

# NFC on iPhone/iOS

## What happened?

As part of an agreement between the European Union and Apple, Apple has decided to open access to its NFC module to 3rd party developers. It allows the creation of solutions for contactless payments (HCE), an alternative to Apple Pay.

This article aims to explain the challenges and opportunities related to this technology.

## How it works?

- **NFC payments.** Users of participating third-party banking or wallet apps can initiate NFC transactions from within the app with compatible NFC terminals.
- **Default app settings.** Users can choose any eligible app as their default contactless payments app which will enable the app to support Field detect and Double-click features.
- **Field detect.** The default contactless payments app automatically launches when the user places the device in the presence of a compatible NFC terminal and after user authentication (if the iPhone is locked).
- **Double-click.** The default contactless payments app automatically launches when the user double-clicks the side button (for Face ID devices) or the Home button (for Touch ID) and after user authentication (if the iPhone is locked).
- **Payment support for non-default apps.** Eligible apps running in the foreground can prevent the system default contactless app from launching and interfering with the payment.

## What are the differences compared to Android?

Since 2013 Android allows implementing alternatives to Google's own Google Pay, and there are already a few mature solutions on the market. [Apple's NFC API](#) offers very similar capabilities from both a technical and user experience perspective. However, there are a few differences:

- **Not possible to directly ask a user to set your application as the default NFC payment app** - on Android, when users open your app, they can be presented with a dialog window that asks them if they want to use your app, as the default NFC payment app. Apple's documentation doesn't seem to hint at such a functionality.
- **Apple needs to give you special entitlement to access the NFC module** - without Apple's approval, it's not possible to include NFC payments into your app. This entitlement can be requested here: <https://developer.apple.com/contact/request/hce-payments-entitlement/>

- **Security certification** - every app enabling NFC payments needs the EMVCo certification. As NFC on the Apple platform is a new thing, it's still not clear how exactly security certification will look like, however due to fundamental differences between Android and iOS we can expect slight differences.

## What are the differences compared to Apple Pay?

Apple's API allows 3dr party developers to implement most of the functionality offered by Apple Pay. Two slight differences are:

- Power Reserve Mode - Apple Pay allows payments with the default card for some time after the iPhone battery is depleted.
- Express Transit Mode - allows to pay for public transport tickets in a few areas with compatible cards, without unlocking the iPhone. Full list of locations is [available here](#).

## Will it work outside the EU?

Companies registered in the European Economic Area can offer this functionality to customers based in EEA. The table below shows various combinations of companies wanting to offer HCE payments in their App and customers, and the expected outcome according to Apple's requirements.

	Company developing App established & licensed for payments in EEA	Company developing App not present in EEA or not licensed for payments in EEA
<b>EEA citizen, transacting in EEA country</b>	<input type="checkbox"/> HCE available	<input type="checkbox"/> HCE not Available
<b>EEA citizen, transacting outside EEA (traveling)</b>	<input type="checkbox"/> HCE available	<input type="checkbox"/> HCE not Available
<b>non-EEA citizen, transacting in EEA country (traveling)</b>	<input type="checkbox"/> HCE not Available	<input type="checkbox"/> HCE not Available
<b>non-EEA citizen, transacting outside EEA country</b>	<input type="checkbox"/> HCE not Available	<input type="checkbox"/> HCE not Available

Revision #5

Created 4 April 2024 13:37:33 by Michał Maciąg

Updated 15 April 2024 10:59:39 by Krzysztof Drzyzga