                    16),
              ),
              child: OutlinedButton.icon(
                style: OutlinedButton.styleFrom(
                  padding: const EdgeInsets.symmetric(
                      vertical: 16.0,
                      horizontal: 24.0),
                  side: BorderSide(
                      color: Colors
                          .transparent),
                  shape: RoundedRectangleBorder(
                      borderRadius: BorderRadius.circular(
                          16)),
                ),
                icon: Icon(Icons.email, color: Colors.white),
                onPressed: () {
                  emailsignin();
                },
                label: const Text(
                  "Log-In with Email",
                  style: TextStyle(color: Colors.white, fontSize: 18.0),
                ),
              ),
            ),
          ),
        )
      ],
    ),
  ),
);
}

void _showTermsAndConditions() {
    bool isDarkMode = Theme.of(context).brightness == Brightness.dark;
    showModalBottomSheet(
      context: context,
      builder: (context) => Container(
        padding: const EdgeInsets.all(20),
        child: SingleChildScrollView(
          child: Column(
            crossAxisAlignment: CrossAxisAlignment.start,
            children: [
              Text(
                "Terms and Conditions",
                style: Theme.of(context).textTheme.headlineMedium,
              ),
              SizedBox(height: 10),
              Text(
                '1. Objective\n'
                'The purpose of these guidelines is to provide a clear understanding of the
rules and procedures for the ISA-VESIT inventory system.\n\n'
                '2. Issuance of Components\n'
                '● Eligibility: Only students who are currently enrolled for ISA Memberships
are eligible to borrow components.\n'
                '● Issuance Procedure:\n'
                '  - Components will be issued based on availability and necessity.\n'
                '  - A record of issued components will be maintained by the ISA Council.\n\n'
                '3. Student Responsibilities\n'
                '● Care: Students are responsible for the proper care and handling of the com-
ponents.\n'
                '● Usage: Components must be used only for their intended educational or
project purposes.\n'
                '● Return: Components must be returned by the due date specified at the time
of issuance.\n'
                '● Modification: Modification of the components is not allowed.\n'
                '● Damage: No damage is allowed. Students will have to pay the entire
amount if the component is damaged.\n'
                '● Loss: If a component is lost, the student is responsible for it and has to pay
the entire amount of the component as listed below.\n'
                '● Issuance/Reissuance: Components must be issued or reissued in the pres-
ence of and with the approval of a council member only.\n'
                '● Reissue: The component should be reissued within 1 month of time after is-
suing the component.\n'
                '● Timing: For issuance/reissuance of the component the timings are 1) 1:00
pm - 1:30 pm 2) 3:30 pm - 4:00 pm\n\n'
                '4. Return Policy\n'
                '● Due Date: Components must be returned by the due date specified during
issuance.\n'
                '● Condition: Components must be returned in the same condition as they
were issued.\n'
                '● All the components should be returned to the council before the end semes-
ter exam.\n'
```

```
                '● Refer Fine Structure for more terms and conditions regarding the fine pay-
ment.\n\n'
                '5. Fine Structure and Payment\n'
                '● Late Returns:\n'
                '  - A fine will be imposed for each day the component is returned late.\n'
                '  - The maximum late fine will not exceed 2500 Rs.\n'
                '● Component Damage:\n'
                '  - No damage to the components would be accepted.\n'
                '  - In case of damage: Replacement Cost of the new component.\n'
                '● Loss of Component:\n'
                '  - Full replacement cost of the component will be charged.\n'
                '● Payment:\n'
                '  - Fines must be paid within 5 days of notification.\n'
                '  - Payment should be made online.\n\n'
                '6. Consequences of Non-Payment\n'
                '● Failure to pay fines may result in:\n'
                '  - Suspension of borrowing privileges.\n'
                '  - Membership Suspension.\n'
                '  - Clearance for collecting Leaving Certificate would not be provided by the
Central Library of College.\n\n'
                '7. Dispute Resolution\n'
                '● Students who wish to dispute a fine may do so by submitting a written ap-
peal to the ISA committee within 3 days of fine notification.\n'
                '● The decision of the ISA committee will be final.\n\n'
                '8. Policy Review\n'
                '● This policy will be reviewed annually and is subject to change. Updates
will be communicated to all students via email and WhatsApp.\n\n'
                '9. Component Price List:\n'
                'https://bit.ly/ComponentPrice\n'
                'Note: Subject to Change of Price\n\n'
                '10. Contact Information\n'
                'For any questions or concerns regarding this policy, please contact:\n'
                'Sr. Treasurer: Atishkar Singh\n'
                'Phone No: 9049120954',
                style: termsTextStyle.copyWith(
                  color: isDarkMode
                      ? Colors.white
                      : Colors.black), // Set color to white
              ),
            ],
          ),
        ),
      ),
    );
  }
```

Output :


ISA
VESIT
Welcome Back
Email
Password
I agree to the Terms and Conditions
Forgot Password
Log-In with Email