

## 要 旨

# Rich Communication Services における Presence Service 実現 に関する研究

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近年、次世代ネットワーク (Next Generation Network) の導入が進んでいる。Next Generation Network を実現するための技術として IP Multimedia Subsystem が国際標準に採用されている。その中で基本サービスとして期待されている Rich Communication Services は利便性・快適さをユーザに提供し、次世代ネットワークの標準サービスになるとされている。RCS とは電話・メールにとって代わる基本コミュニケーションサービスの群である。群には 7 種類のサービスがあり、Instant Message, Short Message Service, Multimedia Message Service, Presence Service, Voice Call, Video Share, Image Share である。

本稿では、Rich Communication Services の Presence Service に着目した。現在、Presence Service を有しているアプリケーションは幾つか存在しているが、アプリケーション同士でしか Presence 通知を行うことができない。また、既存の Presence Service の Presence 情報の変更は手動が前提となっている。そこで、より利便性が高く快適な Rich Communication Services を提供する容易な Presence 情報の自動取得を行う PARS(Presence Automatic Recognition System) の提案を行った。提案方式では端末自身に状態を推定させ、その状態を基に Presence 情報に変換する機能を提案した。

検証では端末が状態推定を行うアプリを作成し、作成した API による端末の状態推定の値の出力を行った。その API から出力された値を基にゾーン判定項目を作成し、値による Presence 情報への変換を確認し、提案方式の有用性を示した。その結果、既存の Presence 情

報の中で自動検知すべき 15 種類の内 8 種類を自動化できることを確認した.

キーワード Next Generation Network, Rich Communication Service, Presence Service, プレゼンスの自動取得, PARS

# Abstract

## A Study on Presence Service implementation in Rich Communication Services

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In recent years, the next-generation networks has been introduced. As a technique for realizing the Next Generation Network, IP Multimedia Subsystem embodied in the network node is employed in the international standards. Rich Communication Service is expected as the basic service applications set which provides the new convenience and more comfortable communication. It is described as a basic standard service set for next-generation networks. Rich Communication Services is a group of basic communications services that substitute the basic current combination of telephone and mail. Rich Communication Services includes seven types of services, which are Instant messaging, Short Message Service, Multimedia Messaging Service, Presence Service, Voice Call, Video Share and Image Share.

This article focuses on the presence service of the rich communication service. Currently, communication applications which provide a presence service are few. They are not possible to carry out the presence notification to the others applications. The presence status information acquisition of existing presence of communicators is expected to be done with present manual manipulations. Therefore, the PARS which is Presence Automatic Recognition System is proposed as a automatic presence status recognition and registration method for the presence control. In the proposed system, smart phone itself recognizes the user's activity on going and translate it to one of the presence status

automatically.

The PARS could define the movement reference values due to movement of the device holded. The PARS operator using the Application Programming Interface application validation of the smart phone device. Through the PARS verification experiment, the API reference values could be categorized into the value zones, respectively. And the categorized zones could judge the presence status of the device holded. It was confirmed that PARS would be operated to recognize the 8 type of presence status among the 15 types of communicator's presence status among the 28 type status defined in the international standard. The verification experiment clarified that PARS is effectively used to register the communicator's status without input manipulation.

***key words*** Next Generation Network, Rich Communication Service, Presence Service, Presence information automatic acquisition, PARS