**The Places of Our Lives: Visiting Patterns and Automatic Labeling from Longitudinal Smartphone Data**

**ABSTRACT:**

The location tracking functionality of modern mobile devices provides unprecedented opportunity to the understanding of individual mobility in daily life. Instead of studying raw geographic coordinates, we are interested in understanding human mobility patterns based on sequences of place visits which encode, at a coarse resolution, most daily activities. This paper presents a study on place characterization in people’s everyday life based on data recorded continuously by smartphones. First, we study human mobility from sequences of place visits, including visiting patterns on different place categories. Second, we address the problem of automatic place labeling from smartphone data without using any geo-location information. Our study on a large-scale data collected from 114 smartphone users over 18 months confirm many intuitions, and also reveals findings regarding both regularly and novelty trends in visiting patterns. Considering the problem of place labeling with 10 place categories, we show that frequently visited places can be recognized reliably (over 80 percent) while it is much more challenging to recognize infrequent places.

**EXISTING SYSTEM:**

Previous works on human mobility understanding differ from our work on the variables under study. Besides seminal works on individual mobility, there are recent works which focus on urban environments. In existing system, it was shown that social relationships can explain a significant fraction of all human movement on data from LBSNs. In another system, location data were transformed into activity data to study daily activity patterns. Using a continuous sensing framework, Eagle was an early proponent of the identification of daily mobility patterns from simplified cell-tower data, in which each cell-tower ID was mapped to three semantic categories: home, work, and other. Similar tasks were also addressed by other authors

**DISADVANTAGES OF EXISTING SYSTEM:**

* The lack of continuous mobility traces due to the fact that location is only available either when connections to a cellular network are made (through voice, text, or data) or when users explicitly check-in within a LBSN.
* We face multiple challenges such as noisy data recorded in real-life conditions; obtaining human annotation of places and self-reports of place visits; and performing automatic place recognition without knowing the geographic location.

**PROPOSED SYSTEM:**

This paper presents a study on 1) characterization of real-life place visiting patterns from smartphone data; and 2) automatic place labeling in a location privacy-sensitive setting.

Our paper has three contributions. We first conduct an analysis of place visits in daily life, where places are inferred continuously from phone sensor data. We demonstrate that in practice, beyond the few places that represent an individual’s routine structure, people tend to visit new places on a regular basis, resulting in large number of places that are visited infrequently. In the second place, we demonstrate that this aspect of human behavior has key implications, showing (through an experiment involving manual labeling of visited places) that infrequently visited places are significantly harder to remember and label accurately. In the third place, we addressed the problem of automatic place labeling without using raw geolocation coordinates.

**ADVANTAGES OF PROPOSED SYSTEM:**

Our system achieves an accuracy of 75 percent in a privacy-preserving setting, and further analysis shows that the accuracy is bounded by the frequency with which a place is visited: while the few frequently visited places in phone users’ daily life can be recognized reliably, the largest fraction of places are more challenging to label.

**SYSTEM REQUIREMENTS:**

**HARDWARE REQUIREMENTS:**

* System : Pentium IV 2.4 GHz.
* Hard Disk : 40 GB.
* Floppy Drive : 1.44 Mb.
* Monitor : 15 VGA Colour.
* Mouse : Logitech.
* Ram : 512 Mb.
* MOBILE : ANDROID

**SOFTWARE REQUIREMENTS:**

* Operating system : Windows XP/7.
* Coding Language : Java 1.7
* Tool Kit : Android 2.3 ABOVE
* IDE : Eclipse

**REFERENCE:**

Trinh Minh Tri Do and Daniel Gatica-Perez, Member, IEEE, “**The Places of Our Lives: Visiting Patterns and Automatic Labeling from Longitudinal Smartphone Data,**” IEEE TRANSACTIONS ON MOBILE COMPUTING, VOL. 13, NO. 3, MARCH 2014.