

SLIDE 2 (MICHAEL)

Instant Developer Cloud is an Italian framework for cross-platform development that was born in Bologna from the company "Instant Developer". The mission of Instant Developer is to bring digital innovation among those companies who decide to use their products (such as this framework). The framework offers a complete environment where it is possible to develop webapp, PWAs and mobile apps for both Android and iOS operating systems.

Instant Developer can be used by freelance developers and even larger enterprise IT teams to develop digital solutions for their customers.

It is possible to get a trial version (Community license) of the framework for free without any time limit but with a limit on resources that it is possible to use for your project (e.g. just 1GB of cloud space). After the trial period, it is possible to buy the premium license which allows to use all the development tools offered by the framework.

The developed applications can run on the main desktop platforms, such as Windows and macOS (Linux is not supported), and on the main mobile OS, such as Android and iOS.

Applications are developed with the standard web technologies (HTML, CSS, JavaScript). This in fact, reduces the learning curve for web developers and can represent an advantage for those who do not want to spend effort and time to learn another language.

SLIDE 3 (MICHAEL)

We decided to choose this framework because it is not well-known and typically when you search for cross-platform framework, in most of the cases Instant Developer Cloud is not mentioned. So, for us it has been interesting and challenging to investigate on this framework.

Another reason is that the framework developers ensure the framework is constantly updated following the latest versions of the technologies on which the framework is built.

There is a help desk service (included in the premium license) where customers can talk with the team of Instant Developer for any trouble they are facing with their projects. Furthermore, there is a community forum for developers who use this framework.

The framework is well documented, even if the documentation is available only in Italian.

Then there is also an online platform provided by Instant Developer which offers tutorial and online courses to learn how the framework works.

So, at the end, there is a lot of support by the developers, and this represents an advantage for those who decide to choose this framework to develop applications.

...briefly list some companies who use the framework...

SLIDE 4/5 (SEBASTIANO)

- **Source code:** as mentioned before the applications developed with this framework are written with web technologies, that are JavaScript, HTML and CSS. This makes the mobile apps able to exploit engines of most used browsers.
- **Launcher:** is a container for an application in which it can run; There exists different containers:
 - for web application is based on Node.js
 - then for mobile application is based on Apache Cordova in which an application can be compiled in native code for iOS or Android
 - for the last one, the PWA's container, it is similar to the mobile application ones, but it uses only the browser functionalities.
- **APIs:** since the mobile applications's container is based on Cordova, it is possible to access to device features via APIs provided by the JavaScript layer which interacts with Cordova plugins.
- **Deployment:** through the framework's console is possible to deploy an application in a manual or automatic way
- **Update:** with the latter it's possible then to update an application (for all platforms) automatically without sending the new version to the stores, but this is possible only with a premium launcher. While with the other free version of launcher, it is necessary to send the new version of the app to the stores, this is also done, in both cases, when an update involves the native plugins.
- Given these features, we concluded that it is a framework based on hybrid approach