ASSIGNMENT-03

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SUBJECT: APP DEVELOPMENT

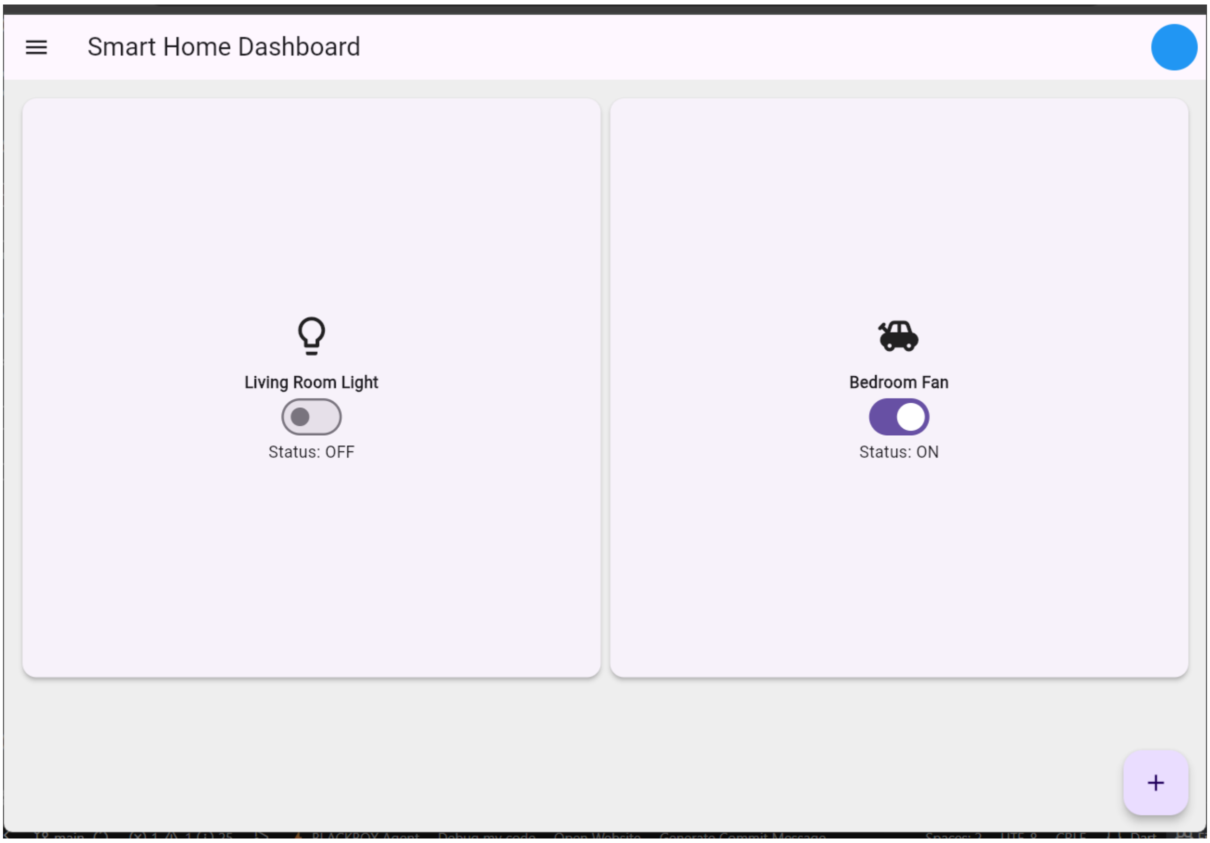
SMART_HOME_DASHBOARD:

MAIN.DART:

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


void main() {
  runApp(SmartHomeApp());
}


class SmartHomeApp extends StatelessWidget {
  @override
  Widget build(BuildContext context) {
    return MaterialApp(
      debugShowCheckedModeBanner: false,
      title: 'Smart Home Dashboard',
      theme: ThemeData(
        primarySwatch: Colors.blue,
        cardColor: Colors.white,
        scaffoldBackgroundColor: Colors.grey[200],
      ),
      home: DashboardScreen(),
    );
  }
}
class DashboardScreen extends StatefulWidget {
  @override
  State<DashboardScreen> createState() => _DashboardScreenState();
}
```

```
class _DashboardScreenState extends State<DashboardScreen> {
 List<Map<String, dynamic>> devices = [
  {
   "name": "Living Room Light",
   "type": "Light",
   "room": "Living Room",
   "isOn": false,
   "brightness": 50,
   "icon": Icons.lightbulb_outline
  },
  {
   "name": "Bedroom Fan",
   "type": "Fan",
   "room": "Bedroom",
   "isOn": true,
   "brightness": 70,
   "icon": Icons.toys
  }
 ];
 void showAddDeviceDialog() {
  TextEditingController nameCtrl = TextEditingController();
  TextEditingController roomCtrl = TextEditingController();
  String selectedType = "Light";
  bool defaultStatus = false;
  showDialog(
   context: context,
   builder: (context) {
    return AlertDialog(
     title: Text("Add New Device"),
     content: Column(
      mainAxisSize: MainAxisSize.min,
children: [
 TextField(
  controller: nameCtrl,
  decoration: InputDecoration(labelText: "Device Name"),
 ),
 TextField(
  controller: roomCtrl,
  decoration: InputDecoration(labelText: "Room Name"),
 ),
 DropdownButton<String>(
  value: selectedType,
  items: ["Light", "Fan", "AC", "Camera"]
    .map((e) => DropdownMenuItem(
       child: Text(e),
       value: e,
      ))
    .toList(),
  onChanged: (val) {
   setState(() {
    selectedType = val!;
   });
  },
 ),
 SwitchListTile(
  value: defaultStatus,
  title: Text("Status (ON / OFF)"),
  onChanged: (val) {
   setState(() {
    defaultStatus = val;
   });
  },
  )
 ],
),
actions: [
 TextButton(
   onPressed: () {
    Navigator.pop(context);
   },
   child: Text("Cancel")),
 ElevatedButton(
   onPressed: () {
    setState(() {
     devices.add({
      "name": nameCtrl.text,
      "type": selectedType,
      "room": roomCtrl.text,
      "isOn": defaultStatus,
      "brightness": 50,
      "icon": selectedType == "Light"
        ? Icons.lightbulb_outline
        : selectedType == "Fan"
          ? Icons.toys
          : selectedType == "AC"
            ? Icons.ac_unit
            : Icons.camera_alt
     });
    });
    Navigator.pop(context);
   },
   child: Text("Add"))
],
      );
    },
  );


}

@override
Widget build(BuildContext context) {
  return Scaffold(
    appBar: AppBar(
      title: Text("Smart Home Dashboard"),
      leading: Icon(Icons.menu),
      actions: [
        Padding(
          padding: const EdgeInsets.all(8.0),
          child: CircleAvatar(backgroundColor: Colors.blue),
        )
      ],
    ),
    body: Padding(
      padding: const EdgeInsets.all(12.0),
      child: GridView.builder(
        itemCount: devices.length,
        gridDelegate:
            SliverGridDelegateWithFixedCrossAxisCount(crossAxisCount: 2),
        itemBuilder: (context, index) {
          var device = devices[index];
          return InkWell(
            onTap: () {
              Navigator.push(
  context,
  MaterialPageRoute(
   builder: (_) => DeviceDetailsScreen(
    device: device,
    onUpdate: () {
     setState(() {});
    },
   ),
  ),
 );
},
child: Card(
 elevation: 3,
 child: Padding(
  padding: const EdgeInsets.all(8.0),
  child: Column(
   mainAxisAlignment: MainAxisAlignment.center,
   children: [
    Icon(device["icon"], size: 40),
    SizedBox(height: 10),
    Text(device["name"],
      textAlign: TextAlign.center,
      style: TextStyle(fontWeight: FontWeight.bold)),
    Switch(
     value: device["isOn"],
     onChanged: (val) {
      setState(() {
       device["isOn"] = val;
      });
     },
    ),
                      Text(device["isOn"] ? "Status: ON" : "Status: OFF")
                    ],
                  ),
                ),
              ),
            );
          },
        ),
      ),
      floatingActionButton: FloatingActionButton(
        onPressed: showAddDeviceDialog,
        child: Icon(Icons.add),
      ),
    );
  }
}
class DeviceDetailsScreen extends StatefulWidget {
  final Map<String, dynamic> device;
  final VoidCallback onUpdate;
  DeviceDetailsScreen({required this.device, required this.onUpdate});

  @override
  State<DeviceDetailsScreen> createState() => _DeviceDetailsScreenState();
}

class _DeviceDetailsScreenState extends State<DeviceDetailsScreen> {
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text(widget.device["name"]),
      ),
      body: Padding(
        padding: const EdgeInsets.all(20.0),
        child: Column(
          children: [
            Icon(widget.device["icon"], size: 120),
            SizedBox(height: 20),
            Text(
              widget.device["isOn"] ? "Device is ON" : "Device is OFF",
              style: TextStyle(fontSize: 18),
            ),
            SizedBox(height: 20),

            // Slider for brightness or speed
            Text("Control Level: ${widget.device["brightness"]}"),
            Slider(
              min: 0,
              max: 100,
              value: widget.device["brightness"].toDouble(),
              onChanged: (val) {
                setState(() {
                  widget.device["brightness"] = val.toInt();
                });
                widget.onUpdate();
              },
            ),
            SwitchListTile(
              title: Text("Turn ON / OFF"),
              value: widget.device["isOn"],
              onChanged: (val) {
                setState(() {
                  widget.device["isOn"] = val;
                });
                widget.onUpdate();
              },
            ),
          ],
        ),
      ),
    );
  }
}
```

RUNNING SCREENS

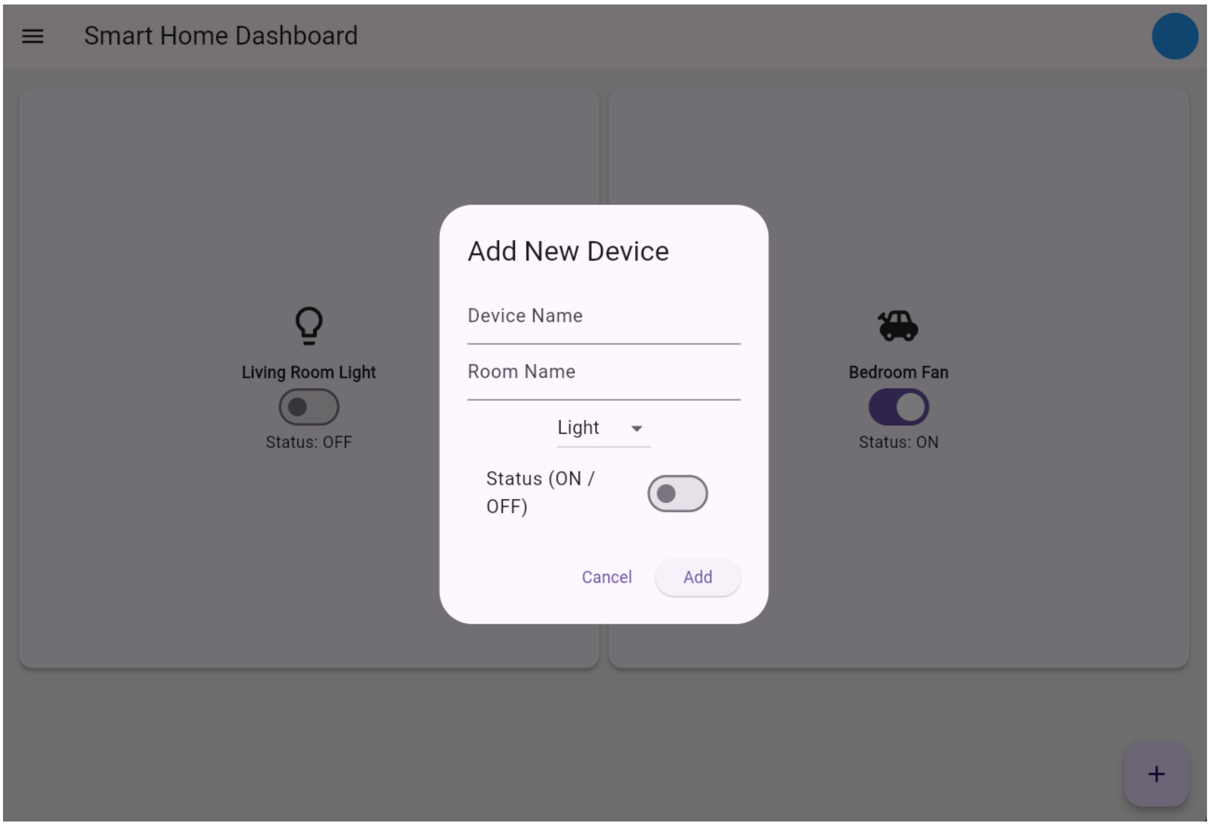


Living Room Light

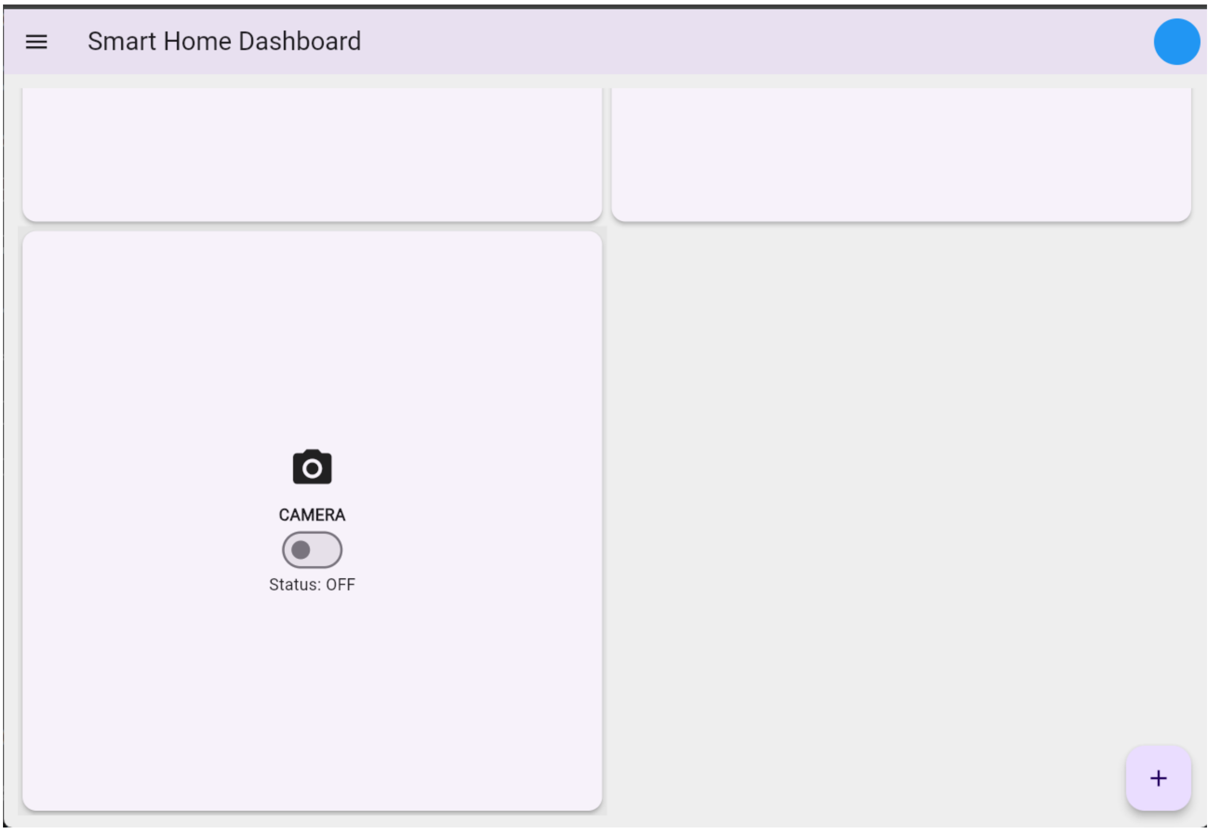
Status: OFF

Bedroom Fan

Status: ON



Smart Home Dashboard
Add New Device
Device Name
Room Name
Light
Status (ON / OFF)
Cancel
Add
Living Room Light
Status: OFF
Bedroom Fan
Status: ON
+



Smart Home Dashboard
CAMERA
Status: OFF
+