BIO LEASH FOR USER AUTHENTICATION

Cross-Reference to Related Application

[0001] This application claims priority to and the benefit of U.S. Provisional Patent Application No. 61/976,219, filed on April 7, 2014, and entitled "Bio Leash for User Authentication," the entirety of which is incorporated by reference herein.

Background

[0002] The present disclosure relates generally to user authentication and, more particularly, to systems and methods for electronically leashing a user (that is, the user's biological presence within a certain proximity) to a mobile device using radio waves, sound waves, captured imagery, and other sensor data available to the mobile device.

[0003] Existing techniques for authenticating a user on a mobile or other computing device require the user to reenter a password, passphrase, PIN, gesture, digital certificate, biometric identifier, or other security identifier (henceforth referred to as primary identifier) each time that the user desires to engage with the device after a period of non-use, or other authenticated state exit conditions such as pressing a button or switching to another application. For example, after a timeout period or pressing a button, the lock screen of the mobile device may reactivate, or the user may have to login again using a primary identifier to secure applications, websites, or other services offered through the device. In other instances, a user may have to enter a primary identifier for each feature or website that the user wants to engage with, even though the user has been previously authenticated by a primary identifier for another use. These reauthentication requirements can be frustrating and cumbersome for the user, particularly if the mobile device has remained in the possession of the user.

Brief Summary

[0003a] An aspect of the present invention provides a computer-implemented method comprising:

authenticating a user on a mobile device;

determining, based on an evaluation of data captured by the mobile device, a value representing a likelihood that the device remains in physical possession of the user; and

upon determining that the value is less than a first threshold, requiring the user to reauthenticate on the mobile device.

[0003b] Another aspect of the present invention provides a system comprising: one or more computer programmed to perform operations comprising:

authenticating a user on a mobile device;

determining, based on an evaluation of data captured by the mobile device, a value representing a likelihood that the device remains in possession of the user; and

upon determining that the value is less than a first threshold, requiring the user to reauthenticate on the mobile device.

[0004] Systems and methods are presented for electronically leashing a user to a mobile device in order to minimize the need for the user to reauthenticate with the mobile device using the primary identifier. A user is authenticated on the mobile device and initial sensor data (e.g., radio signal readings, accelerometer and magnetometer readings, image/video, audio) is