The increasing popularity of smart devices have led users to complete all of their daily work with these devices. Users are now able to shop online, share information with the applications that they install on their smart devices. Installed applications gain access to various sensitive information, such as the user’s contact list, phone number, location. However, there is no control mechanism in place that can check whether these applications are safe to install. Therefore, applications are installed according to the users’ decisions, without any limitations or warnings. As a result, users become the target of malicious applications, and the personal security and privacy are compromised. In this study, we investigate the security solutions that aim to protect the privacy and security of Android users. We reveal the shortcomings of mobile security solutions and shed light on the research community. Additionally, we present the taxonomy of Android-based mobile security solutions.