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Unifying Heterogeneous Mobile Messaging Protocols to Provide a Person-centric Thread of Conversation

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Abstract: In today's scenario wherein people maintain various forms messaging services, each with its own list of contacts, no system or application exist that allows a person to communicate with another person as two people conversing without having to worry about which messaging service they are using (person-centric communication). Our system addresses this by organizing messages into a single thread of conversation regardless of messaging service used to send the message allowing for a more person-centric communication paradigm. Current protocols that are incorporated into the system include email via Gmail, XMPP thru Hangouts, and SMS thru the mobile device itself. The system is self-contained within the device and does not require server integration making it more portable. As part of the unification process, a contact disambiguation workflow is also implemented in order to support the collection of contact information of person so as the system would be able to merge together messages of the same person coming from different messaging protocols. The disambiguation process merges the different contact details of a person to serve as an index by the system to unify different messages from different protocols into a single thread. As of writing, the system is implemented using the Android platform and has already been tested and evaluated by various user demographic ranging from tech-savvy young adults to non-technical mature users and the results show that the concept was well accepted across this wide demographic regardless of the capability of the mobile device used as well. In the future, we plan to increase the number of protocols and platforms supported as well as the ability to support group-centric conversations within the system.

Key Words: unified messaging, contact disambiguation, person-centric mobile communication