
LifeDelivery : Recruiting Participants to Deliver Users' Daily Goods!

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Abstract

Crowdsourcing has emerged in recent years as an online, distributed problem-solving and production model. Based on crowdsourcing, kinds of systems are developed to deliver people's packages through crowd. These systems are applied in large area and based on vehicle-mounted movement mode. In contrast to prior work, we focus on system used in little communities with walking-based movement mode, which is capable of delivering people's daily goods (such as thermos, fruit, assignment, etc.) in campus. Due to the different demands and behavior features of students in the prior system, many students give others help just to make friends but not for money. Based on this difference, we presented LifeDelivery, a crowdsourcing service able to use the Friends Mechanism, which will regard strangers who offer help as friends, and the Cloud Perception Technology which can process, classify and percept all the requirement orders, to recruit participants to deliver the daily goods for users. And this will bring great convenience to users and help students, make friends and share life.

Author Keywords

Crowdsourcing; Cloud Perception Technology; Friends Mechanism

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C.5.0 [General].

Introduction

There are large amounts of packages needed to be delivered every day. In order to promote the circulation of the packages, the research of logistics mode for packages delivery is important to the society.

However, with the development of society and technology, the mainstream of the delivery ways cannot satisfy people's increasing demands for the packages' delivery speed, undamaged packages' security, economical cost, etc. Therefore Crowdsourcing [1], an online, distributed problem-solving model emerges in recent years. The basic crowdsourced systems try to hire strangers from the internet to deliver packages. There are some applications, which have been put into practice in the world. For example, a new delivery system TwedEx [4] was proposed using the location of random strangers to deliver the packages in their journeys to users with cheaper cost. The packages will be sent via a chain of people with calculating the fastest route using aggregated location data from New York tweeters. These crowdsourcing systems [2] have been applied only in large area and based on vehicle-mounted movement mode. They haven't considered some special crowd. In contrast to prior work, we focus on little communities with walking-based movement mode such as the campus. Take these Chinese universities' apartments as an example, many students need to fetch their thermos from hot water room in the first floor of the dormitory, bring back their fruits from the supermarket, take their assignments to the classroom, and so on. Because students have different demands and behavior features, most of them are to make friends by giving others help, but not for the profit. Besides, students also would like to

share their things like snacks, fruits, flowers, dolls or a kiss with the new friends as a feedback for the help. We consider this instead of the prior system's incentive [5] mechanism. So the aim of our research is to deliver these daily goods friendly and make students communicate and help with each other, based on the mobile technology [3].

In this poster, we presented LifeDelivery, a crowdsourcing service able to recruit friends to deliver these daily goods for students. Take the thermos as an example, LifeDelivery will release fetching thermos information submitted by users on the cell phone, and navigate participants find the destination dormitory room in soon. Then users can share their things like snacks, fruits, flowers, dolls or a kiss with the new friends. Therefore our system is obviously convenient and time-saving for students to deliver daily goods through the crowd without leaving their rooms. Finally, this system provides a platform where students can give help and get help easily, which can promote communication among students.

Concept

What's the difference between students' demands and ordinary people's demands?

The values between students and ordinary people are different. Generally, ordinary people in prior systems need to be paid for their delivery work to motivate. However, students in campus are more likely to provide help without the purpose of profit. They are willing to make friends. There are some cases as follows: Schoolboys may be eager to help beautiful girls to show their warm heart without profit return; Meanwhile girls are prefer to give help to handsome boys; Some boys have a lot of power, and they can fetch others' heavy goods easily on their way; Also some students buy too much snacks or something else,

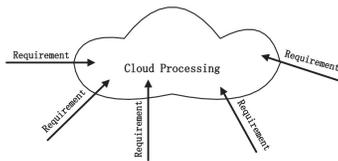


Figure 1: Process of Cloud Processing.

requirements	
releasing time	dormitory buildings
Lucy need her thermos fetched. 2014. 5. 20 10:00	
Tom need his thermos fetched. 2014. 5. 20 12:00	
Kate need her thermos fetched. 2014. 5. 20 15:00	

Figure 2: Simplified LifeDelivery requirement orders displayed by the releasing time.

requirements	
releasing time	dormitory buildings
Jim need his thermos fetched. Dormitory1	
Lily need her thermos fetched. Dormitory2	
David need his thermos fetched. Dormitory3	

Figure 3: Simplified LifeDelivery requirement orders displayed by the different dormitory buildings.

and they are also eager to share the things with someone who helped them coincidentally. There exist some differences between ordinary people and students.

How can the LifeDelivery gather requirement orders and release them?

Students can find the requirements information released on LifeDelivery by users who may live in the same dormitory building. However, there are numbers of dormitory buildings in university campus, which leads to packages' different destinations. Therefore a concept of Cloud Perception Technology is proposed, which can process and classify the requirement orders gathered by the LifeDelivery, which is simply showed as Fig. 1. After cloud processing, the top-k requirement orders will be scrolling displayed according to the releasing time Fig. 2 and the different dormitory buildings Fig. 3. Also, it will provide recommendations on assignment selection e.g. by considering daily schedules and closeness factors. So users can choose a suitable package to deliver, which will maximize the benefits of both sides. Then when users choose an item, they will get more information in detail. This concept can make users not only inquire requirement orders from their own dormitory buildings but also percept requirement orders from different dormitory buildings. Hence, students can give help to more students and get help from more students.

How can the participants deliver the users' thermos?

In our system, participants help deliver the thermos freely. Another concept of Friends Mechanism is proposed, which will regard strangers who offer help as friends. Acquaintances can also give help and become good friends. This concept is put forward to make students get closer and promote students communicate and help with

each other.

Scenario

We have developed a prototype system scenario, a certain dormitory in China. The participants are the students living in the same or different dormitory buildings. There are mainly two cases:

1. The user's thermos is at the hot water room in the first floor of the dormitory. The participants can fetch the user's thermos on the way.
2. The user's thermos is in his or her dormitory room. The user hasn't placed it at the hot water room. The participants need to fetch the empty thermos from the user, and then fetch the hot water from the first floor.

When users get the thermos from the friends, they can share their things such as snacks, fruits, flowers, dolls, a kiss, with the friends to express their appreciates.

However, here exist some risks. The thermos may get lost or explode on the way. So we introduce the Trust Strategy into our system: Only if the participants accept the order or grab the order, they can see the information about the users in detail. The information including user's name, user's dormitory room number has been pasted on the user's thermos. At the same time, LifeDelivery records the data about the participants and record the paths participants choose. If the thermos gets lost, we can exclude the participant as the suspect by the data recording on the LifeDelivery. If the thermos explodes on the way, the participant must bear the most part compensation to the owner.

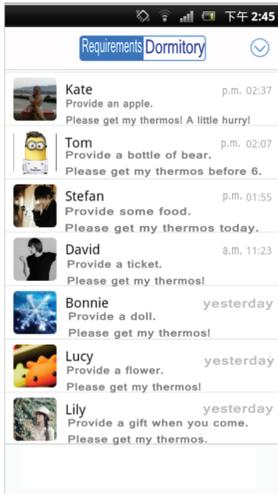


Figure 4: LifeDelivery screenshot of requirement orders according to the releasing time.



Figure 5: LifeDelivery screenshot of requirement orders according to the different dormitories.

The Android Application

We design the android application LifeDelivery. Users open it and register with their information first. Then they can log in. Users choose some daily goods, such as thermos. They also need to choose dormitory building, dormitory number, and the things (surprise, snacks, fruits, flowers, dolls or a kiss, etc.) they provide, then, submit it. The participants will receive the items of requirement orders Fig. 4 and Fig. 5 on the cell phone. But participants can't see the information in detail. For the security, they can know who the user is and the user's specific information, only when participants accept the order. Then LifeDelivery will record participant's data and navigate him or her to the destination dormitory room. When the participant finishes deliver the thermos for the user, the user confirms it and establishes friendship with the participant on the LifeDelivery.

The more they help with each other, the stronger they are shown on the LifeDelivery. However, if the thermos explosion happens, the friendships between them may decrease. The user gets the thermos from the participant, and shares his or her things with the participant. LifeDelivery is a platform where students can help and share with each other. Even, students may find their girlfriends or boyfriends by giving help or getting help from LifeDelivery.

Conclusion

We presented LifeDelivery, a system used to recruit friends to deliver students' daily goods in campus. Based on the improved crowdsourcing, we added our mechanisms and presented our concepts. And we focused on presenting one scenario, fetching the thermos in campus. Users can offer help and get help, make friends, share life on LifeDelivery, which extends the application of crowdsourcing.

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