Push Notifications using Google Cloud Messaging

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Abstract

Android traditionally kept data synchronization between android-device and server-side using a method of pullling. Each Android device has to poll the server for updated data, which leads to unneccessary network traffic and wastage of device battery. In order to overcome this weakness, a data pushing service, GCM was introduced. Push describes a style of communication where the request for a given transaction is initiated by the publisher or central server. Push messaging is a multi-channel mobile cloud communication platform that unifies push notifications, SMS and instant messaging.

GSM service allows sending data from the app engine or any other back-end to android powered devices. GSM is a lightweight push notification based service notifying android applications about new data to be fetched from the server or sending messages containing 4KB of payload data. GCM manages all aspects of message queuing and delivery of message to target android application running on a target device. Applications on the target device need not be running to receive messages. This service will wake up the application as long as the application is set up with the proper broadcast receiver and permissions. The application might post a notification, display a custom user interface, or silently sync data

References

[1] G. G. Jarle Hansen, Tor-Morten Grønli, "Towards cloud to device push messaging on android: Technologies, possibilities and challenges," *Int. J. Communications, Network and System Sciences*, May 2012.

[2] A. M. D. Yavuz Selim, Yilmaz Bahadir Ismail, "Google cloud messaging (gcm): An evaluation," *Globecom 2014 - Symposium on Selected Areas in Communications: GC14 SAC Internet of Things*.

[3] P. M. K. Naresh Kumar N (M.Tech), "Gcm service driven communication with an android application in cloud computing," *International Journal of Engineering Research and Technology*, May 2013.

[4] P. B.Dhivya, G.Lakshmiprabha, "Gcm service driven communication with an android application in cloud computing," *International Journal of Emerging Technology and Innovative Engineering*, March 2015.

[5] https://developers.google.com/cloud messaging/, "Google cloud messaging."