ABSTRACT

The use of mobile applications continues to grow rapidly in the current digital era. However, mobile applications often face obstacles related to limited device resources, especially in terms of data processing and storage. Apart from that, conventional infrastructure design to build an application also requires a lot of money and time. To overcome this problem, this research aims to design and implement a Cloud Computing-based API in a mobile application called Hening. Hening is an application to make it easier for people to communicate using sign language. The API used in the Hening application allows mobile applications to access and utilize the power of Cloud Computing. Created using the Express.js framework, this API can perform several functions and move the burden of data processing and storage from Cloud SQL to Cloud Computing, increasing the efficiency of resource use by reducing the CPU workload of mobile devices by up to 2%. The implementation of the Hening API was carried out using Paas (Platform as a Service) technology. The author chose this technology because by using PaaS, developers do not need to build and maintain their own infrastructure so that developers can focus more on developing application features, testing and operations. Apart from that, this PaaS service has also been proven to be able to maintain service stability as seen through latency levels which are below 7 ms and Sent Bytes which are at a speed of 80 B/s.

Keywords: Cloud Computing, API, Paas, mobile applications, express.js, cloud sql.