Using Location Based Services and Social Networks for Crowdsourcing

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Abstract – In this paper, location based services with hard sensors like GPS and accelerometer in cell phones and also soft sensors like social networks (LinkedIn) in which people share personal information, skills, industry, location and interests are used. The information obtained from these sensors can be integrated to improve crowdsoursing approach.

Keywords – Crowdsourcing, Social Networks, Location Based Services, soft sensors, hard sensors.

I. Introduction

Using Location based services along data in social networks has many benefits. For example, some tasks are performed by people in certain locations. Tasks in Crowdsourcing can be sent based on person's location or his personal skills. In this case, tasks are not forwarded to people who are not familiar with the subject and the result is saving energy.

II. Related Works

In [1] soft sensors like Facebook and twitter social networks are used to identify person and his interests. They also used hard sensors like GPS and accelerometer of cell phone to explore location, time and his physical status such as walking, running or being stable. The inContexto distributed architecture is represented in their work to identify user context information.

In [2] challenges and constraints that influence Crowd Worker behaviors are studied. Their purpose is: 1) Introducing architecture and implementing a prototype of system which uses Crowdsourcing and mobile based on supporting location information. 2) A qualitative study among 18 participants is performed which investigates new aspects of teamwork, the effect of location aware on collective process and how to facilitate this process.

One of the most famous systems which is connected to the social networks is ConceMe system. In this system, user shared information are observed to gain information instead of using sensors [3].

III. Method

In this method, tasks are sent to a person based on his location information or his skills in Crowdsourcing approach. Location information are received from cell phone GPS and Wi-Fi and then stored in database. According to

history of people in a specific location, a weight is considered for them. The weight is multiplied by the reverse of distance of people to the location. Based on this weight, the tasks are sent to people. If tasks are based on person skills, the task is sent to the people who have the skill in their LinkedIn profile. In this case, the task is not sent to the people who don't have the skill and causes to save time and reduce energy of the cell phones. the proposed platform is indicated in Fig.1.

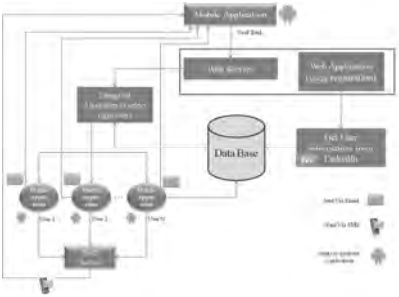

Fig.1 The proposed platform

Conclusion

Intelligent environments can be anywhere such as houses, shops, outdoor. Therefore, there isn't a single solution for receiving information and providing services in all these places. One of the methods in this context is using Location based Services. This service is based on information technology and is available for cell phones according to their location.

Deployment of social networks and spreading information in these networks made them an appropriate source to obtain people's context. In this paper, we used the information from social networks and location based services to collect people's context in Crowdsourcing approach.

References

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