ABSTRACT

The significant increase in internet users in Indonesia was followed by a paradigm shift in digital transaction services, both banking, commercial and government. This makes all government services must be friendly with technology and keep abreast of development needs in today's digital era. However, this increase in users is also closely related to intervention in privacy and protection of user data, especially in the use of data at the Directorate General of Population and Civil Registration, Ministry of Home Affairs, Republic of Indonesia (Ditjen Dukcapil).

The current condition is that the security of access made from an individual data service in the form of Without biometric and biometrics has not fully met the standards applied by international organizations, it is feared that the possibility of accessing data is not properly protected.

A system framework in the utilization of personal data access rights by considering international organization guidelines, standards and applicable national regulations. The application of this system framework is carried out on biometric data with the proposed development of an application programming interface (API) which will later be used by third parties in accessing Dukcapil data.

Performance tests on the proposed API are carried out in several aspects, namely: *load*, *baseline*, *stress* and scalability of both static and dynamic resources on web applications. It is hoped that in this research proposal, the use of biometrics in the form of fingers, face, eyes and signatures fulfills the elements of individual data protection without reducing the performance that has been determined.

Keywords: Data protection, facial biometrics, system framework, API,