

Flutter Mobile Application



The flutter mobile application course description



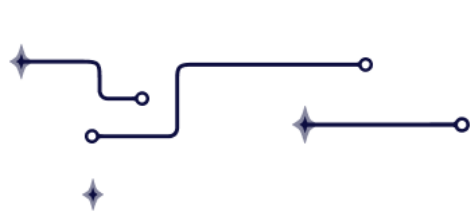
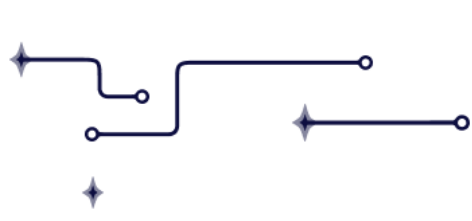


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Module description

From project setup to the deployment to the stores, in this module, you will learn everything you need to create a Flutter app for IOS and Android.

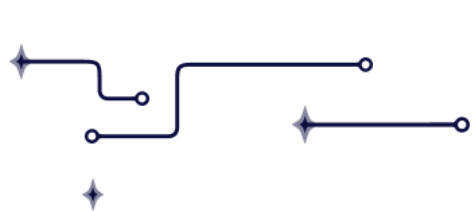
Flutter is a relatively new framework (less than three years), created by Google and used to develop native mobile applications for Android, IOS, Web (in beta) and soon more like native desktop apps.

The course will be a sequence of lessons on concept and TP to apply these lessons. At the end you should have everything you need to pass the mandatory rules of the project topic.

Skills to acquire

- Better knowledge of flutter workings
- How animations work in flutter
- Deploying your app to other devices
- Debugging and monitoring your app





Descriptive of the module

Day 1 am

- What is Flutter and Dart
- Flutter framework architecture
- Understanding constraints
- Tp1: E-shop list product page

Day 1 pm

- Fin du Tp1
- Adaptive apps in flutter
- Animations in flutter (implicit, hero, explicit)
- Tp2: Add animation on eshop product page

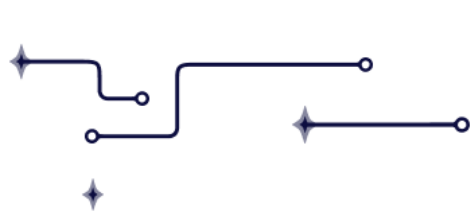
Day 2 am

- Correction Tp2 + debug issue with layout inspector
- Testing in flutter
- TP3.1: Create an integration test for your app
- Deploy to store
- TP3.2: Configure release app and add error reporting
- Continuous integration
- TP3.3: Deploy your app to testers phone

Day 2 pm

- Correction Tp3
- Hot reload (when it works and when it does not?)
- Common errors in flutter
- FAQ and start of project





Project topic

The project will be an open subject, you can choose anything you want as long as it respects the following rules:

Prerequisites

- You code must be at least in flutter 3.3.6 (stable channel)
- You must use [these lints rules](#) ↗ in your analysis_options file
- Your project must be functional
- Your project must be accessible to us via codemagic or on the store directly
- Your project must have a README describing how to deploy your app locally, what your project is about, the architecture of your project and what external libraries you used and why.

Basic functionalities

- You should have a user management system (login, register, ...) with at least a profile picture in your user info.
- You must have at least two types of user (admin and normal user for exemple) with different functionalities for each.
- You should use at least one native phone functionality (phone, camera, gps, gyroscope...)
- Your app must be in Flutter and work on Android and IOS and Web (responsive)
- You must use a global state management system (Redux, BloC, Provider, GetX,...)
- You must have at least one explicit animation

Advanced functionalities

- You can have a CI/CD for automatically testing and deploying your app
- You can have tests for your app (units/widget and/or integration)
- You can deploy your app to the stores
- You can have monitoring in place for your app (for KPIs and/or crash information)
-

Quality

- The command `flutter analyze` must be executed without issues found.
- Your code and your architecture will be reviewed
- The design and responsive capability of your app will be scored
- Your usage of git will be reviewed

All prerequisites rules are required, if one of them is missing you'll have ECHEC





Other informations

How much time do you have?

You must commit and push all your work one week before final defense (the last sunday before final defense)

Idea for a project

An e-shop application with a product list, a shopping cart, a user profile with a history of buys...

Number of persons in a group

2 to 3 persons in a group

Number of Credit

4 credits progressive:

- 0 if you don't have the prerequisites
- Up to 3 if you have some/all the basic functionalities
- 4 if you have all the basic functionalities and some advanced functionalities.

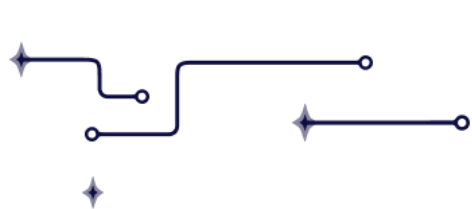
Where must you put your sources?

All the informations and rules for your repositories are in the [instructions](#) ↗ tab of the course Teams

Final Defense

The final defense attendance will be mandatory but can be done by visio in Teams





Useful links

Dart

- [Effective Dart Guide](#) ↗
- [Dart Tips](#) ↗
- [Dart Style Guide](#) ↗
- [Async and Futures](#) ↗

Flutter

- [Flutter Documentation](#) ↗
- [Flutter Github](#) ↗
- [Flutter StackOverflow](#) ↗
- [Flutter Gitter](#) ↗
- [Flutter FAQ](#) ↗
- [How Flutter Rendering Works](#) ↗
- [Flutter Engine](#) ↗
- [Hot Reload](#) ↗
- [Flutter Inspector](#) ↗
- [Flutter Widgets](#) ↗
- [Flutter Gallery App Code](#) ↗
- [Flutter Gallery Android App](#) ↗
- [Flutter Layout](#) ↗
- [Testing in flutter](#) ↗
- [The layer cake](#) ↗
- [Common errors in flutter](#) ↗

Other

- [Material Documentation](#) ↗
- [Material Icons](#) ↗
- [Open sources Images](#) ↗
- [Google Fonts](#) ↗
- [Google APIs](#) ↗
- [Codemagic](#) ↗
- [Rive - Bring your apps and games to life with real-time animation.](#) ↗
- [Supernova Studio | The World's First Design to Code Platform](#) ↗
- [A collection of fun Flutter experiments, created by gskinner, in partnership with Google.](#) ↗

