

CS 2310 Fall2013 Project Milestone 2

Integrative Crowdsourcing using SIS

Ka Wai Yung

Definition of Integrative Crowdsourcing using SIS

In general, Integrative crowdsourcing using Slow Intelligence System represents the act of repeatedly outsourcing task(s) to the public so as to increase the quality of the solution. Integrative crowdsourcing using Slow Intelligence System (SIS) involves following steps:

1. Transform the problem into subtasks
2. Wait for the public to finish enough subtasks for computing intermediate solution
3. Verify solutions of subtasks and compute intermediate solution
4. Evaluate quality of the intermediate solution
5. Terminate if terminate solution quality threshold is satisfied; otherwise, go back to step 2

Step 1 Transform the problem into subtasks

Input: a problem **Output:** a set of subtasks

Detail: We have to define how to transform the problem into subtasks and what incentive should be provided to workers.

Step 2 Wait for the public to finish enough subtasks for computing intermediate solution

Input: a set of subtasks **Output:** solutions of subtasks

Detail: The system has to wait solutions of subtasks.

Step 3 Verify solutions of subtasks and compute intermediate solution

Input: solutions of subtasks **Output:** an intermediate solution

Detail: The system verifies the correctness of subtask solution and computes an intermediate solution.

Step 4 Evaluate the quality of intermediate solution

Input: an intermediate solution, evaluation metric **Output:** score of the intermediate solution

Detail: The system computes the score of the intermediate solution based on the evaluation metric.

Step 5 Terminate if terminate solution quality threshold is satisfied

Input: score of the intermediate solution, score threshold **Output:** terminate decision

Detail: The system compare the intermediate solution score and score threshold.

To Do:

1. Add discussions
 - a. Given fixed amount of incentive, how to distribute it to new and old subtasks.
 - b. Provide hints for workers who do old subtasks so as to increase subtask solution quality.
 - c. Distinguish tasks that are suitable for integrative crowdsourcing using SIS
2. Add application scenarios