Week 6: Create an E-Book App Using Flutter

AIM:

- Create an E-Book app with sections for book categories and a simple book reader UI.
- Implement navigation between categories and book details.

CODE:

main.dart

```
import 'package:firebase core/firebase core.dart';
import 'package:flutter/material.dart';
import 'src/login_signup_screen.dart';
void main() async {
 WidgetsFlutterBinding.ensureInitialized();
 await Firebase.initializeApp();
 runApp(const MyApp());
class MyApp extends StatelessWidget {
 const MyApp({super.key});
 @override
 Widget build(BuildContext context) {
  return MaterialApp(
   title: 'Flutter Demo',
   theme: ThemeData(
    colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
    useMaterial3: true,
   home: const WelcomeScreen(),
  );
class WelcomeScreen extends StatefulWidget {
 const WelcomeScreen({super.key});
 @override
 _WelcomeScreenState createState() => _WelcomeScreenState();
class _WelcomeScreenState extends State<WelcomeScreen> with SingleTickerProviderStateMixin {
 double \_opacity = 0.0;
 late AnimationController _animationController;
 late Animation<double> _scaleAnimation;
 late Animation<Offset> _slideAnimation;
```

```
@override
void initState() {
 super.initState();
 _animationController = AnimationController(
  duration: const Duration(seconds: 2),
  vsync: this,
 );
 _scaleAnimation = Tween<double>(begin: 0.0, end: 1.0).animate(
  CurvedAnimation(parent: _animationController, curve: Curves.easeInOut),
 slideAnimation = Tween<Offset>(begin: const Offset(0.0, 1.0), end: Offset.zero).animate(
  CurvedAnimation(parent: _animationController, curve: Curves.easeInOut),
 Future.delayed(const Duration(seconds: 1), () {
  setState(() {
   _{\text{opacity}} = 1.0;
  });
  _animationController.forward();
 });
 // Show logo for 8 seconds
 Future.delayed(const Duration(seconds: 8), () {
  Navigator.pushReplacement(
   context,
   MaterialPageRoute(builder: (context) => const LoginSignupScreen()),
  );
 });
}
@override
void dispose() {
 _animationController.dispose();
 super.dispose();
}
@override
Widget build(BuildContext context) {
 return Scaffold(
  body: Center(
   child: AnimatedOpacity(
    opacity: opacity,
    duration: const Duration(seconds: 1),
    child: ScaleTransition(
      scale: _scaleAnimation,
      child: SlideTransition(
       position: _slideAnimation,
       child: Image.asset(
        "assets/load.gif", // Ensure this GIF exists in the assets folder
        width: 300,
        height: 300,
        fit: BoxFit.cover,
```

```
),
),
),
),
),
));
}
}
```

login_signup_page.dart

```
import 'package:firebase_auth/firebase_auth.dart';
import 'package:flutter/material.dart';
import 'package:google_sign_in/google_sign_in.dart';
import 'home_screen.dart';
import 'package:fluttertoast/fluttertoast.dart';
class LoginSignupScreen extends StatefulWidget {
 const LoginSignupScreen({super.key});
 @override
 _LoginSignupScreenState createState() => _LoginSignupScreenState();
class _LoginSignupScreenState extends State<LoginSignupScreen> {
 final _emailController = TextEditingController();
 final passwordController = TextEditingController();
 bool isSignUp = false;
 bool isLoading = false; // Add loading state
 final FirebaseAuth _auth = FirebaseAuth.instance;
 // Handle Google Sign In
 Future<User?> signInWithGoogle() async {
  setState(() {
   isLoading = true; // Show loading indicator
  });
  final GoogleSignIn googleSignIn = GoogleSignIn();
  final GoogleSignInAccount? googleUser = await googleSignIn.signIn();
  if (googleUser == null) {
   setState(() {
    isLoading = false; // Hide loading indicator
   });
   return null;
```

```
final GoogleSignInAuthentication googleAuth = await googleUser.authentication;
 final OAuthCredential credential = GoogleAuthProvider.credential(
  accessToken: googleAuth.accessToken,
  idToken: googleAuth.idToken,
 );
 final UserCredential userCredential = await auth.signInWithCredential(credential);
 setState(() {
  isLoading = false; // Hide loading indicator
 });
 return userCredential.user;
// Show alert dialog for errors
void showAlert(String message) {
 showDialog(
  context: context.
  builder: (context) => AlertDialog(
   title: const Text('Error'),
   content: Text(message),
   actions: [
    TextButton(
      onPressed: () {
       Navigator.pop(context);
      child: const Text('OK'),
    ),
   ],
  ),
 );
// Show Toast message for authentication failure
void showToast(String message) {
 Fluttertoast.showToast(msg: message, toastLength: Toast.LENGTH_SHORT);
}
// Email validation
bool isValidEmail(String email) {
 final regex = RegExp(r'^[a-zA-Z0-9._\%+-]+@[a-zA-Z0-9.-]+\.[a-zA-Z]\{2,\}^*);
 return regex.hasMatch(email);
}
// Handle email/password sign-up
```

```
Future<void> signUpWithEmailPassword() async {
 setState(() {
  isLoading = true; // Show loading indicator
 });
 if (_emailController.text.isEmpty || _passwordController.text.isEmpty) {
  showAlert('Please fill in both email and password');
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  return;
 }
 if (!isValidEmail(_emailController.text)) {
  showAlert('Please enter a valid email address');
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  return;
 }
 if ( passwordController.text.length < 6) {
  showAlert('Password must be at least 6 characters');
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  return;
 }
 try {
  await _auth.createUserWithEmailAndPassword(
   email: _emailController.text.trim(),
   password: _passwordController.text.trim(),
  );
  setState(() {
   isLoading = false; // Hide loading indicator
  Navigator.pushReplacement(
   context.
   MaterialPageRoute(builder: (context) => const HomeScreen()),
 } on FirebaseAuthException catch (e) {
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  if (e.code == 'weak-password') {
   showToast('The password is too weak.');
```

```
} else if (e.code == 'email-already-in-use') {
   showToast('An account already exists for that email.');
  } else {
   showToast('Authentication failed! Please try again.');
 } catch (e) {
  setState(() {
   isLoading = false; // Hide loading indicator
  showToast('Something went wrong. Please try again.');
}
// Handle email/password login
Future<void> logInWithEmailPassword() async {
 setState(() {
  isLoading = true; // Show loading indicator
 });
 if (_emailController.text.isEmpty || _passwordController.text.isEmpty) {
  showAlert('Please fill in both email and password');
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  return:
 }
 if (!isValidEmail(_emailController.text)) {
  showAlert('Please enter a valid email address');
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  return;
 if ( passwordController.text.length < 6) {
  showAlert('Password must be at least 6 characters');
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  return;
 }
 try {
  await _auth.signInWithEmailAndPassword(
   email: _emailController.text.trim(),
   password: _passwordController.text.trim(),
```

```
);
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  Navigator.pushReplacement(
   context.
   MaterialPageRoute(builder: (context) => const HomeScreen()),
 } on FirebaseAuthException catch (e) {
  setState(() {
   isLoading = false; // Hide loading indicator
  });
  if (e.code == 'user-not-found') {
   showToast('No user found for that email.');
  } else if (e.code == 'wrong-password') {
   showToast('Incorrect password.');
  } else {
   showToast('Invalid email or password. Please try again.');
 } catch (e) {
  setState(() {
   isLoading = false; // Hide loading indicator
  showToast('Something went wrong. Please try again.');
}
@override
Widget build(BuildContext context) {
 return Scaffold(
  appBar: AppBar(
   backgroundColor: Colors.blue,
   title: const Text('E-Book App'),
   centerTitle: true,
   elevation: 0,
  ),
  body: isLoading
     ? Center(
       child: CircularProgressIndicator(
        color: Colors.blue, // Standard blue
         // Customize the color if needed
       ),
     : SingleChildScrollView(
       padding: const EdgeInsets.all(16.0),
       child: Column(
        children: <Widget>[
```

```
// Branding Image or Logo
Center(
 child: Image.asset(
  'assets/images/logo.png', // Replace with your logo
  height: 250,
  width: 350,
 ),
),
const SizedBox(height: 20),
// AnimatedSwitcher for flip animation between Login and Signup
AnimatedSwitcher(
 duration: const Duration(milliseconds: 600),
 transitionBuilder: (Widget child, Animation<double> animation) {
  final rotate = Tween(begin: 0.0, end: 1.0).animate(animation);
  return RotationTransition(
   turns: rotate,
   child: child,
  );
 child: isSignUp ? buildSignUpForm() : buildLoginForm(),
const SizedBox(height: 20),
// Toggle between Sign Up and Login with more spacing
TextButton(
 onPressed: () {
  setState(() {
   isSignUp = !isSignUp; // Toggle between SignUp and Login
  });
 },
 child: Text(
  isSignUp
     ? 'Already have an account? Login'
     : 'Don\'t have an account? Sign Up',
  style: const TextStyle(fontSize: 16),
 ),
),
const SizedBox(height: 20),
// Google Sign-In Button
ElevatedButton.icon(
 onPressed: () async {
  User? user = await signInWithGoogle();
  if (user != null) {
   Navigator.pushReplacement(
     context,
```

```
MaterialPageRoute(builder: (context) => const HomeScreen()),
             );
            } else {
             showToast('Google sign-in failed.');
            }
           style: ElevatedButton.styleFrom(
            backgroundColor: Colors.blue, // Google blue color
            padding: const EdgeInsets.symmetric(vertical: 15),
            minimumSize: const Size(double.infinity, 50),
            shape: RoundedRectangleBorder(
             borderRadius: BorderRadius.circular(15),
            ),
           ),
           icon: const Icon(Icons.g_mobiledata, color: Colors.white),
           label: const Text(
            'Continue with Google',
            style: TextStyle(fontSize: 18, color: Colors.white),
           ),
         ),
         const SizedBox(height: 30),
         // Optional: Add Footer or Disclaimer with more padding
         const Divider(),
         const Text(
           'By signing up, you agree to our Terms and Conditions',
           style: TextStyle(fontSize: 12, color: Colors.grey),
         ),
        ],
       ),
);
Widget buildLoginForm() {
 return Column(
  key: const ValueKey('login'),
  children: [
   TextField(
    controller: emailController,
    decoration: InputDecoration(
      prefixIcon: const Icon(Icons.email, color: Colors.blue),
      labelText: 'Email Address',
      hintText: 'Enter your email',
      border: OutlineInputBorder(
       borderRadius: BorderRadius.circular(15),
```

```
filled: true,
      fillColor: Colors.white,
    ),
   ),
   const SizedBox(height: 15),
   TextField(
    controller: _passwordController,
    obscureText: true,
     decoration: InputDecoration(
      prefixIcon: const Icon(Icons.lock, color: Colors.blue),
      labelText: 'Password',
      hintText: 'Enter your password',
      border: OutlineInputBorder(
       borderRadius: BorderRadius.circular(15),
      ),
      filled: true,
      fillColor: Colors.white,
    ),
   ),
   const SizedBox(height: 25),
   ElevatedButton(
    style: ElevatedButton.styleFrom(
      backgroundColor: Colors.blue,
      foregroundColor: Colors.white,
      shape: RoundedRectangleBorder(
       borderRadius: BorderRadius.circular(15),
      ),
      padding: const EdgeInsets.symmetric(vertical: 15),
      minimumSize: const Size(double.infinity, 50),
    onPressed: logInWithEmailPassword,
     child: const Text(
      'Login',
      style: TextStyle(fontSize: 18),
Widget buildSignUpForm() {
 return Column(
  key: const ValueKey('signup'),
  children: [
   TextField(
```

```
controller: _emailController,
 decoration: InputDecoration(
  prefixIcon: const Icon(Icons.email, color: Colors.blue),
  labelText: 'Email Address',
  hintText: 'Enter your email',
  border: OutlineInputBorder(
   borderRadius: BorderRadius.circular(15),
  ),
  filled: true.
  fillColor: Colors.white,
 ),
),
const SizedBox(height: 15),
TextField(
 controller: _passwordController,
 obscureText: true,
 decoration: InputDecoration(
  prefixIcon: const Icon(Icons.lock, color: Colors.blue),
  labelText: 'Password',
  hintText: 'Enter your password',
  border: OutlineInputBorder(
   borderRadius: BorderRadius.circular(15),
  ),
  filled: true.
  fillColor: Colors.white,
 ),
),
const SizedBox(height: 25),
ElevatedButton(
 style: ElevatedButton.styleFrom(
  backgroundColor: const Color.fromARGB(255, 59, 93, 231),
  foregroundColor: Colors.white,
  shape: RoundedRectangleBorder(
   borderRadius: BorderRadius.circular(15),
  ),
  padding: const EdgeInsets.symmetric(vertical: 15),
  minimumSize: const Size(double.infinity, 50),
 onPressed: signUpWithEmailPassword,
 child: const Text(
  'Sign Up',
  style: TextStyle(fontSize: 18),
 ),
),
```

```
);
}
}
```

home_page.dart

```
import 'package:flutter/material.dart';
import 'pdf_viewer_screen.dart';
import 'package: firebase auth/firebase auth.dart';
import 'package:google sign in/google sign in.dart';
import 'login_signup_screen.dart';
class Book {
 final String name;
 final String author;
 final String publishDate;
 final String pdfPath;
 final String imagePath;
 Book(this.name, this.author, this.publishDate, this.pdfPath, this.imagePath);
class HomeScreen extends StatefulWidget {
 const HomeScreen({super.key});
 @override
 State<HomeScreen> createState() => _HomeScreenState();
class _HomeScreenState extends State<HomeScreen> {
 final List<Book> books = [
  Book("Flutter for Beginners", "John Doe", "2022", "assets/books/book1.pdf",
"assets/images/book1.jpg"),
  Book("Mastering Dart", "Jane Smith", "2021", "assets/books/book2.pdf",
"assets/images/book2.jpg"),
  Book("Advanced Flutter", "Mike Johnson", "2023", "assets/books/book3.pdf",
"assets/images/book3.jpg"),
  Book("Flutter Cookbook", "Alice Brown", "2020", "assets/books/book4.pdf",
"assets/images/book4.jpg"),
  Book("Dart in Depth", "Charlie White", "2019", "assets/books/book5.pdf",
"assets/images/book5.jpg"),
  Book("Flutter UI Design", "David Black", "2024", "assets/books/book6.pdf",
"assets/images/book6.jpg"),
 1;
```

```
bool _isGridView = false;
 void logout() async {
 await FirebaseAuth.instance.signOut();
 await GoogleSignIn().signOut(); // Sign out from Google if used
 // Navigate to the login/signup screen and remove all previous screens from the stack
 Navigator.pushAndRemoveUntil(
  context.
  MaterialPageRoute(builder: (context) => const LoginSignupScreen()),
  (route) => false, // This removes all previous routes from the stack
}
 @override
 Widget build(BuildContext context) {
  return Scaffold(
   appBar: AppBar(
    backgroundColor: Colors.blue.shade900,
    title: const Text(
      'E-Book Store'.
      style: TextStyle(fontWeight: FontWeight.bold, color: Colors.white),
    ),
    actions: [
      IconButton(
       icon: Icon(_isGridView ? Icons.list : Icons.grid_view, color: Colors.white),
       onPressed: () {
        setState(() {
         _isGridView = !_isGridView;
        });
       },
      ),
      IconButton(
 icon: const Icon(Icons.logout, color: Colors.white),
 onPressed: () => _logout(), // Explicitly passing context
),
    ],
   ),
   body: _isGridView ? _buildGridView() : _buildListView(),
   floatingActionButton: FloatingActionButton(
    backgroundColor: Colors.blue.shade900,
    onPressed: () {
      setState(() {
       _isGridView = !_isGridView;
      });
```

```
},
    child: Icon(_isGridView ? Icons.list : Icons.grid_view, color: Colors.white),
   ),
  );
 }
 Widget buildListView() {
  return ListView.builder(
   itemCount: books.length,
   itemBuilder: (context, index) {
     final book = _books[index];
    return Card(
      color: Colors.blue.shade100,
      margin: const EdgeInsets.all(8.0),
      elevation: 5,
      shape: RoundedRectangleBorder(
       borderRadius: BorderRadius.circular(15.0),
      ),
      child: ListTile(
       contentPadding: const EdgeInsets.symmetric(vertical: 10.0, horizontal: 15.0),
       leading: ClipRRect(
        borderRadius: BorderRadius.circular(10.0),
        child: Image.asset(
         book.imagePath,
         width: 60.
         height: 80,
         fit: BoxFit.cover,
         errorBuilder: (context, error, stackTrace) => const Icon(Icons.broken_image,
size: 60),
        ),
       title: Text(
        book.name,
        style: const TextStyle(fontSize: 18, fontWeight: FontWeight.bold, color:
Colors.blue),
       ),
       subtitle: Text("Author: ${book.author}\nPublished: ${book.publishDate}",
style: TextStyle(color: Colors.blue.shade700)),
       trailing: const Icon(Icons.arrow forward ios, color: Colors.blue),
       onTap: () {
        Navigator.push(
         context,
         MaterialPageRoute(
           builder: (context) => PdfViewerScreen(pdfAssetPath: book.pdfPath),
         ),
        );
```

```
),
    );
   },
  );
 Widget buildGridView() {
  return GridView.builder(
   padding: const EdgeInsets.all(8.0),
   itemCount: _books.length,
   gridDelegate: const SliverGridDelegateWithFixedCrossAxisCount(
    crossAxisCount: 2,
    crossAxisSpacing: 8.0,
    mainAxisSpacing: 8.0,
    childAspectRatio: 0.7,
   ),
   itemBuilder: (context, index) {
    final book = _books[index];
    return GestureDetector(
      onTap: () {
       Navigator.push(
        context.
        MaterialPageRoute(
         builder: (context) => PdfViewerScreen(pdfAssetPath: book.pdfPath),
        ),
       );
      },
      child: Card(
       color: Colors.blue.shade100,
       elevation: 5,
       shape: RoundedRectangleBorder(
        borderRadius: BorderRadius.circular(15.0),
       ),
       child: Column(
        crossAxisAlignment: CrossAxisAlignment.center,
        children: [
         Expanded(
           child: ClipRRect(
            borderRadius: const BorderRadius.vertical(top: Radius.circular(15.0)),
            child: Image.asset(
             book.imagePath,
             width: double.infinity,
             fit: BoxFit.cover,
             errorBuilder: (context, error, stackTrace) => const
Icon(Icons.broken_image, size: 60),
            ),
```

```
),
Padding(
padding: const EdgeInsets.all(8.0),
child: Text(
book.name,
textAlign: TextAlign.center,
style: const TextStyle(fontSize: 16, fontWeight: FontWeight.bold, color:

Colors.blue),
),
),
),
),
);
},
);
}
}
```

pdf_viewer_screen.dart

```
import 'dart:io';
import 'package:flutter/material.dart';
import 'package:flutter pdfview/flutter pdfview.dart';
import 'package:path provider/path provider.dart';
import 'package:flutter/services.dart';
import 'package:permission handler/permission handler.dart';
class PdfViewerScreen extends StatefulWidget {
 final String pdfAssetPath;
 const PdfViewerScreen({super.key, required this.pdfAssetPath});
 @override
 State<PdfViewerScreen> createState() => _PdfViewerScreenState();
class PdfViewerScreenState extends State<PdfViewerScreen> {
 String? localFilePath;
 bool isLoading = true;
 bool isScrolling = false; // Default: Swipe mode enabled
 int total Pages = 0;
 PDFViewController? pdfController;
 UniqueKey pdfViewKey = UniqueKey(); // Key to force widget rebuild
```

```
@override
void initState() {
 super.initState();
 _loadPdf();
Future<void> loadPdf() async {
  final ByteData data = await rootBundle.load(widget.pdfAssetPath);
  final List<int> bytes = data.buffer.asUint8List();
  final Directory tempDir = await getTemporaryDirectory();
  final File tempFile = File("${tempDir.path}/temp.pdf");
  await tempFile.writeAsBytes(bytes, flush: true);
  setState(() {
   localFilePath = tempFile.path;
   isLoading = false;
  });
 } catch (e) {
  debugPrint("Error loading PDF: $e");
  setState(() {
   isLoading = false;
  });
 }
}
void _toggleScrollMode() {
 setState(() {
  isScrolling = !isScrolling;
  pdfViewKey = UniqueKey(); // Force PDFView to rebuild
 });
}
Future<void>_downloadPdf() async {
 if (localFilePath == null) return;
 try {
  if (Platform.isAndroid) {
   if (await Permission.storage.request().isGranted ||
      await Permission.manageExternalStorage.request().isGranted) {
     final Directory? downloadsDir = await getExternalStorageDirectory();
     if (downloadsDir != null) {
      final File destinationFile = File("${downloadsDir.path}/downloaded.pdf");
      await File(localFilePath!).copy(destinationFile.path);
```

```
// Show pop-up after successful download
  showDialog(
   context: context,
   builder: (BuildContext context) {
    return AlertDialog(
     title: const Text("Download Complete"),
     content: Text("PDF downloaded to:\n${destinationFile.path}"),
     actions: [
       TextButton(
        onPressed: () {
         Navigator.of(context).pop(); // Close the dialog
        },
        child: const Text("OK"),
       ),
     ],
    );
} else {
// Show a pop-up when permission is denied
showDialog(
  context: context,
  builder: (BuildContext context) {
   return AlertDialog(
    title: const Text("Permission Denied"),
    content: const Text("Storage permission is required to download the PDF."),
    actions: [
     TextButton(
       onPressed: () {
        Navigator.of(context).pop();
        openAppSettings(); // Open app settings for permissions
       },
       child: const Text("Open Settings"),
      ),
      TextButton(
       onPressed: () {
        Navigator.of(context).pop();
       child: const Text("Cancel"),
     ),
    ],
   );
 );
```

```
} catch (e) {
   debugPrint("Error downloading PDF: $e");
 }
 @override
 Widget build(BuildContext context) {
  return Scaffold(
   appBar: AppBar(
     backgroundColor: Colors.blueAccent,
     title: const Text('E-Book Reader', style: TextStyle(color: Colors.white)),
     actions: [
      IconButton(
       icon: const Icon(Icons.download, color: Colors.white),
       onPressed: _downloadPdf,
      ),
     ],
   ),
   body: isLoading
      ? const Center(child: CircularProgressIndicator())
      : localFilePath != null
         ? Column(
           children: [
            Padding(
             padding: const EdgeInsets.all(8.0),
             child: ElevatedButton(
               style: ElevatedButton.styleFrom(
                backgroundColor: Colors.blue,
                foregroundColor: Colors.white,
               ),
               onPressed: _toggleScrollMode,
               child: Text(isScrolling? "Switch to Swipe Mode": "Switch to Scroll
Mode"),
             ),
            ),
            Expanded(
             child: PDFView(
               key: pdfViewKey, // Ensures widget rebuilds
               filePath: localFilePath!,
               enableSwipe: true,
               swipeHorizontal: !isScrolling, // Enable left/right swipe
               autoSpacing: true,
               pageSnap: true,
               pageFling: true,
               onRender: (pages) {
                setState(() {
```

OUTPUT:





