

# **User Privacy & iPhones:**

An analysis of user privacy on the iOS platform

Thomas Kelly

Supervised by Douglas Leith

## **Abstract**

As smartphones and use of the internet become ubiquitous in modern society, the maintenance of user privacy in these contexts has become an increasingly difficult task. With Apple's iPhone accounting for approximately a third of smartphone users, a large portion of the world has become dependent on usage of iOS devices for staying connected in modern society. This has become particularly relevant in light of the Coronavirus pandemic. The success of iPhones is largely founded on the wide range of applications available for download that grant the device additional capabilities. From popular social media apps like *TikTok*, to the contact-tracing apps created in many parts of the world to combat the spread of COVID-19, applications have become an important part of daily life worldwide. It is therefore of utmost importance that users be made aware of what personal data these apps collect about them, and for what purposes they are collecting it.

This work firstly focuses on an analysis of how user data is handled by Apple on their popular iPhone device. Subsequently, the same investigative techniques are applied to popular iOS applications allowing them to be examined from a perspective of privacy. While many applications are quite respectful and secure in their handling of sensitive user data, this work finds areas in which security & privacy measures are in some cases lacking, and highlights areas meriting concern. The apps considered in this analysis are *COVID Tracker Ireland*, *Aarogya Setu*, *Airbnb* and *TikTok*. The findings of this work largely indicate that users should be more concerned about their privacy, and in several cases are left uninformed as to the length of network activity carried out on their iOS device. Apple, alongside the applications discussed in this work, all have areas in which their security measures could be improved, assuring the privacy of their users is maintained to the highest available standards.