# JOBSHEET – APLIKASI OCR SEDERHANA DENGAN FLUTTER

## 1. IDENTITAS PRAKTIKAN

| Komponen | Isi |
|---|---|
| Nama | _____ |
| Kelas / NIM | _____ |
| Tanggal | _____ |
| Guru / Dosen | _____ |

## 2. TUJUAN PRAKTIKUM

Setelah menyelesaikan jobsheet ini, siswa/mahasiswa mampu:

1. Membuat aplikasi Flutter multi-halaman.
2. Menggunakan plugin kamera untuk mengambil gambar.
3. Mengintegrasikan **OCR (Optical Character Recognition)** menggunakan library `google_mlkit_text_recognition`.
4. Menampilkan hasil OCR di halaman terpisah.
5. Menerapkan navigasi dasar antar layar menggunakan `Navigator`.

## 3. ALAT DAN BAHAN

- Laptop/komputer dengan Flutter SDK terinstal
- VS Code atau Android Studio
- Emulator Android atau perangkat Android fisik
- Koneksi internet (untuk instalasi dependensi)

## 4. LANGKAH KERJA

### 4.1. Langkah 1: Buat Proyek Baru

Buka terminal, lalu jalankan:

```
flutter create ocr_sederhana
cd ocr_sederhana
```

Listing 1: Membuat proyek Flutter

### 4.2. Langkah 2: Tambahkan Plugin

Buka file `pubspec.yaml`, lalu tambahkan dependensi berikut di bawah bagian `dependencies`:

```
dependencies:
  flutter:
    sdk: flutter
  google_mlkit_text_recognition: ^0.10.0
  camera: ^0.10.5+5
  path_provider: ^2.1.2
  path: ^1.8.3
```

Listing 2: pubspec.yaml - dependencies

Simpan file, lalu jalankan:

```
flutter pub get
```

### 4.3. Langkah 3: Tambahkan Izin Kamera (Android)

Buka file: `android/app/src/main/AndroidManifest.xml`

Tambahkan baris berikut di dalam tag `<manifest>`, sebelum `<application>`:

```
<uses-permission android:name="android.permission.CAMERA" />
```

### 4.4. Langkah 4: Buat Struktur Folder

Di dalam folder `lib/`, buat struktur berikut:

```
lib/
          main.dart
          screens/
              splash_screen.dart
              home_screen.dart
              scan_screen.dart
              result_screen.dart
```

# 5. KODE PROGRAM

## 5.1. File: lib/main.dart

```dart
import 'package:flutter/material.dart';
import 'screens/splash_screen.dart';

void main() {
  runApp(const MyApp());
}

class MyApp extends StatelessWidget {
  const MyApp({super.key});

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      title: 'OCR Sederhana',
      theme: ThemeData(primarySwatch: Colors.blue),
      home: const SplashScreen(),
      debugShowCheckedModeBanner: false,
    );
  }
}
```

Listing 3: main.dart

## 5.2. File: lib/screens/splash_screen.dart

```dart
import 'dart:async';
import 'package:flutter/material.dart';
import 'home_screen.dart';

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

  @override
  State<SplashScreen> createState() => _SplashScreenState();
}

class _SplashScreenState extends State<SplashScreen> {
  @override
```

```
  void initState() {
    super.initState();
    Timer(const Duration(seconds: 2), () {
      Navigator.pushReplacement(
        context,
        MaterialPageRoute(builder: (_) => const HomeScreen()),
      );
    });
  }

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.blue,
      body: Center(
        child: Column(
          mainAxisAlignment: MainAxisAlignment.center,
          children: const [
            CircularProgressIndicator(color: Colors.white),
            SizedBox(height: 20),
            Text('OCR Scanner',
                style: TextStyle(color: Colors.white, fontSize:
 24)),
          ],
        ),
      ),
    );
  }
}
```

Listing 4: splash_screen.dart

### 5.3. File: `lib/screens/home_screen.dart`

```
import 'package:flutter/material.dart';
import 'scan_screen.dart';

class HomeScreen extends StatelessWidget {
  const HomeScreen({super.key});

  @override
  Widget build(BuildContext context) {
```

```
    return Scaffold(
      appBar: AppBar(title: const Text('Menu Utama')),
      body: Center(
        child: ElevatedButton(
          onPressed: () {
            Navigator.push(
              context,
              MaterialPageRoute(builder: (_) => const ScanScreen
   ()),
            );
          },
          child: const Text('Mulai Scan Teks'),
        ),
      ),
    );
  }
}
```

Listing 5: home_screen.dart

### 5.4. File: lib/screens/scan_screen.dart

```
import 'dart:io';
import 'package:flutter/material.dart';
import 'package:camera/camera.dart';
import 'package:google_mlkit_text_recognition/google_mlkit_text_
   recognition.dart';
import 'package:path/path.dart' as path;
import 'package:path_provider/path_provider.dart';
import 'result_screen.dart';

late List<CameraDescription> cameras;

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

  @override
  State<ScanScreen> createState() => _ScanScreenState();
}

class _ScanScreenState extends State<ScanScreen> {
  late CameraController _controller;
```

```
20  late Future<void> _initializeControllerFuture;
21
22  @override
23  void initState() {
24    super.initState();
25    _initCamera();
26  }
27
28  void _initCamera() async {
29    cameras = await availableCameras();
30    _controller = CameraController(cameras[0], ResolutionPreset.
     medium);
31    _initializeControllerFuture = _controller.initialize();
32    if (mounted) {
33      setState(() {});
34    }
35  }
36
37  @override
38  void dispose() {
39    _controller.dispose();
40    super.dispose();
41  }
42
43  Future<String> _ocrFromFile(File imageFile) async {
44    final inputImage = InputImage.fromFile(imageFile);
45    final textRecognizer = TextRecognizer(script:
     TextRecognitionScript.latin);
46    final RecognizedText recognizedText = await textRecognizer.
     processImage(inputImage);
47    textRecognizer.close();
48    return recognizedText.text;
49  }
50
51  Future<void> _takePicture() async {
52    try {
53      await _initializeControllerFuture;
54
55      if (!mounted) return;
56      ScaffoldMessenger.of(context).showSnackBar(
```

```
57          const SnackBar(content: Text('Memproses OCR, mohon
    tunggu...'), duration: Duration(seconds: 2)));
58
59      final XFile image = await _controller.takePicture();
60
61      final ocrText = await _ocrFromFile(File(image.path));
62
63      if (!mounted) return;
64      Navigator.push(
65        context,
66        MaterialPageRoute(builder: (_) => ResultScreen(ocrText:
    ocrText)),
67      );
68    } catch (e) {
69      if (!mounted) return;
70      ScaffoldMessenger.of(context).showSnackBar(SnackBar(content
    : Text('Error saat mengambil/memproses foto: $e')));
71    }
72  }
73
74  @override
75  Widget build(BuildContext context) {
76    if (!_controller.value.isInitialized) {
77      return const Scaffold(body: Center(child:
    CircularProgressIndicator()));
78    }
79
80    return Scaffold(
81      appBar: AppBar(title: const Text('Kamera OCR')),
82      body: Column(
83        children: [
84          Expanded(
85            child: AspectRatio(
86              aspectRatio: _controller.value.aspectRatio,
87              child: CameraPreview(_controller),
88            ),
89          ),
90          Padding(
91            padding: const EdgeInsets.all(16.0),
92            child: ElevatedButton.icon(
93              onPressed: _takePicture,
```

```
              icon: const Icon(Icons.camera),
              label: const Text('Ambil Foto & Scan'),
            ),
          ),
        ],
      ),
    );
  }
}
```

Listing 6: scan_screen.dart

### 5.5. File: `lib/screens/result_screen.dart`

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

class ResultScreen extends StatelessWidget {
  final String ocrText;

  const ResultScreen({super.key, required this.ocrText});

  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(title: const Text('Hasil OCR')),
      body: Padding(
        padding: const EdgeInsets.all(16.0),
        child: SingleChildScrollView(
          child: SelectableText(
            ocrText.isEmpty
                ? 'Tidak ada teks ditemukan.'
                : ocrText.replaceAll('\n', ' '),
            style: const TextStyle(fontSize: 18),
          ),
        ),
      ),
    );
  }
}
```

Listing 7: result_screen.dart

## 6. TUGAS PRAKTIKUM

1. Jalankan aplikasi di emulator atau HP.
2. Lakukan scan terhadap teks cetak (misal: buku, koran, atau layar HP).
3. Amati hasil OCR yang muncul.
4. Jawab pertanyaan berikut:
   a. Apakah semua teks terbaca dengan akurat? Mengapa?
   b. Apa kegunaan fitur OCR dalam kehidupan sehari-hari?
   c. Sebutkan 2 contoh aplikasi nyata yang menggunakan OCR!

## 7. CATATAN PENTING

- Pastikan kamera perangkat dalam kondisi baik dan pencahayaan cukup.
- Plugin `google_mlkit_text_recognition` bekerja **offline** dan mendukung bahasa Latin (termasuk Indonesia).
- Jika muncul error saat pertama kali buka kamera, pastikan izin kamera sudah diizinkan di pengaturan HP.

## 8. PENILAIAN

| **Aspek** | **Skor (1–5)** |
|---|---|
| Kelengkapan kode | |
| Aplikasi berjalan lancar | |
| Jawaban tugas | |
| Ketepatan waktu | |
| **Total** | |

**Nilai Akhir** = Total Skor $\times$ 5

**Selamat mengerjakan!**