This paper discusses the notion of using an IDE plugin for developing applications that give increased privacy to the user. The plugin known as Coconut addresses the need for developers to protect users’ privacy that has come about through regulations such as the EU General Data Protection Regulation (GDPR). The paper highlights that privacy may have been disregarded in favour of usability and more convenient design. Developers can also be of the opinion that privacy is the job of someone other than the development team. This raises concerns that developers are either aware of privacy issues and ignore them or they lack education in the need for user-privacy. The paper points to developers paying less attention to security when they cannot afford a specialized security team to help. Many developers are also unaware of the privacy standards of third-party services due to poor readability and documentation.

There are many ways in which developers are supported with regards to privacy. Documentation and tutorials for privacy and security are designed to be comprehensive and written in plain English however, the paper goes on to say that Balebako et al. found that developers are still unaware of their existence. Static Analyzers for privacy have been built to detect security vulnerabilities for Java and Android. According to this paper developers are less keen to use them when their peers do not use them in conjunction. Security developers are more likely to use analyzers than android developers.

Interviews of app developers were conducted that looked into their personal experiences of application development. The interviewees had a varied background with four being from a university and five who have published applications on the Google Play store with independent developers making apps in their spare time, full-time Android developers and hackathon participants. Various types of attitude were concluded from the interviews. The first being, developers do care about privacy, but they may only hold a partial understanding of privacy. The second is an inaccurate understanding of app behaviours creates hurdles to making appropriate privacy notices. Developers being unaware that there are less privacy invasive alternatives is also an attitude that became apparent from this research. The fourth attitude is that privacy is treated as a secondary task and is not vital for the success of the application. One interviewee told us that his app would pop up with an alert explaining how it would use the permission to obtain data and the purpose of its use. However, on testing the application the alert did not always function. The last issue is that developers could lack motivation for privacy when there are few constraints in what they can do.

The idea of Coconut is to get developers to actively make developers consider privacy to be a natural part of their app development therefore building a plugin will remind developers to always think about their privacy in real time.

The paper also gives research questions which we could use when developing our plugin such as: Can the plugin help developers avoid more privacy violations? Do developers consider the plugin to be useful and usable?

The conclusion states that Coconut can help developers write code with privacy considered and document the code better with privacy notes. The research also obtains some new findings on what challenges developers face through interviews an observation of their programming process.