



# CET4104 – MOBILE PROGRAMMING

Week 6 – 12.04.2023

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## Agenda

1- State Management

2- Navigation and new screen

# Main.dart

```
import 'package:flutter/cupertino.dart'; //for IOS Design
import 'package:flutter/material.dart';
import 'package:practice/models/student.dart';
import 'package:practice/screens/student_add.dart'; // for Android Design
```

```
void main(){
  runApp(MaterialApp(
    home: MyApp()
  ));
}
```

```
class MyApp extends StatefulWidget{
  @override
  State<MyApp> createState() => _MyAppState();
  /*
  State<MyApp> createState() {
    return _MyAppState();
  }
  */
}
```

```
class _MyAppState extends State<MyApp> {
  int year=1981;

  String myTitle="how are you";

  Student chosenStudent=Student.withId(0,"", "",0);
```

```
  var students = <Student>[
    Student.withId(1,"Mustafa", "Coşkun", 55),
    Student.withId(2,"Yusup", "Hudayglyev", 10),
    Student.withId(3,"Bayram", "Soltanov", 45)
  ];
```

```
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      backgroundColor: Colors.cyanAccent,
      appBar: AppBar(
        title: Text(myTitle),
      ),
      body: buildBody(context),
    );
    throw UnimplementedError();
  }
```

```
  //we are adding a new function here
  String calculateOldness(){
    String message="";
    if(year<1990)
      message="you are soo old";
    else
      message="my young friend";

    return message;
  }
```

```
void showMessage(BuildContext context, String message){ // since the context
  is not a variable I am going to build that context inside of argument parenthesis
  var alert=AlertDialog(
    title: Text("Result"),
    content: Text(message)
  );
  showDialog(context: context, builder: (BuildContext)=>alert);
}
```

# Main.dart (2)

```
buildBody(BuildContext context){
  return Column(
    children: [
      Expanded(
        child:
          ListView.builder(
            itemCount: students.length,
            itemBuilder: (BuildContext context, int index){
              return ListTile(
                leading: CircleAvatar(
                  backgroundColor: Colors.amber,
                  backgroundImage: NetworkImage("https://cdn-icons-png.flaticon.com/512/67/67902.png"),
                ),
                title: Text(students[index].firstName + " " + students[index].lastName),
                subtitle: Text("Grade:" + students[index].grade.toString() + "-" + students[index].getStatus),
                trailing: buildStatusIcon(students[index].grade),
                onTap: () {
                  setState(() {

                    chosenStudent=students[index];
                    print(chosenStudent.firstName);
                  });

                },
              );
            }
          ),
      Text("Chosen Student:" + chosenStudent.firstName),
      Row(
        children: [
          Flexible(
            fit: FlexFit.tight,
            flex: 1,
            child: ElevatedButton(
              style: ElevatedButton.styleFrom(
                backgroundColor: Colors.deepOrangeAccent
              ),
              onPressed: (){
                Navigator.push(context,MaterialPageRoute(builder: (context)=>StudentAdd()));
              },
              child: Row(
                children: [
                  Icon(Icons.add),
                  SizedBox(width: 5.0,),
                  Text("Add New")
                ],
              ),
            ),
          ),
        ],
      ),
    ],
  ),
}
```

```
Flexible(
  fit: FlexFit.tight,
  flex: 1,
  child: ElevatedButton(
    style: ElevatedButton.styleFrom(
      backgroundColor: Colors.green
    ),
    onPressed: (){
      showMessage(context, calculateOldness());
    },
    child: Row(
      children: [
        Icon(Icons.update),
        SizedBox(width: 5.0,),
        Text("Update")
      ],
    ),
  ),
),
Flexible(
  fit: FlexFit.tight,
  flex: 1,
  child: ElevatedButton(
    style: ElevatedButton.styleFrom(
      backgroundColor: Colors.black
    ),
    onPressed: (){
      showMessage(context, "Deleted student is"+chosenStudent.firstName);
      setState(() {
        students.remove(chosenStudent);
      });
    },
    child: Row(
      children: [
        Icon(Icons.delete),
        SizedBox(width: 5.0,),
        Text("Remove"),
      ],
    ),
  ),
),
],
),
);
}
```

```
Widget buildStatusIcon(int grade){
  if(grade>=50)
    return Icon(Icons.done);
  else if(grade>=40)
    return Icon(Icons.ac_unit);
  else
    return Icon(Icons.clear);
}
```

## Student.dart

```
class Student{
  late int id;
  late String firstName;
  late String lastName;
  late int grade;
  late String status;

  Student.withId(int id, String fn,String ln,int gr){
    id=id;
    firstName=fn;
    lastName=ln;
    grade=gr;
  }
  Student(String fn,String ln,int gr){
    firstName=fn;
    lastName=ln;
    grade=gr;
  }
  //getter setter
  String get getFirstName{
    return "OGR - " + this.firstName;
  }
  void set setFirstName(String value){
    this.firstName=value;
  }
  String get getStatus{
    String message="";
    if(grade>=50)
      message="Passed";
    else if(grade>=40)
      message="resit";
    else
      message="failed";
    return message;
  }
}
```

## student\_add.dart

```
import 'package:flutter/cupertino.dart'; //IOS
import 'package:flutter/material.dart'; //ANDROID

class StudentAdd extends StatefulWidget{
  @override
  State<StatefulWidget> createState() {
    return _studentAddState();
  }
}

class _studentAddState extends State{
  @override
  Widget build(BuildContext context) {
    return Scaffold(
      appBar: AppBar(
        title: Text("Add New Student"),
      ),
      body: Center(
        child: Text("In this screen we will ad a new student"),
      ),
    );
  }
}
```