



IEEE' 21 FLUTTER ROADMAP

Witten by

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A woman with long blonde hair and glasses is sitting at a desk, looking at a laptop. She is holding a small photo album or a set of printed photos in her left hand. The background is a blurred office environment with other people working. The image has a warm, brownish tint.

IEEE BUSB flutter

Sources

ENVIRONMENT SETUP STEPS

- Install Visual studio code from the following link
<https://code.visualstudio.com/>
 - Install dart extension from extensions in the vs code
 - Download and install dart SDK from the following link
✓ <https://gekorm.com/dart-windows/>
 - Install flutter extension as we did before in the dart extension
 - Download flutter SDK from the following link:
✓ <https://flutter.dev/docs/get-started/install>
 - Download Android studio from the following link and from it download a suitable emulator
✓ https://developer.android.com/studio/?gclid=CjwKCAiAjrXxBRAPEiwAiM3DQtifVmZJPuEx-3xDktmTO7lkArefFR5dsdrPvYwQTyTzozDrDKMaWBoCnosQAvD_BwE
 - Guideline video to install dart:
✓ <https://www.youtube.com/watch?v=dbGhtL6xa-c>
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- Guideline video to install flutter :

- ✓ <https://www.youtube.com/watch?v=5izFFbdHnWY>

- Dart documentation:

- ✓ <https://dart.dev/guides>

- Flutter documentation:

- ✓ <https://flutter.dev/docs>

To run the app on IOS:

- If you use windows you need Download MacOS package from the following link
 - ✓ <https://www.mediafire.com/file/cgvvab76xbbdroi/macOS+Catalina+10.15.6+Package.rar/file>
 - Use the following link to install MacOS as a virtual machine in your device
 - ✓ <https://www.youtube.com/watch?v=yuwjUv8-uGE&t=139s>
 - To download flutter in your mac or in your virtual machine follow the steps in the following link
 - ✓ <https://flutter.dev/docs/get-started/install/macos>
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1. DART LANGUAGE

→ Dart programming language:

- ❖ Dart Videos:
- ❖ Flutter is a framework written by Dart programming language, so you will learn dart first before you start with Flutter.

- ✓ Dart For Beginners

<https://www.youtube.com/playlist?list=PLJbE2Yu2zumDjrfu8kisK9lQVcpMDDzZ>

OR

- ✓ Dart From A to Z

<https://www.youtube.com/playlist?list=PLcfD4HARQRF-vr7yl0KkQAs2HzqyG7k2j>

OR

- ✓ Freecodecamp

https://www.youtube.com/watch?v=Ej_Pcr4uC2Q

2. FLUTTER

→ Flutter framework:

❖ Angela course (best flutter course):

- ✓ <https://www.udemy.com/course/flutter-bootcamp-with-dart/>
- ✓ Torrent : <https://thevaat.com/download-free-course-the-complete-2020-flutter-development-bootcamp-with-dart/>
- ✓ Google Drive : <https://drive.google.com/folderview?id=1nZbFOXaFfbPLbk5sWtiIOckQL-TdJdUc>

❖ Flutter Videos:

- ✓ https://www.youtube.com/playlist?list=PLcfD4HARQRF9ToPIW_kdQjBg6ARV2BXYL

❖ Flutter Book

- ✓ <https://lib-ebooks.com/beginning-flutter-a-hands-on-guide-to-app-development-pdf/>
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❖ Free beginner udemy course:

- ✓ <https://www.udemy.com/course/free-flutter-beginner-tutorial-build-own-app/>

❖ Flutter Arabic book:

- ✓ <https://drive.google.com/file/d/1b6iyS3nv6PRb71G8eL8jiBrfoX1mE8RW/view>

❖ Flutter complete Arabic course [hassan fulih]:

- ✓ <https://www.udemy.com/course/fluttercourse/learn/lecture/22862445?start=540#overview>

❖ Flutter Arabic Course [Abdallah Mansour]:

- ✓ <https://www.udemy.com/course/complete-flutter-arabic/learn/lecture/25780468?start=1335#overview>
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❖ Andrea Course:

- ✓ <https://courses.codewithandrea.com/courses/enrolled/1330803>
 - ✓ Free download:
<https://mega.nz/folder/CZYzyCRJ#ohh4YkKWhc3fhNcZmCZRhQ/folder/rYQl2IKL>
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A woman with long blonde hair and glasses is sitting at a desk, looking at a laptop. She is holding a small piece of paper with a grid of images. The background is blurred, showing other people in an office setting. The text "IEEE flutter course" is written in white, followed by a horizontal line, and then "Detailed Roadmap" in a larger white font.

IEEE flutter course

Detailed Roadmap

<https://flutter.dev/docs>

1. Learn Dart ::

- Flutter is a framework written by Dart programming language, so you will learn dart first before you start with Flutter.

https://www.youtube.com/watch?v=Ej_Pcr4uC2Q

2. What is Flutter ::

3. How Flutter Works ::

4. Flutter Basics ::

5. Design With Flutter ::

6. Animations With Flutter ::

https://www.youtube.com/watch?v=sWsN_CqKDig&list=PL93xoMrxRJltoTZJKda7TqmVoqS0WwADI

<https://www.youtube.com/watch?v=OtrWXLfGtqE&list=PL4cUxeGkcC9gP1qg8yj-Jokef29VRCLt1>

7. SharedPreferences ::

8. SQLite ::

<https://flutter.dev/docs/cookbook/persistence/sqlite>

<https://www.youtube.com/watch?v=B4zdTFvPI4&list=PLW9-80IN43dlvfnira5Ty3-9Mq21SP3eN>

<https://www.youtube.com/watch?v=p73ugssRnrY&list=PLV1fXIAyjeuaps39uHZGhBVPwpht1CU2f>

9. Firebase

<https://firebase.flutter.dev/>

<https://www.youtube.com/watch?v=caNqEHTs3U&list=PLuBL2DYgVDm2Gyr-2AFaNFj0JA8WSSH0T>

10. Restful API ::

<https://flutter.dev/docs/cookbook/networking/fetch-data>

https://www.youtube.com/watch?v=M8zM48JyTv0&list=PL_Wj0DgxTIJeLFYfRBfpFveEd9cQflpDx

https://www.youtube.com/watch?v=xXus5VSmPXE&list=PLGVaNq6mHinidROn_9AEraGi-gQHZ_ruN

11. State Management ::

- State Management teach you how to manage the state of your widget between the UI and the Backend data

<https://flutter.dev/docs/development/data-and-backend/state-mgmt/options>

<https://www.youtube.com/watch?v=3xBD0JV0JtU&list=PLV1fXIAyjeuZ6M8m56zajMUwu4uE3-SL0>

<https://www.youtube.com/watch?v=ihvYEH9Hcbl&list=PLV1fXIAyjeuXqIV086QKLa2Z5D2u6QPY>

<https://www.youtube.com/watch?v=4dSz3YB5eLY&list=PLMylOrRilu7szGUG92Lx65ImMX14UHueE>

12. Flutter Localization ::

<https://flutter.dev/docs/development/accessibility-and-localization/internationalization>

13. Maps with Flutter ::

14. Background Services ::

<https://www.youtube.com/watch?v=l4SBG88SwwA>

<https://www.youtube.com/watch?v=F3qE6cLQk2I>

<https://www.youtube.com/watch?v=aiTTCIKJbnw>

<https://www.youtube.com/watch?v=ckwAJ4O3fvU&list=PL93xoMrxRJlsoHL8gG1UBfVoXKi7OxbLU>

https://www.youtube.com/watch?v=QdWIE6VFiAM&list=PL3aG1K3LWCrejzY86JLKfjw-hThXYSf_1

<https://www.youtube.com/watch?v=fq4N0hgOWzU&list=PLOU2XLYxmsIJ7dsVN4iRuA7BT8XHzGtCr>

<https://www.youtube.com/watch?v=pTJJsmejUOQ>

<https://www.youtube.com/watch?v=zLOaNyuO670>

https://www.youtube.com/watch?v=b_sQ9bMltGU&list=PLjxrf2q8roU23XGwz3Km7sQZFTdB996iG

A woman with long blonde hair and glasses is sitting at a desk, looking at a laptop. She is holding a small photo album or a set of printed photos in her left hand. The background is blurred, showing other people in an office or meeting room. The overall tone is warm and professional.

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Content

ENVIRONMENT SETUP

- Visual studio code installation.
- Android studio installation.
- X code installation (Virtual machine if IOS)
- Installing dart & flutter extensions.
- Run a virtual device on Android studio.
- Run a sample app on a real phone (android & IOS)

1. DART LANGUAGE

→ Dart programming language:

❖ Dart concepts

- ✓ What is dart?
- ✓ Data types in dart
- ✓ Variables in dart
- ✓ Printing variables
- ✓ Comments
- ✓ Keyboard input
- ✓ Operators
- ✓ Conditional execution (if – switch)
- ✓ Iteration (loops)
- ✓ Type casting
- ✓ Arrays
- ✓ Lists
- ✓ Maps
- ✓ Strings
- ✓ Functions
- ✓ Local vs global
- ✓ Recursion
- ✓ Lambda expression
- ✓ Higher order Function

❖ OOP in dart

- ✓ Intro to OOP
 - ✓ Classes
 - ✓ Objects
 - ✓ Members & methods
 - ✓ constructors
 - ✓ Inheritance
 - ✓ Dart constructors in inheritance
 - ✓ Polymorphism
-

- ✓ Super
- ✓ AMixins

❖ Advanced dart

- ✓ Static variables and methods in dart
 - ✓ Functional programming and lambda expression
 - ✓ Using collections in dart
 - ✓ Using sets and maps in dart
 - ✓ Exceptions handling in dart
 - ✓ Final Vs const
 - ✓ Enum
 - ✓ Generic
 - ✓ Import
-

2. FLUTTER

→ Flutter framework:

❖ Widgets:

- ✓ Intro to flutter
 - ✓ UI and how do developers see the app
 - ✓ Offline IDE and Online IDE
 - ✓ Flutter Main structure files and folders in flutter
 - ✓ Stateless widgets and stateful widgets
 - ✓ Run APP
 - ✓ Parents and Childs and children
 - ✓ Scaffold
 - App bar (Leading and actions and icon)
 - Body
 - Floating action button
 - Background color
 - ✓ Material APP
 - ✓ Text
 - ✓ First layout in flutter
 - ✓ Fonts assets
 - ✓ Containers
 - ✓ Padding and margin
 - ✓ Rows
 - ✓ Columns
 - ✓ Image assets
 - ✓ Action buttons
 - ✓ Grid view and grid tile
 - ✓ Drawer
 - ✓ List view and list tile
 - ✓ Snack bars
 - ✓ Stateful widget
 - ✓ Text field
 - ✓ Button navigation bar
 - ✓ Tab bars
 - ✓ Positioned & Stack
 - ✓ Card
 - ✓ slider
-

- ✓ Expanded
- ✓ Alert dialog
- ✓ Drop down menu
- ✓ Bottom sheet
- ✓ Media query
- ✓ Pop
- ✓ Push
- ✓ Date picker

Hint : More Widgets will be taken later while doing projects

❖ Projects break

- ✓ Calculator app
- ✓ Messenger App UI
- ✓ Instagram APP
- ✓ Meal application

❖ Animation

- ✓ Animated Widgets
 - ✓ Hero animation
 - ✓ Tween animation builder
 - Opacity
 - Transform.rotate
 - Transform.scale
 - Transform.translate
 - ✓ Explicit Animations
 - Instance of animation
 - Instance of Animation controller
 - ✓ PageRouteBuilder
 - PageBuilder
 - TransitionsBuilder
 - ✓ Shimmer Animation
 - ✓ SharedPreferences
 - ✓ FadeInImage
 - ✓ Reside Transition
-

- ✓ Like Button
- ✓ Spinkit
- ✓ Slide Popup dialog

Hint : in the animation sessions we will make projects in all the sessions as I will ask them to make the UI and inside the session we will develop the application animations, and this will help them to recap the widgets daily.

❖ Async Programming

❖ How to deal with API

❖ database

- ✓ Sqflite (To do App)
- ✓ Fiber base (Sign In app)

Hint : in the database sessions we will make projects in all the sessions as I will ask them to make the UI and add the animations and in the sessions we will develop the database, and this will help them to recap the Widgets and animations daily.

Hint: While doing the sign in app we will deal with state management provider.

❖ IEEE application project

❖ Responsive app

❖ **Publish your app**

Adding a launcher icon

- *Signing the app*
- *R8*
- *Reviewing the app manifest*
- *Reviewing the build configuration*
- *Building the app for release*
- *Publishing to the Google Play Store*
- *Updating the app's version number*