

NoQueue, a crowdsourcing queue management application

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Abstract—Crowdsourcing is a form of collaboration evolved under Web 2.0 that helps in finding efficient solutions to current problems by public participation of actors, i.e. crowd, using mass spread technologies as Internet, mobile devices, social media. In this paper we analyze the challenges that a crowdsourcing developer faces and we propose a solution for the queue management problem based on the NoQueue application.

Keywords—Crowdsourcing, collaboration, queue management.

I. INTRODUCTION

THE Internet evolution can be classified into two distinct stages: the Web 1.0 with the focus on restricting the access to data for its own gain and artificial price increase within the famous dot-com boom, and the Web 2.0 when the more valuable information is as it is widely used [1]. In this new Internet, the information or code of a software program is no longer strictly controlled internally, but is available for change by anyone, leading to the birth of open source software. Surprisingly, with this approach, costs are reduced and at the same time the quality of the product is superior. Through this model, tasks normally performed by employees are outsourced to the crowd within the Internet, i.e. *crowdsourcing*.

In this paper we discuss about the types of collaboration over Internet, describe current and past paradigms from dedicated collaboration and computer supported work solutions to mass collaboration, and propose a solution for the queue management problem based on crowdsourcing - NoQueue application.

II. COMPUTER SUPPORTED COLLABORATIVE WORK

Computer-supported cooperative work supports human interaction by combining the social and technical demands to groups sharing a common identity and/or a common goal [2]. Starting as a solution to overcome space and time limitations or various fields of interests to solve common problems, computer supported collaborative work projects evolved from dedicated specialized architectures for private or individual interests to today human interaction on public platforms [10].

III. CROWDSOURCING

The *crowdsourcing* term, invented by Jeff Howe in 2005, emerges from the observation that important companies from various domains start externalizing important activities to

Internet groups of peoples and take advantages from masses to develop new products or services through collective intelligence and using new technologies like blogs, podcasts, forums, social networks, mobile platforms [1].

A. Types of crowdsourcing

Depending on how the crowd is gathered and the tasks to be done, Jeff Howe defines four major categories of crowdsourcing:

- 1) Collective intelligence or intelligence of the masses. This is one of the most common types and involves gathering a set and creating conditions for it to provide its knowledge. Examples range from very simple, such as employee suggestion boxes, to global brainstorming sessions, facilitated by the Internet, in large companies such as IBM. Starbucks and Dell use idea management systems taken from groups of customers. There are also companies that use groups of people with scientific expertise to solve complex technical problems [3]. Also included in this category are innovative user-driven methods where companies use the ideas of the most important users of their products to improve their products or design the next generation of products [3].
- 2) Collective creation. Compared to collective intelligence, through collective creation a company appeals to its own users to create or co-create a new product or service. This concept involves dividing creative activity into small pieces that can be done by people in their free time. An important example is the Mechanical Turk from Amazon, where people can perform small tasks. Amazon now has more than 100,000 workers in more than 100 countries within the platform [3].

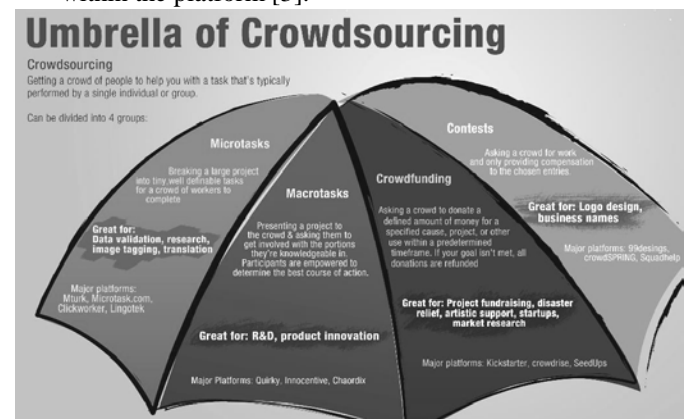


Fig. 1 The crowdsourcing umbrella [7]

