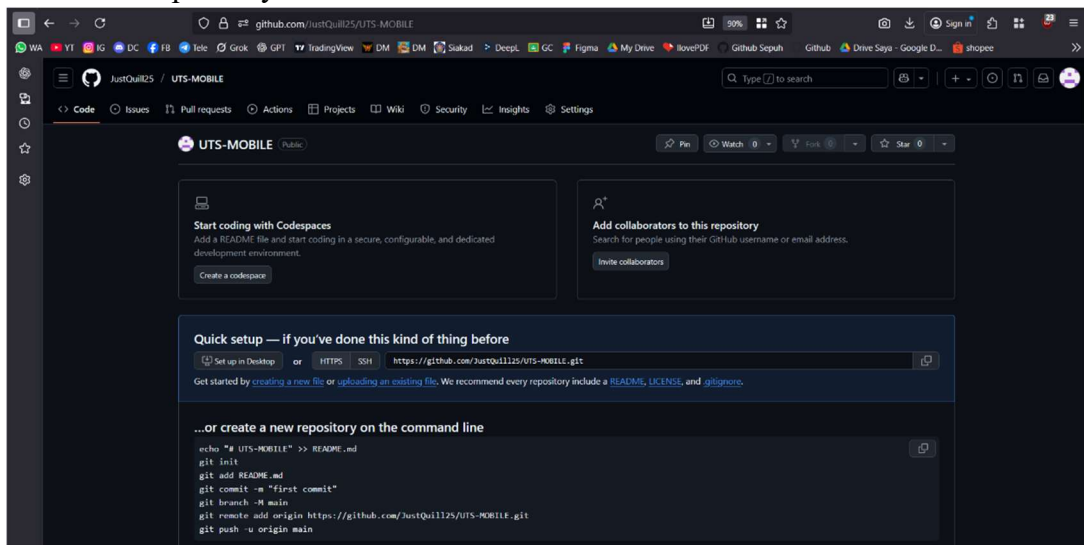


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Link GitHub : <https://github.com/JustQuill25/UTS-MOBILE>

UTS PEMROGRAMAN MOBILE

1. Membuat Repository Terlebih dahulu

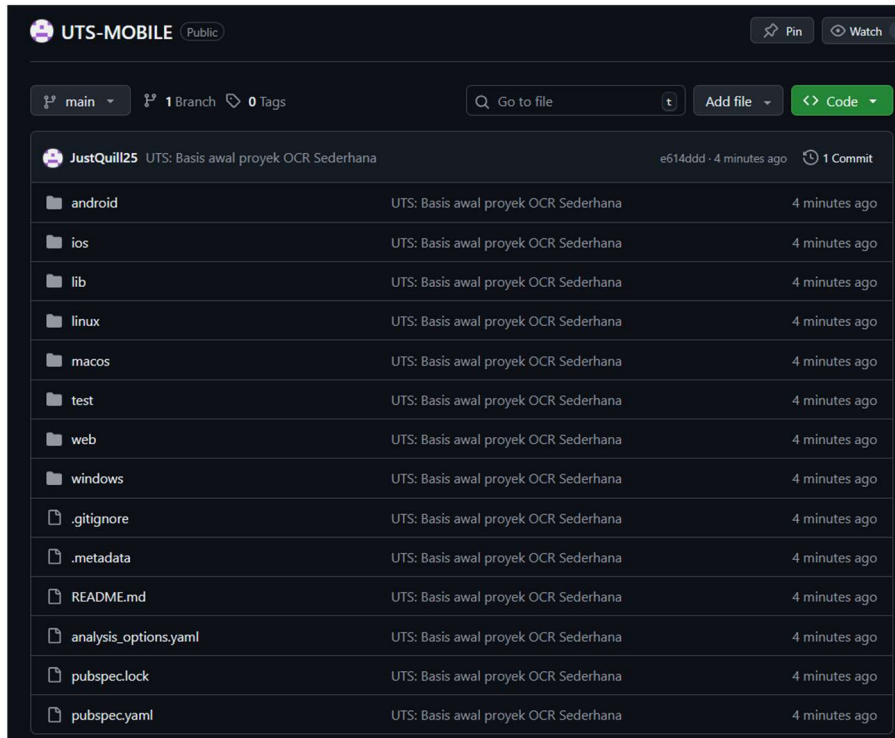


2. Commit awal persiapan Pengerjaan UTS

```
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git init
Initialized empty Git repository in D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana\.git/
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git branch -M main
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git remote add origin https://github.com/JustQuill25/UTS-MOBILE.git
>>
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git remote -v
origin https://github.com/JustQuill25/UTS-MOBILE.git (fetch)
origin https://github.com/JustQuill25/UTS-MOBILE.git (push)
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git add .
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git commit -m "UTS: Basis awal proyek OCR Sederhana"
[main (root-commit) e614ddd] UTS: Basis awal proyek OCR Sederhana
```

```
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git push -u origin main
Enumerating objects: 190, done.
Counting objects: 100% (190/190), done.
Delta compression using up to 8 threads
Compressing objects: 100% (155/155), done.
Writing objects: 100% (190/190), 307.26 KiB | 7.49 MiB/s, done.
Total 190 (delta 20), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (20/20), done.
To https://github.com/JustQuill25/UTS-MOBILE.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> []
```

3. Hasil Commit Pertama



4. Memodifikasi Struktur Navigasi dan Aliran

a. Memodifikasi File HomeScreen

```
home_screen.dart M X
ocr_sederhana > lib > screen > home_screen.dart > ...
1  import 'package:flutter/material.dart';
2  import 'scan_screen.dart';
3
4  class HomeScreen extends StatelessWidget {
5    const HomeScreen({super.key});
6
7    @override
8    Widget build(BuildContext context) {
9      return Scaffold(
10        appBar: AppBar(title: const Text('Menu Utama')),
11        body: ListView(
12          children: [
13            ListTile(
14              leading: const Icon(Icons.camera_alt, color: Colors.blue),
15              title: const Text('Mulai Pindai Teks Baru'),
16              subtitle: const Text('Gunakan kamera untuk mendeteksi teks'),
17              trailing: const Icon(Icons.arrow_forward_ios, color: Colors.grey),
18              onTap: () {
19                Navigator.push(
20                  context,
21                  MaterialPageRoute(builder: (_) => const ScanScreen()),
22                );
23              },
24            ), // ListTile
25          ], // ListView
26        ), // Scaffold
27      );
28    }
29  }
```

- Mengganti ElevatedButton dengan ListTile agar tampilan lebih profesional.
- Menambahkan subtitle dan trailing icon untuk nilai estetika
- Navigasi ke halaman ScanScreen() tetap ada dengan Navigator.push().

b. Memodifikasi File resultScreen

```
result_screen.dart M X
ocr_sederhana > lib > screen > result_screen.dart > ...
1 import 'package:flutter/material.dart';
2 import 'home_screen.dart';
3
4 class ResultScreen extends StatelessWidget {
5   final String ocrText;
6
7   const ResultScreen({super.key, required this.ocrText});
8
9   @override
10  Widget build(BuildContext context) {
11    return Scaffold(
12      appBar: AppBar(title: const Text('Hasil OCR')),
13      body: Padding(
14        padding: const EdgeInsets.all(16.0),
15        child: SingleChildScrollView(
16          child: SelectableText(
17            ocrText.isEmpty ? 'Tidak ada teks ditemukan.' : ocrText,
18            style: const TextStyle(fontSize: 18),
19          ), // SelectableText
20        ), // SingleChildScrollView
21      ), // Padding
22      floatingActionButton: FloatingActionButton(
23        onPressed: () {
24          Navigator.pushAndRemoveUntil(
25            context,
26            MaterialPageRoute(builder: (_) => const HomeScreen()),
27            (route) => false,
28          );
29        },
30        child: const Icon(Icons.home),
31      ), // FloatingActionButton
32    ); // Scaffold
33  }
34 }
```

- Menambahkan tombol **Home (FloatingActionButton)** untuk kembali ke menu utama.
- `pushAndRemoveUntil()` digunakan agar user tidak bisa kembali ke halaman hasil setelah menekan Home.

c. Commit Perubahan Terbaru

```
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git add lib/screens/home_screen.dart lib/screens/result_screen.dart
fatal: pathspec 'lib/screens/home_screen.dart' did not match any files
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git add lib/screen/home_screen.dart lib/screen/result_screen.dart
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git commit -m "UTS: Selesai Soal 1 - ListTile dan Navigasi Balik"
[main e7f7098] UTS: Selesai Soal 1 - ListTile dan Navigasi Balik
 2 files changed, 27 insertions(+), 13 deletions(-)
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git push origin main
Enumerating objects: 11, done.
Counting objects: 100% (11/11), done.
Delta compression using up to 8 threads
Compressing objects: 100% (6/6), done.
Writing objects: 100% (6/6), 1.20 KiB | 1.20 MiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/JustQuill25/UTS-MOBILE.git
   e614ddd..e7f7098  main -> main
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana>
```

The screenshot shows the GitHub interface for the repository 'UTS-MOBILE' (Public). The main branch is 'main' with 1 branch and 0 tags. The commit history table is as follows:

Commit	Author	Message	Time	Commits
e7f7098	JustQuill25	UTS: Selesai Soal 1 - ListTile dan Navigasi Balik	1 minute ago	2 Commits
e614ddd	JustQuill25	UTS: Basis awal proyek OCR Sederhana	17 minutes ago	
	JustQuill25	UTS: Basis awal proyek OCR Sederhana	17 minutes ago	
	JustQuill25	UTS: Selesai Soal 1 - ListTile dan Navigasi Balik	1 minute ago	

5. Penyesuaian Tampilan dan Penanganan State / Error

a. Custome Loading Screen

```
94 @override
95 Widget build(BuildContext context) {
96   // ✅ Tampilan Loading ketika kamera belum siap
97   if (!_controller.value.isInitialized) {
98     return Scaffold(
99       backgroundColor: Colors.black87,
100       body: const Center(
101         child: Column(
102           mainAxisAlignment: MainAxisAlignment.center,
103           children: [
104             CircularProgressIndicator(color: Colors.yellow),
105             SizedBox(height: 20),
106             Text(
107               'Memuat Kamera... Harap tunggu.',
108               style: TextStyle(color: Colors.white, fontSize: 18),
109             ), // Text
110           ],
111         ), // Column
112       ), // Center
113     ); // Scaffold
114   }
```

- menambahkan kondisi `if (!_controller.value.isInitialized)` yang menampilkan **custom loading screen** berwarna hitam dengan indikator kuning.

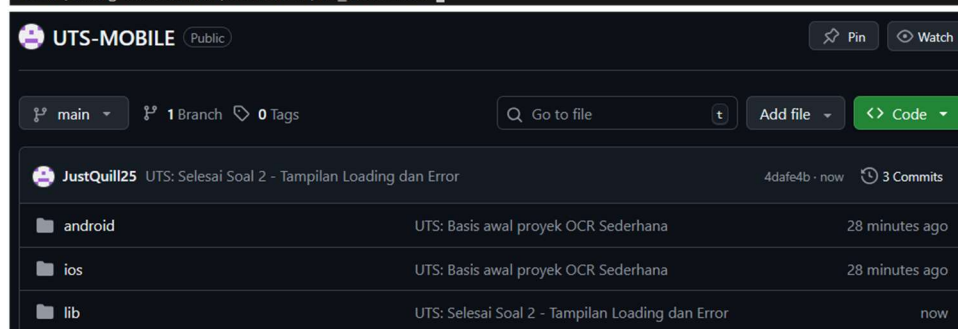
b. Spesifikasi Pesan Error

```
81 } catch (e) {
82   if (!mounted) return;
83   ScaffoldMessenger.of(context).showSnackBar(
84     const SnackBar(
85       content: Text(
86         'Pemindaian gagal! Periksa izin kamera atau coba lagi.',
87       ), // Text
88       duration: Duration(seconds: 3),
89     ), // SnackBar
90   );
91 }
92 }
```

- Pada fungsi `_takePicture()`, mengubah pesan error menjadi lebih user-friendly: “Pemindaian gagal! Periksa izin kamera atau coba lagi.”

c. Commit Perubahan Terbaru

```
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git add lib/screen/scan_screen.dart
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git commit -m "UTS: Selesai Soal 2 - Tampilan Loading dan Error"
[main 4d4fe4b] UTS: Selesai Soal 2 - Tampilan Loading dan Error
1 file changed, 39 insertions(+), 10 deletions(-)
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git push origin main
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 8 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 975 bytes | 975.00 KiB/s, done.
Total 5 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 3 local objects.
To https://github.com/JustQuill25/UTS-MOBILE.git
 e7f7098..4d4fe4b main -> main
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana>
```



6. Implementasi Plugin Text-to-Speech (TTS)

a. Tambahkan Plugin Flutter TTS

```
pubspec.yaml M X
ocr_sederhana > ! pubspec.yaml
10 dependencies:
11   flutter:
12     sdk: flutter
13
14   # ♦ Plugin tambahan untuk proyek OCR
15   google_mlkit_text_recognition: ^0.15.0
16   flutter_tts: ^3.8.3
17   camera: ^0.10.5+5

PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> flutter pub get
>>
Resolving dependencies...
Downloading packages...
camera 0.10.6 (0.11.2 available)
characters 1.4.0 (1.4.1 available)
flutter_lints 5.0.0 (6.0.0 available)
flutter_tts 3.8.5 (4.2.3 available)
lints 5.1.1 (6.0.0 available)
material_color_utilities 0.11.1 (0.13.0 available)
meta 1.16.0 (1.17.0 available)
test_api 0.7.6 (0.7.7 available)
Got dependencies!
8 packages have newer versions incompatible with dependency constraints.
Try `flutter pub outdated` for more information.
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana>
```

- menambahkan plugin **FlutterTts** untuk mengaktifkan fitur pembacaan teks hasil OCR.

b. Konversi Widget dan Inisialisasi

```
5 class ResultScreen extends StatefulWidget {
6   final String ocrText;
7
8   const ResultScreen({super.key, required this.ocrText});
9
10  @override
11  State<ResultScreen> createState() => _ResultScreenState();
12 }
13
17 @override
18 void initState() {
19   super.initState();
20   flutterTts = FlutterTts();
21   flutterTts.setLanguage("id-ID"); // Bahasa Indonesia
22   flutterTts.setSpeechRate(0.5); // kecepatan bicara
23 }
24
25 @override
26 void dispose() {
27   flutterTts.stop();
28   super.dispose();
29 }
30
```

- Menginisialisasi flutterTts di initState().
- Mengatur bahasa ke "id-ID" dan kecepatan bicara 0.5.

c. Fungsionalitas Pembacaan

```
58 floatingActionButton: Wrap(  
59   spacing: 12,  
60   children: [  
61     FloatingActionButton(  
62       heroTag: "btnHome",  
63       onPressed: () {  
64         Navigator.pushAndRemoveUntil(  
65           context,  
66           MaterialPageRoute(builder: (_) => const HomeScreen()),  
67           (route) => false,  
68         );  
69       },  
70       child: const Icon(Icons.home),  
71     ), // FloatingActionButton  
72     FloatingActionButton(  
73       heroTag: "btnSpeak",  
74       onPressed: _speakText,  
75       child: const Icon(Icons.volume_up),  
76     ), // FloatingActionButton  
77   ],  
78 ), // Wrap  
79 ); // Scaffold  
80 }  
81 }
```

```
14 class _ResultScreenState extends State<ResultScreen> {  
15   late FlutterTts flutterTts;  
16  
17   @override  
18   void initState() {  
19     super.initState();  
20     flutterTts = FlutterTts();  
21     flutterTts.setLanguage("id-ID"); // Bahasa Indonesia  
22     flutterTts.setSpeechRate(0.5); // kecepatan bicara  
23   }  
24  
25   @override  
26   void dispose() {  
27     flutterTts.stop();  
28     super.dispose();  
29   }  
30 }
```

- Menambahkan tombol FAB baru dengan ikon `Icons.volume_up` untuk memanggil fungsi `speak()`.

d. Commit Perubahan Terbaru

```
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git add pubspec.yaml lib/screen/result_screen.dart  
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git commit -m "UTS: Selesai Soal 3 - Implementasi Flutter TTS"  
[main ed773a3] UTS: Selesai Soal 3 - Implementasi Flutter TTS  
2 files changed, 59 insertions(+), 11 deletions(-)  
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana> git push origin main  
Enumerating objects: 11, done.  
Counting objects: 100% (11/11), done.  
Delta compression using up to 8 threads  
Compressing objects: 100% (6/6), done.  
Writing objects: 100% (6/6), 1.36 KiB | 1.36 MiB/s, done.  
Total 6 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)  
remote: Resolving deltas: 100% (3/3), completed with 3 local objects.  
To https://github.com/JustQuill25/UTS-MOBILE.git  
4d4fe4b..ed773a3 main -> main  
PS D:\Pemrograman Mobile\Jobsheet 7\ocr_sederhana>
```

The screenshot shows the GitHub interface for a repository named "UTS-MOBILE" (Public). The repository is owned by "JustQuill25". The main branch is "main", and there is 1 branch and 0 tags. The repository has 4 commits. The file list shows three folders: "android", "ios", and "lib". The "android" and "ios" folders have a commit message "UTS: Basis awal proyek OCR Sederhana" and were committed 39 minutes ago. The "lib" folder has a commit message "UTS: Selesai Soal 3 - Implementasi Flutter TTS" and was committed "now".