DESIGN AND IMPLEMENTATION OF EMERGENCY CALL APPLICATION WITH VOICE COMMAND IN BAHASA INDONESIA ON ANDROID BASED MOBILE DEVICES

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ABSTRACT

Information technology is evolving rapidly. And the existence of location-based services, making someone can find out information about the place from all over the world only with mobile devices. Also language technology that can recognize human languages on mobile devices. Beside these technologies, problems about handling of the accident victims were slow because lack of knowledge to get the phone number of nearby public services. Based on that fact, the idea appears to combine these technologies to build an emergency call application with Indonesian-language voice commands on Android mobile devices.

Voice recognition technology in this application using the API voice input that provided by Google on Android devices. The voice input API technology converts the input voice into text which is further processed to get orders call the nearest location of public services, personal contact call command, and command the appointment location. The response of application is given to the user in the form of sound by applying modifier technology text-to-speech that available on Android-based mobile devices.
Information about location obtained from GPS signals to detect the user's location. Process of getting the location nearest public services using Spherical Law of Cosines formula which later obtained the nearest public services to do an emergency call.

Tests which performed on this application is to make emergency calls and searching location. The process of determining the nearest public service from the user's position can be running well, proven by the real location of the user's position towards the public service. Location search process also can run well, it can be seen with the user position marker to the location searched that displayed using Google Maps.

The conclusion that can be drawn from this Final Project process is this application can help to facilitate the search for nearest location public services for emergency rescue by doing emergency call on public services which have been selected by users and search location with showing the route to the location. Further development of the speech recognition technology is needed to complement the features of this application, so not only for summons and appointment location application, but also can provide other information based on the user's location.

**Keywords:** Android, Emergency Calls Applications, Voice Recognition, Appointment Location.