

**LAPORAN PRAKTIKUM  
PEMROGRAMAN PERANGKAT BERGERAK**

**MODUL IV  
ANTARMUKA PENGGUNA**



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**PROGRAM STUDI S1 SOFTWARE ENGINEERING**  
**FAKULTAS INFORMATIKA**  
**TELKOM UNIVERSITY PURWOKERTO**  
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## GUIDED

### Source Code :

#### Main.dart

```
1 import 'package:flutter/material.dart';
2 import 'flexible_expanded.dart'; // Tambahkan import ini
3
4 void main() {
5   runApp(const MyApp());
6 }
7
8 class MyApp extends StatelessWidget {
9   const MyApp({super.key});
10
11   @override
12   Widget build(BuildContext context) {
13     return MaterialApp(
14       title: 'Flutter Demo',
15       theme: ThemeData(
16         colorScheme: ColorScheme.fromSeed(seedColor: Colors.deepPurple),
17         useMaterial3: true,
18       ),
19       home: FlexibleExpandedScreen(), // Pastikan ini sesuai dengan nama kelas di flexible_expanded.dart
20     );
21   }
22 }
```

## Flexible\_expanded.dart

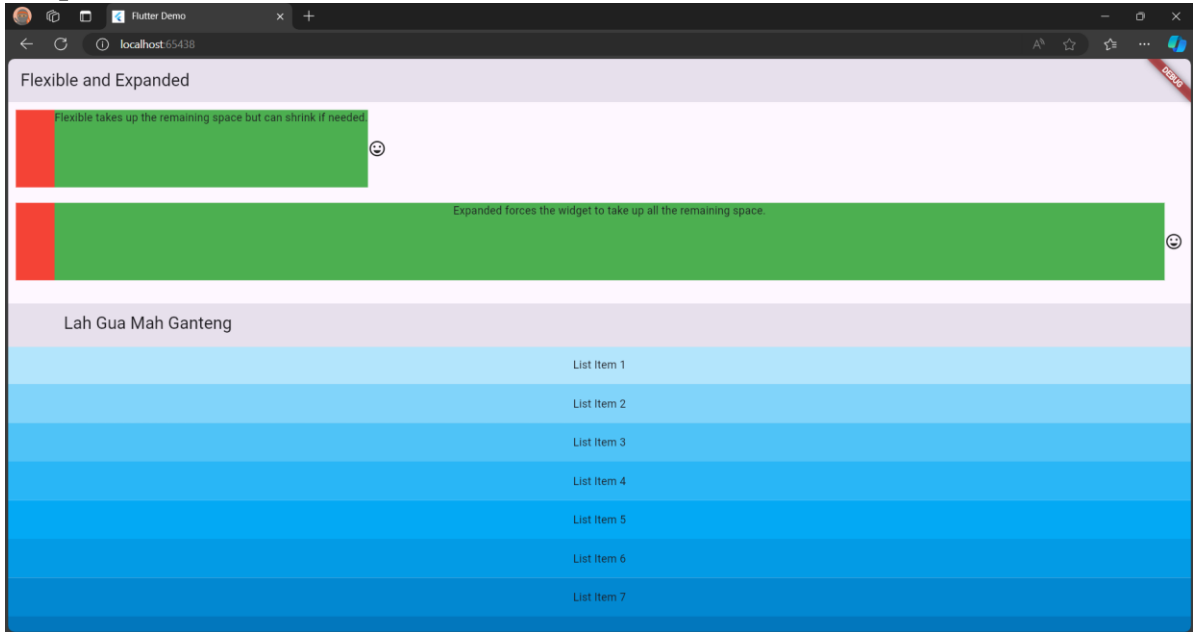
```
1 import 'package:flutter/material.dart';
2
3 class FlexibleExpandedScreen extends StatelessWidget {
4   const FlexibleExpandedScreen({super.key});
5
6   @override
7   Widget build(BuildContext context) {
8     // Data for ListView.builder and ListView.separated
9     final List<String> entries = <String>['A', 'B', 'C'];
10    final List<int> colorCodes = <int>[600, 500, 100];
11
12    return Scaffold(
13      appBar: AppBar(
14        title: const Text('Flexible and Expanded'),
15      ),
16      body: Column(
17        children: [
18          // Section 1: Flexible & Expanded
19          Padding(
20            padding: const EdgeInsets.all(10.0),
21            child: Column(
22              children: [
23                // Flexible
24                Row(
25                  children: <Widget>[
26                    Container(
27                      width: 50,
28                      height: 100,
29                      color: Colors.red,
30                    ),
31                    Flexible(
32                      child: Container(
33                        height: 100,
34                        color: Colors.green,
35                        child: const Text(
36                          "Flexible takes up the remaining space but can shrink if needed.",
37                          textAlign: TextAlign.center,
38                          softWrap: true,
39                          overflow: TextOverflow.ellipsis,
40                        ),
41                      ),
42                    ),
43                    const Icon(Icons.sentiment_very_satisfied),
44                  ],
45                ),
46                const SizedBox(height: 20),
47                // Expanded
48                Row(
49                  children: <Widget>[
50                    Container(
51                      width: 50,
52                      height: 100,
53                      color: Colors.red,
54                    ),
55                    Expanded(
56                      child: Container(
57                        height: 100,
58                        color: Colors.green,
59                        child: const Text(
60                          "Expanded forces the widget to take up all the remaining space.",
61                          textAlign: TextAlign.center,
62                          softWrap: true,
63                          overflow: TextOverflow.ellipsis,
64                        ),
65                      ),
66                    ),
67                    const Icon(Icons.sentiment_very_satisfied),
68                  ],
69                ),
70              ],
71            ),
72          ),
73          const SizedBox(height: 20),
74
75          // Section 2: CustomScrollView wrapped in Expanded to make it scrollable
76          Expanded(
77            child: CustomScrollView(
78              slivers: <Widget>[
79                // Sliver App Bar
80                const SliverAppBar(
81                  pinned: true,
82                  expandedHeight: 250.0,
83                  flexibleSpace: FlexibleSpaceBar(
84                    title: Text('Lah Gua Mah Ganteng'),
85                  ),
86                ),
87
88                // Sliver Grid
89                SliverGrid(
90                  gridDelegate: const SliverGridDelegateWithMaxCrossAxisExtent(
91                    maxCrossAxisExtent: 200.0,
92                    mainAxisSpacing: 10.0,
93                    crossAxisSpacing: 10.0,
94                    childAspectRatio: 4.0,
95                  ),
96                  delegate: SliverChildBuilderDelegate(
97                    (BuildContext context, int index) {
98                      return Container(
99                        alignment: Alignment.center,
100                        color: Colors.teal[100 * (index % 9)],
101                        child: Text('Grid Item $index'),
102                      );
103                    },
104                    childCount: 10, // Limit Grid to 10 items
105                  ),
106                ),
107              ],
108            ),
109          ),
110        ],
111      ),
112    );
113  }
114}
```

```

1
2      // Sliver List (ListView.builder)
3      SliverList(
4          delegate: SliverChildBuilderDelegate(
5              (BuildContext context, int index) {
6                  return Container(
7                      height: 50,
8                      color: Colors.amber[colorCodes[index]],
9                      child: Center(
10                         child: Text('Entry ${entries[index]}'),
11                     ),
12                 );
13             },
14             childCount: entries.length,
15         ),
16     ),
17
18     // Sliver List with Separator (ListView.separated)
19     SliverList(
20         delegate: SliverChildBuilderDelegate(
21             (BuildContext context, int index) {
22                 return Column(
23                     children: [
24                         Container(
25                             height: 50,
26                             color: Colors.amber[colorCodes[index]],
27                             child: Center(
28                                 child: Text('Separated Entry ${entries[index]}'),
29                             ),
30                         ),
31                         // Separator
32                         const Divider(),
33                     ],
34                 );
35             },
36             childCount: entries.length,
37         ),
38     ),
39
40     // Sliver Fixed List
41     SliverFixedExtentList(
42         itemExtent: 50.0,
43         delegate: SliverChildBuilderDelegate(
44             (BuildContext context, int index) {
45                 return Container(
46                     alignment: Alignment.center,
47                     color: Colors.lightBlue[100 * (index % 9)],
48                     child: Text('List Item $index'),
49                 );
50             },
51             childCount: 10, // Limit List to 10 items
52         ),
53     ),
54 ],
55 ),
56 ),
57 ],
58 ),
59 );
60 }
61 }

```

## Output :



## UNGUIDED

## Source Code :

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

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

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

  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      theme: ThemeData(
        primaryColor: Colors.teal,
      ),
      home: Scaffold(
        body: CustomScrollView(
          slivers: [
            // SliverAppBar dengan latar belakang gambar dan warna yang lebih cerah
            SliverAppBar(
              expandedHeight: 300.0,
              floating: false,
              pinned: true,
              backgroundColor: Colors.teal,
              flexibleSpace: FlexibleSpaceBar(
                titlePadding: const EdgeInsets.only(left: 20, bottom: 16),
                title: Container(
                  padding: const EdgeInsets.all(8.0),
                  decoration: BoxDecoration(
                    color: Colors.black.withOpacity(0.4),
                    borderRadius: BorderRadius.circular(10),
                  ),
                  child: const Text(
                    'Wisata di Banyuwangi',
                    style: TextStyle(
                      fontSize: 24,
                      fontWeight: FontWeight.bold,
                      color: Colors.white,
                    ),
                  ),
                ),
              background: Stack(
                fit: StackFit.expand,
                children: [
                  image.network(
                    'https://static.promediateknologi.id/crop/8x8/8x8/75x500/webp/photo/1/79/2024/18/09/1inggakan-Banyuwangi-Kota-Hasil-Pemekaran-yang-Memiliki-Kepadatan-Penduduk-2233-per-KM-persegi-Ini-Bakal-Jadi-Wilayah-Terluas-di-Jawa-Tengah-2469702952.jpg',
                    fit: BoxFit.cover,
                  ),
                  Container(
                    decoration: BoxDecoration(
                      gradient: LinearGradient(
                        colors: [
                          Colors.black.withOpacity(0.7),
                          Colors.transparent,
                        ],
                        begin: Alignment.bottomCenter,
                        end: Alignment.topCenter,
                      ),
                    ),
                  ),
                ],
              ),
            ),
            // SliverList untuk daftar tempat wisata
            SliverList(
              delegate: SliverChildBuilderDelegate(
                (BuildContext context, int index) {
                  // Cek apakah index masih dalam batas array
                  if (index < wisataImages.length &&
                      index < wisataTitles.length &&
                      index < wisataDescriptions.length) {
                    return GestureDetector(
                      onTap: () {
                        // Tindakan saat kartu diklik
                        showDialog(
                          context: context,
                          builder: (BuildContext context) {
                            return AlertDialog(
                              title: Text(wisataTitles[index]),
                              content: Text(wisataDescriptions[index]),
                              actions: [
                                TextButton(
                                  child: const Text("Tutup"),
                                  onPressed: () {
                                    Navigator.of(context).pop();
                                  },
                                ),
                              ],
                            );
                          },
                        );
                      },
                    );
                  }
                ),
                childCount: wisataTitles.length,
              ),
            ),
            Container(
              margin: const EdgeInsets.all(12.0),
              decoration: BoxDecoration(
                borderRadius: BorderRadius.circular(15),
                color: Colors.white,
                boxShadow: [
                  BoxShadow(
                    color: Colors.teal.withOpacity(0.3),
                    spreadRadius: 5,
                    blurRadius: 7,
                    offset: const Offset(0, 3),
                  ),
                ],
              ),
            ),
          ],
        ),
      ),
    );
  }
}
```

```

1      child: Column(
2        crossAxisAlignment: CrossAxisAlignment.start,
3        children: [
4          // Gambar wisata
5          ClipRect(
6            borderRadius: const BorderRadius.only(
7              topLeft: Radius.circular(15),
8              topRight: Radius.circular(15),
9            ),
10         child: Image.network(
11           wisataImages[index],
12           height: 200,
13           fit: BoxFit.cover,
14         ),
15       ),
16       // Nama dan Deskripsi Wisata
17       Padding(
18         padding: const EdgeInsets.all(12.0),
19         child: Column(
20           crossAxisAlignment: CrossAxisAlignment.start,
21           children: [
22             Text(
23               wisataTitles[index],
24               style: const TextStyle(
25                 fontSize: 20,
26                 fontWeight: FontWeight.bold,
27                 color: Colors.teal,
28               ),
29             ),
30             const SizedBox(height: 8),
31             Text(
32               wisataDescriptions[index],
33               style: const TextStyle(
34                 fontSize: 16,
35                 color: Colors.grey,
36               ),
37             ),
38             const SizedBox(height: 8),
39             ElevatedButton(
40               onPressed: () {
41                 // Aksi untuk tombol Lebih banyak info
42                 showDialog(
43                   context: context,
44                   builder: (BuildContext context) {
45                     return AlertDialog(
46                       title: Text(wisataTitles[index]),
47                       content: Text(
48                         'Informasi lebih lanjut...',
49                       ),
50                       actions: [
51                         TextButton(
52                           child: const Text("Tutup"),
53                           onPressed: () {
54                             Navigator.of(context).pop();
55                           },
56                         ),
57                       ],
58                     );
59                   },
60                 );
61                 child: const Text('Lihat Selengkapnya'),
62               ),
63             ),
64           ],
65         ),
66       ),
67     ),
68   );
69   } else {
70     return const SizedBox.shrink();
71   }
72   },
73   childCount: wisataTitles.length,
74 ),
75 ],
76 ),
77 ],
78 ),
79 ),
80 );
81 }
82 }
83
84 // Daftar gambar wisata
85 final List<String> wisataImages = [
86   'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcTwBwAYW9PMHqQ_uM1Yr7otTFLmb5xgGSakWQ&s',
87   'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSvq3f6dJ219euM8EC8-lN7WLBf2wBSZSYjg&s',
88   'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcSH-117XQzDy4Rpd0W_K_A0KQop4TUDert8zg&s',
89   'https://encrypted-tbn0.gstatic.com/images?q=tbn:ANd9GcQuLUz27VNWMMGIFJr3pUv1YQoyJvQwJnVh9QA&s',
90 ];
91
92 // Daftar title wisata
93 final List<String> wisataTitles = [
94   'Baturaden',
95   'Curug Cipendok',
96   'Telaga Sunyi',
97   'Taman Andhang Pangrenan',
98 ];
99
100 // Daftar deskripsi wisata
101 final List<String> wisataDescriptions = [
102   'Baturaden adalah objek wisata alam di lereng Gunung Slamet dengan pemandangan indah dan udara sejuk.',
103   'Curug Cipendok adalah air terjun yang megah dan terkenal dengan keindahan alam serta sejuknya udara pegunungan.',
104   'Telaga Sunyi adalah tempat wisata alam yang menyajikan ketenangan dengan air yang jernih dan suasana asri.',
105   'Taman kota yang cocok untuk rekreasi keluarga dengan berbagai fasilitas umum yang menarik.',
106 ];

```

## Output :

