

## Pengambilan alamat mac pada sistem lokalisasi divais dalam ruangan berbasis wifi = Mac address recovery in indoor wifi localization

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### Abstrak

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Meningkatnya interaksi manusia dengan komputer, perangkat teknologi dan jaringan, telah membawa pada kebutuhan akan adanya sistem lokalisasi multi divais pada sebuah area tertentu. Akan tetapi, saat ini belum ada sistem yang cukup tangguh, yang mampu melakukan lokalisasi divais dengan akurasi yang baik, dengan toleransi kurang dari 10 cm. Dalam konteks ini, kami meneliti sebuah teknik yang inovatif dalam usaha lokalisasi dalam ruangan yang berbasis komunikasi nirkabel, WiFi. Tantangannya adalah bagaimana cara melakukan lokalisasi divais tanpa melakukan modifikasi pada perangkat divais, baik itu perangkat keras dan lunak, juga pada perangkat jaringannya. Dan dalam rangkan menjawab tantangan itu, kami mengembangkan sistem lokalisasi dalam ruangan ini.

Proyek yang saya kerjakan ini khusus melakukan capture MAC address dari setiap divais yang berada pada lingkup area tertentu. Proyek ini menggunakan LabView sebagai bahasa pemrograman, dan NI-USRP dari National Instrument sebagai perangkat kerasnya.

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The increase of human interaction to gadgets, computers and networks, has needed an ability to localize multi devices or gadgets in a certain area. But nowadays, no robust technology can estimate a position and localization with sufficient accuracy (<10cm). In this context, we wish to study the technique of indoor localization system based on innovative approach of communication media wireless (WiFi). The challenge is how to define multi devices localization without any modification in hardware, software and wireless device. To answer this challenge, we need to develop a system of internal localization.

The potential impact of this solution is significant to the general public, to extent that these networks are very common. And the concern of this project is how to recovery and capture the MAC Address from devices inside the area of WiFi localization, using LabView as the programming language and NI-USRP from National Instrument as the hardware.

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