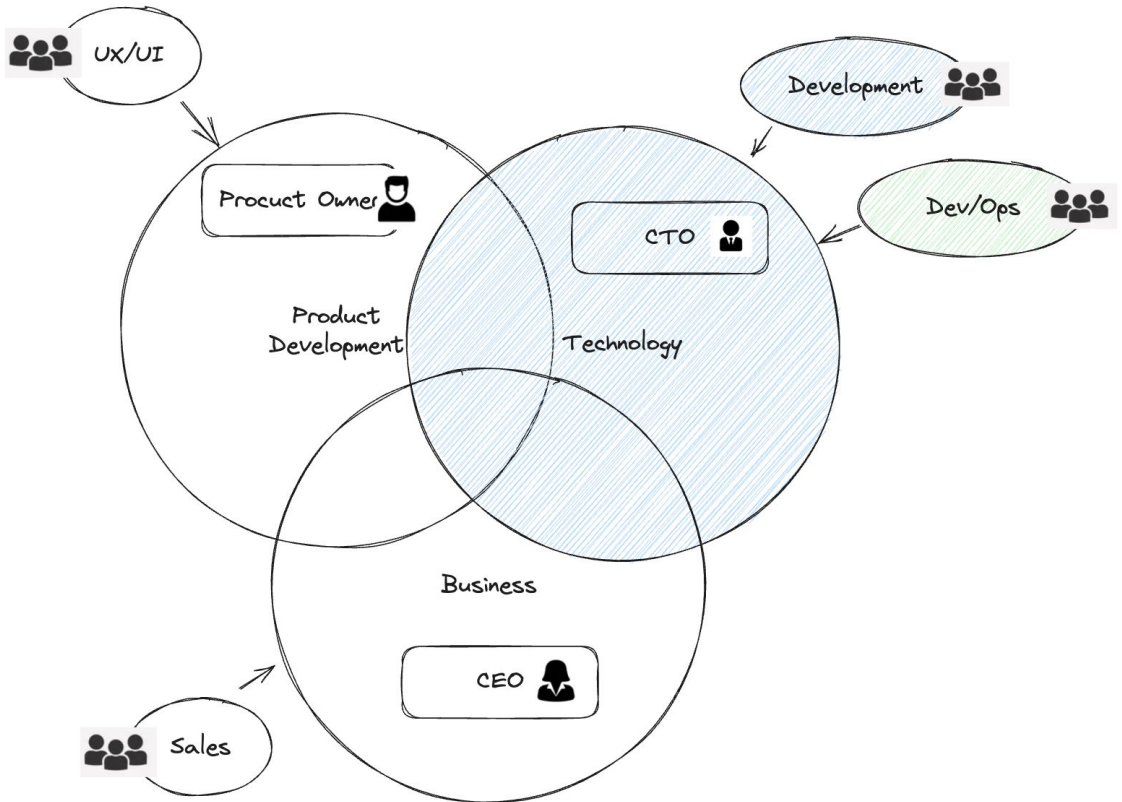# Mobile app development

Technical solutions

Basic responsibility diagram for a startup

CTO Responsibilities

- A CTO should have the business knowledge necessary to align technology-related decisions with the organization's goals.
- Fixing IT-related issues
- CTO is responsible for developing, implementing, managing and evaluating the company's technology resources.
- The goal of a CTO is to examine short- and long-term needs while using capital to make investments that aid the organization in reaching its goals.

Technology decision

- Our CEO have decided to develop a <u>new application</u> to expand the company product range.
- This application has to be developed to target some specific profile of our customers

Questions:

- How our target user would prefer to access the application?
- What kind of feature will implement this application in the future?
- Engagement. We need that the target users come back to use our application, if not, it will be a waste of time and money.
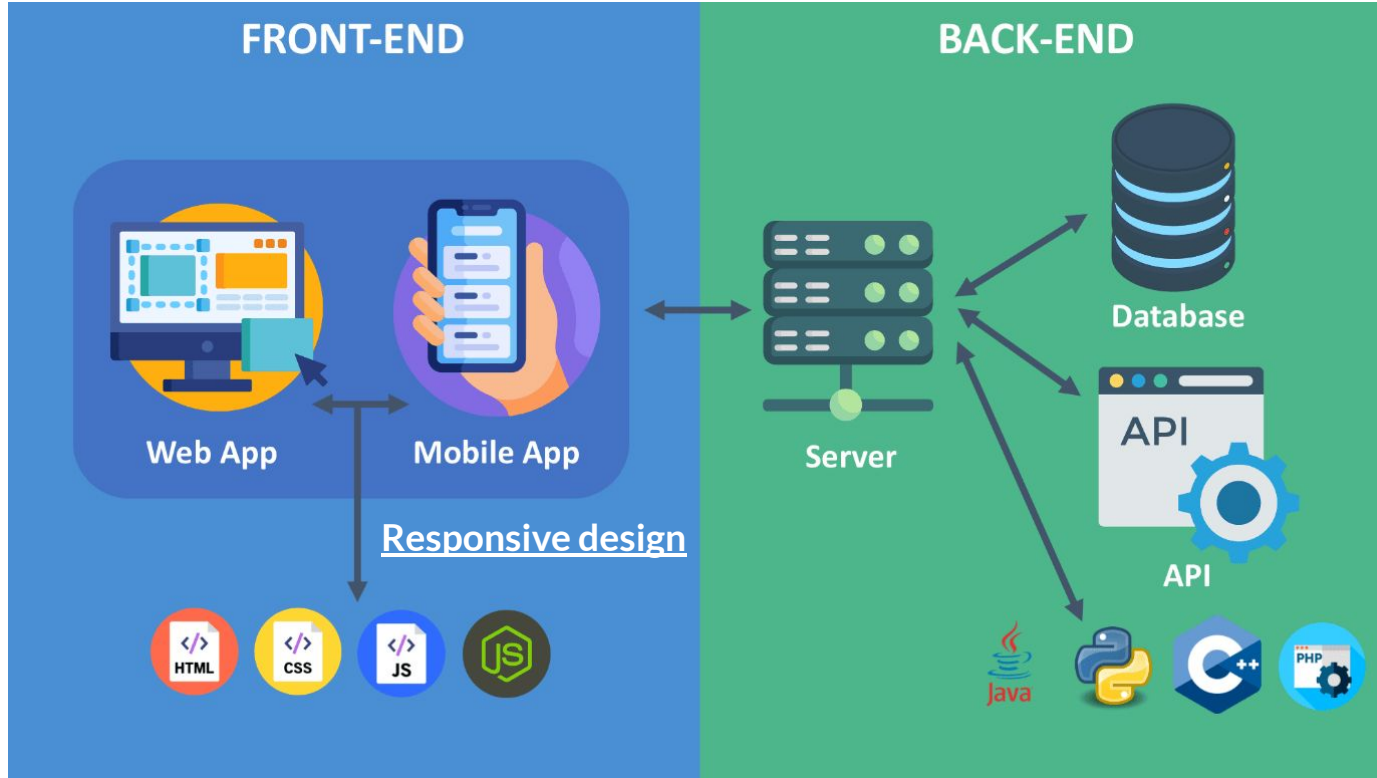
Available technologies to develop it

Web Development Tech Stack

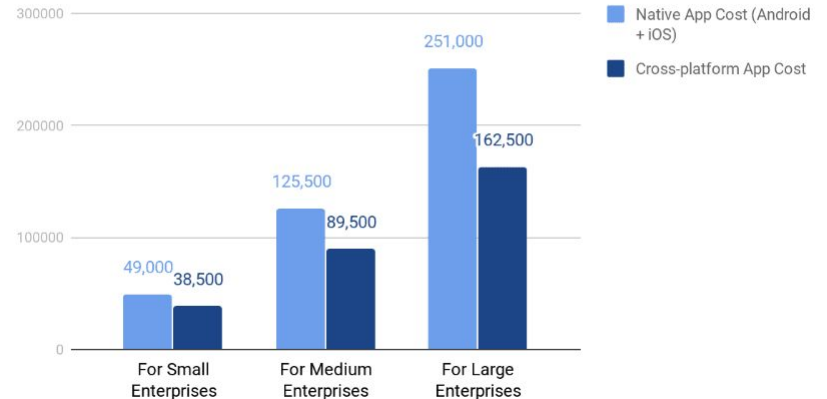| Frontend	Backend	Databases	Devops	Mobile app	
HTML5 CSS3 JS	Java Ruby Python Microsoft .NET mean	mongoDB PostgreSQL MySQL	aws GitLab DevOps	Swift Kotlin	Native code
				Flutter React Native	Hybrid code

Basic architecture

Native solutions—Pros cons

- Pros
  - High performance
  - Full access to all features of the device (almost)
  - Better user experience
  - Greater security
  - No internet access required
- Cons
  - Less flexibility
  - Expensive
  - More support and maintenance

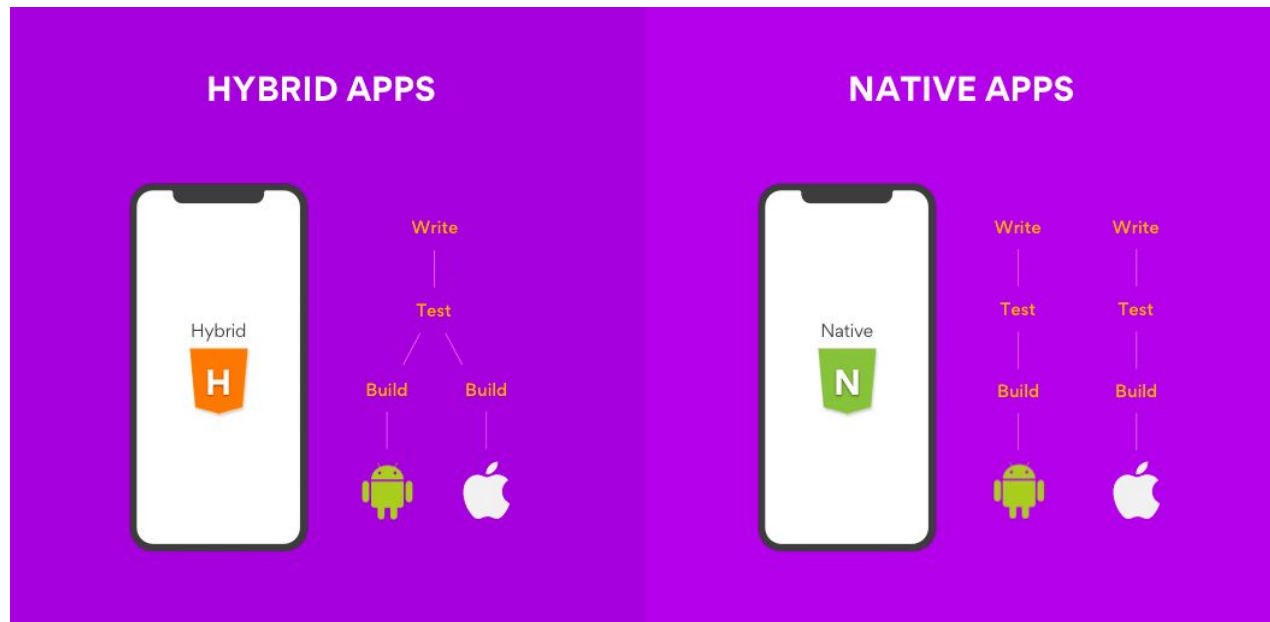Comparison Of Native vs Cross-Platform App Development Costs (USD)

When do you use native development

They're best suited for mission-critical apps that need fast performance, offline flexibility, and advanced functionality.

Hybrid solutions

- React Native
- Flutter
- Ionic

Hybrid solutions—React Native

It is the most preferred and famous hybrid app development technology that is used by mobile app developers.

Pros

- It uses JavaScript
- Ready to use components
- Easily finding all types of bugs
- Maximum code reusability
- A frontend react developer can learn it very quickly

Cons

- The documentation is very poor
- React Native has issues with compatibility and instability.

Hybrid solutions—React Native

Apps

Hybrid solutions—Flutter

The origin of Flutter was particularly done for Google Fuchsia

Pros

- It has the best compatibility with multiple operational systems.
- It offers an impressive speed which is best for a hybrid app framework.

Cons

- It has a limited community and few experts that are working at Alibaba and Google.
- Flutter has no set of free advanced tools.
- The platform is new in the market
- Flutter apps are usually 40% huge as compared to any native app.

Hybrid solutions—Flutter

Apps

Hybrid solutions—Ionic

It is considered as one of the fastest cross-platform app development frameworks that are used for creating hybrid mobile apps.

Pros

- It consists of massive UI components that are used for creating an eye-catchy user interface
- It offers the best built-in support for material design.
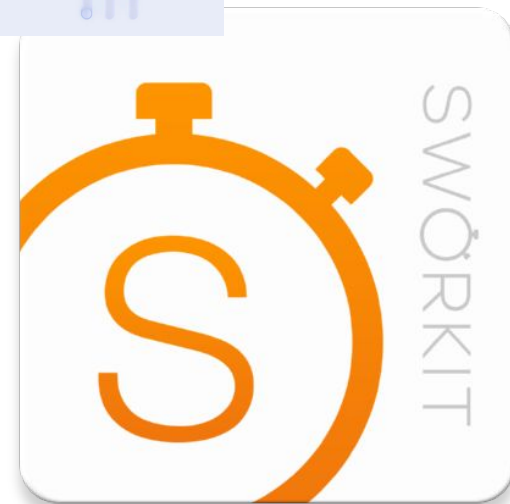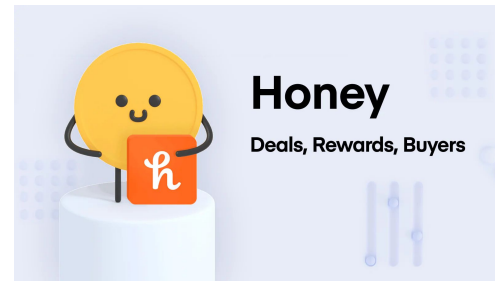- The Ionic framework has the top documentation support with a strong community.

Cons

- Ionic apps do not offer the best performance
- It has a lot of dependency on plugins
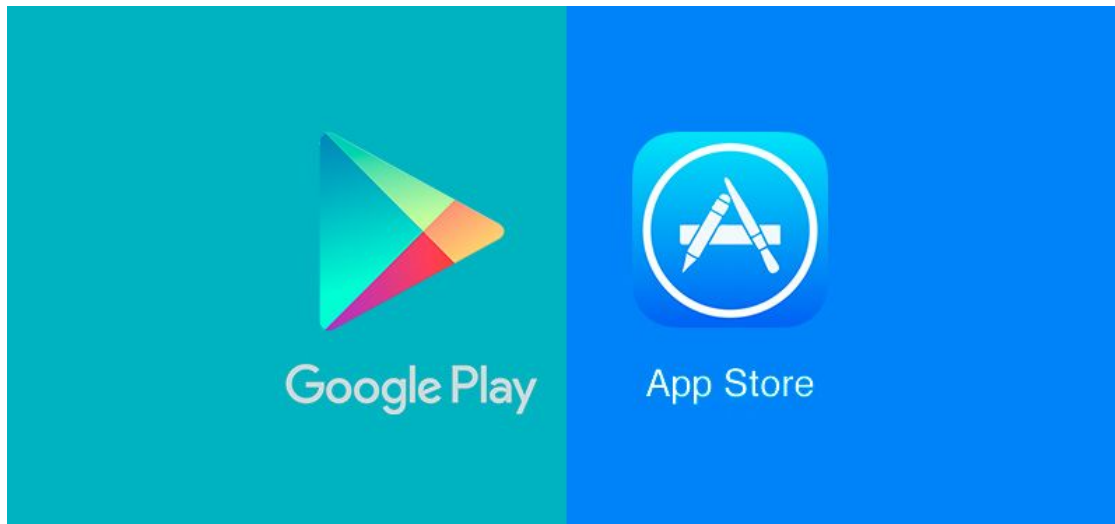
Hybrid solutions—Ionic
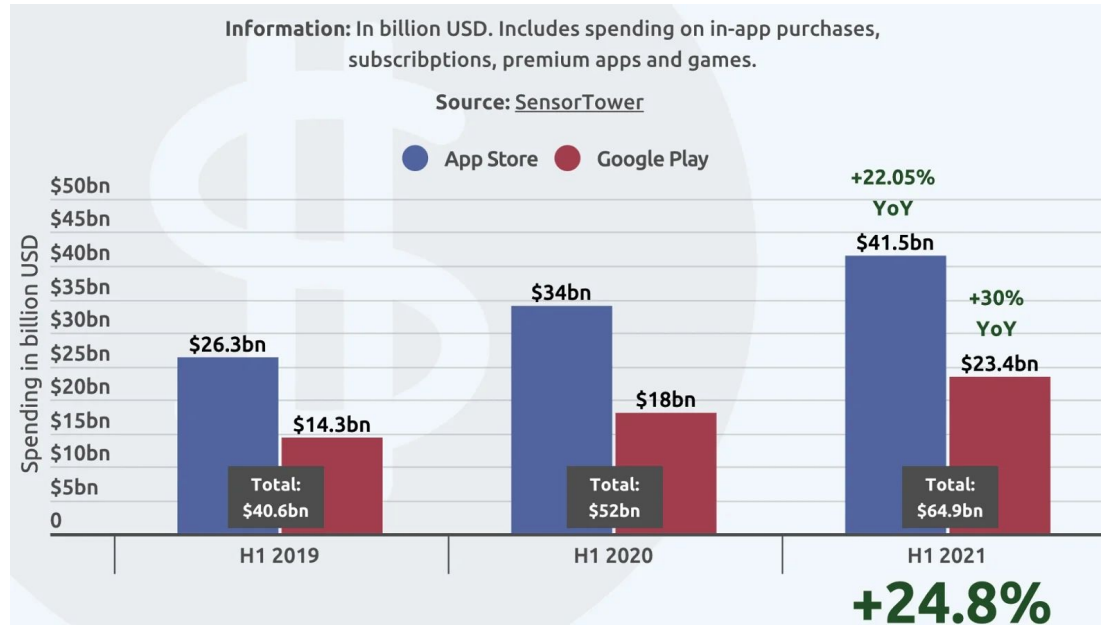
Hybrid Solutions—Pros cons

- Pros
  - It is budget-friendly
  - Highly scalable platform as once the development is completed, the apps can be utilized on different platforms.
  - No internet access required
  - Greater security
- Cons
  - Lower performance
  - The difficulty or impossibility to exploit the platforms' capacities in full

The store problem

The store problem

Information: In billion USD. Includes spending on in-app purchases, subscribtions, premium apps and games.

Source: SensorTower

● App Store   ● Google Play

Web development responsive solution

Pros

- Web developers can develop your application
- Lowest cost
- Control your releases
- All the money is for you
- Maximum cross-platform compatibility

Cons

- The user has to know your url
- No push-notifications. Customer loyalty by mail or sms. Subscriptions
- No access to hardware
- Internet connection required
- Less secure

Our solution

FRONT-END

BACK-END

Web App

Mobile App

Responsive design

Server

Database

API

API