DroidLab: mobile sensing made easy, fast and cheap

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***Abstract*—We are living in a parallelized world. What was thought to be impossible for one can now easily be achieved by many. On one hand, we have the cloud: an army of obeying faceless machines. On the other hand we have the crowd: A colorful collection of volunteers. Clouds are built and sold but to control the crowd, each member of has to be won over.**

***Keywords*—**

I. Introduction

"Crowdsourcing is the act of taking a job traditionally performed by a designated agent (usually an employee) and outsourcing it to an undefined, generally large group of people in the form of an open call." This was the initial definition of crowd sourcing when first used in 2006 by Jeff Howe and Mark Robinson. Two main orthogonal problem sets can be solved using crowd sourcing: data gathering and data processing. When a data gathering problem is distributed among members of the crowd we use the term crowd sensing or participatory sensing, while for distributed computational tasks we use the general term crowd sourcing. Probably the most popular crowd sourced computational problem was Seti@Home, a project lasting several years and aimed to ??? starts and stuff, extraterestrial ???. This problem was divided into a large number of subtasks and distributed among the willing participants. Users could set a Seti screen-saver that download and solved these subtasks when the user was away. Seti's success came from it's innovative design and from the interesting task that it performed. From the point of view of the volunteer, this was a low cost, low gain activity. PCs back than had long startup times and high standby power consumption, once Seti was installed it didn't pose a visible overhead, and provided the user with insight of the performed work. Some early gamification elements were also implemented like leaderboards. A somewhat different example is the Google Image classification game. In this game two players cooperated to solve a simple puzzle. An image was displayed in both player's browsers. The first player had to find five words that described the image. Then the second player had to guess those words. This human image processing game allowed Google to improve Image Search results. The players were motivated to play the game for the game itself, and for added gamification elements.

DroidLab is a participatory sensing framework under development, that aims to solve some key challenges of mobile crowd sourcing. In this paper we will present th

II. Related work

III. Use cases and challenges

There are many applications and even more proposed applications of mobile sensing and mobile crowd sourcing.

IV. Architecture and design

V. Conclusions

VI. Acknowledgment