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Experiment 2: To design Flutter UI by including common widgets.

Code:

```
void main() {  
  runApp(const MyApp());  
}  
  
class MyApp extends StatelessWidget {  
  const MyApp({super.key});  
  
  @override  
  Widget build(BuildContext context) {  
    return MaterialApp(  
      debugShowCheckedModeBanner: false,  
      title: 'Music Recommendation App',  
      theme: ThemeData.light().copyWith(  
        scaffoldBackgroundColor: Colors.white,  
        appBarTheme: const AppBarTheme(  
          backgroundColor: Colors.white,  
          foregroundColor: Colors.black,  
        )),  
      home: const LoginPage(),  
    );  
  }  
}  
  
class LoginPage extends StatefulWidget {  
  const LoginPage({super.key});  
  
  @override  
  _LoginPageState createState() => _LoginPageState();  
}  
  
class _LoginPageState extends State<LoginPage> {
```

```
final TextEditingController _emailController = TextEditingController();
final TextEditingController _passwordController = TextEditingController();
bool _isPasswordVisible = false; // To manage password visibility
```

```
void _login() {
  String email = _emailController.text;
  String password = _passwordController.text;

  if (email == "test@gmail.com" && password == "password123") {
    Navigator.pushReplacement(
      context,
      MaterialPageRoute(
        builder: (context) => const MusicRecommendationPage()),
    );
  } else {
    ScaffoldMessenger.of(context).showSnackBar(
      const SnackBar(content: Text("Invalid email or password")),
    );
  }
}
```

```
@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(title: const Text('Login')),
    body: Padding(
      padding: const EdgeInsets.all(16.0),
      child: Column(
        mainAxisAlignment: MainAxisAlignment.center,
        children: [
          Image.network(
            'https://cdn-icons-png.flaticon.com/512/2907/2907253.png',
            height: 100,
            errorBuilder: (context, error, stackTrace) {
              return const Icon(Icons.error, size: 100, color: Colors.red);
            },
          ),
          const SizedBox(height: 20),
          TextField(
            controller: _emailController,
```

```

decoration: const InputDecoration(
  labelText: "Email",
  enabledBorder: OutlineInputBorder(
    borderSide: BorderSide(color: Colors.black54),
  ),
  focusedBorder: OutlineInputBorder(
    borderSide: BorderSide(color: Colors.black),
  ),
),
),
const SizedBox(height: 10),
TextField(
  controller: _passwordController,
  obscureText: !_isPasswordVisible,
  decoration: InputDecoration(
    labelText: "Password",
    enabledBorder: const OutlineInputBorder(
      borderSide: BorderSide(color: Colors.black54),
    ),
    focusedBorder: const OutlineInputBorder(
      borderSide: BorderSide(color: Colors.black),
    ),
  ),
  suffixIcon: IconButton(
    icon: Icon(
      _isPasswordVisible
        ? Icons.visibility
        : Icons.visibility_off,
      color: Colors.black54,
    ),
    onPressed: () {
      setState(() {
        _isPasswordVisible = !_isPasswordVisible;
      });
    },
  ),
),
const SizedBox(height: 20),
ElevatedButton(
  onPressed: _login,

```

```

        style: ElevatedButton.styleFrom(
          backgroundColor: const Color.fromARGB(255, 177, 209, 236),
        ),
        child: const Text("Login"),
      ),
      const SizedBox(height: 20),
      ElevatedButton(
        onPressed: _login,
        style: ElevatedButton.styleFrom(
          backgroundColor: const Color.fromARGB(255, 177, 209, 236),
        ),
        child: const Text("New User? Signup"),
      ),
    ],
  ),
);
}
}

```

Explanation:

This Flutter code creates a Music Recommendation App with a simple login screen. Here's a brief breakdown:

main() and MyApp Class:

- main() is the entry point of the app, calling runApp() to start the app.
- MyApp extends StatelessWidget and uses MaterialApp to define the app's theme and the first screen (LoginPage).

LoginPage Class:

- LoginPage is a StatefulWidget that manages user input and UI changes.
- It initializes controllers for the email and password text fields.

_LoginPageState Class:

- Holds the logic for the login page.
- It checks if the entered email and password are correct:
- If correct, navigates to the MusicRecommendationPage.
- If incorrect, shows a "Invalid email or password" message.

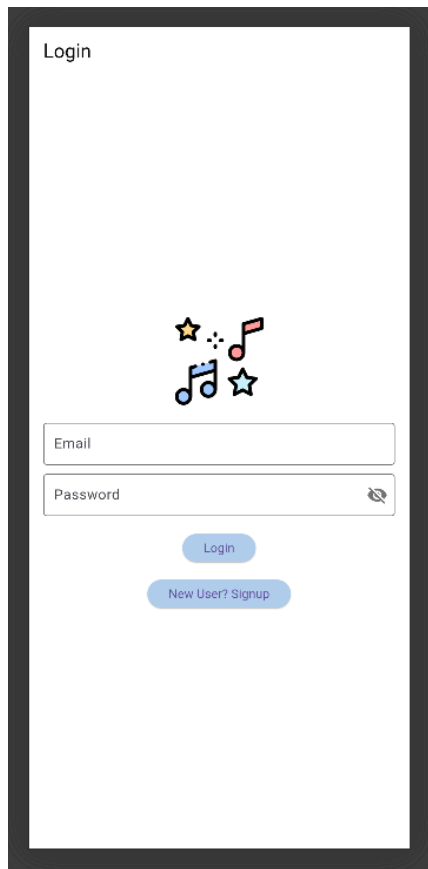
UI Design:

Displays:

- An image at the top.
- Text fields for email and password.
- A toggle to show or hide the password.
- A login button.
- A signup button.

This app uses Flutter's widgets and navigation to create a clean and functional login screen.

Output:



Conclusion:

This Flutter code builds a simple login screen for a music recommendation app. It verifies user credentials and navigates to the next page if they are correct. The design is clean, with input fields and password visibility toggle.