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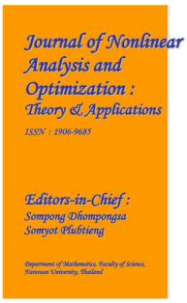

FOODNET TOWARD AN OPTIMIZED FOOD DELIVERY NETWORK BASED ON SPATIAL CROWDSOURCING

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ABSTRACT

Community discovery plays an essential role in the analysis of the structural features of complex networks. Since online networks grow increasingly large and complex over time, the methods traditionally used for community discovery cannot efficiently handle large-scale network data. This introduces the important problem of how to effectively and efficiently discover large communities from complex networks. In this study, we propose a fast parallel community discovery model called picaso (a parallel community discovery algorithm based on approximate optimization), which integrates two new techniques: (1) Mountain model, which works by utilizing graph theory to approximate the selection of nodes needed for merging, and (2) Landslide algorithm, which is used to update the modularity increment based on the approximated optimization. In addition, the new framework is employed in order to achieve parallel community detection over complex networks. In the proposed model, clustering on modularity is used to initialize the Mountain model as well as to compute the weight of each edge in the networks. The relationships among the communities are then simplified by applying the Landslide algorithm, which allows us to obtain the community structures of the complex networks.

1 INTRODUCTION

in recent years, with the prevalence of the mobile inter- net, online takeout ordering & delivery (otod) using smart phones has become an emerging service (e.g., kfc delivery). in the otod service, the user could receive the take-out food delivered by the restaurant staff after ordering online. in addition, some new platforms are developed as the new model of the otod service, such as seamless1, ubereats2, and ele.me3. different from the traditional delivery method that take-out food is delivered independently by staffs of different restaurants, the merchants who register in these

platforms could share the resources of professional delivery staffs to reduce the cost. in general, the otod service is convenient and time- saving especially for people who are taking rest at home or busy working.though having rising development in the last few years, existing otod services still suffer some limitations. first, food delivery is usually completed by using bicycles or electric motorcars rather than cars in view of the delivery cost (e.g., ele.me), which decreases the delivery efficiency and results in the limited delivery range in geography because of the slow speed. though the take-out food is delivered by cars in some platforms (e.g., ubereats), the delivery cost is quite high for the requesters if they order the food frequently. second, most food orders appear in the same time period (e.g., lunch time or dinner time), which results in a large number of delivery re- quests within a short time duration.

2. LITERATURE SURVEY

Geocode: enabling query answering with spatial crowdsourcing

with the ubiquity of mobile devices, spatial crowdsourcing is emerging as a new platform, enabling spatial tasks (i.e., tasks related to a location) assigned to and performed by human workers. in this paper, for the first time we introduce a taxonomy for spatial crowdsourcing. subsequently, we focus on one class of this taxonomy, in which workers send their locations to a centralized server and thereafter the server assigns to every worker his nearby tasks with the objective of maximizing the overall number of assigned tasks. we formally define this maximum task assignment (or mta) problem in spatial crowdsourcing, and identify its challenges. we propose alternative solutions to address these challenges by exploiting the spatial properties of the problem space. finally, our experimental evaluations on both real-world and synthetic data verify the applicability of our proposed approaches and compare them by measuring both the number of assigned tasks and the travel cost of the workers.

3. IMPLEMENTATION STUDY

EXISTING SYSTEM:

quite recently, there have been several works that try to combine sc and object delivery. ridesharing is a typical application of object delivery among multiple passengers based on sc. specifically, a ridesharing system aims to plan a set of vehicle routes with minimum cost, and vehicles are capable of accommodating as many passengers as possible. in addition to riding requests from travelers, there also might be delivery requests about goods, like parcels, which could share the resources of vehicles with people to utilize the vehicles resources sufficiently.

DISADVANTAGES:

- the above-mentioned object delivery problems can be seen as variants of the pickup and delivery problem with time windows (pdptw).

PROPOSED SYSTEM& ALGORITHM

inspired by previous studies, we devote to building a food delivery network that uses an abundance of taxis in the road network to deliver food based on sc.

we propose foodnet, which is a novel food delivery network that fulfills the otod service based on sc. in particular, we solve the otod crowdsourcing problem by leveraging pervasive taxis running in cities.

ADVANTAGES:

from the perspective of restaurants, delivering food using existing resources of urban taxis can decrease the cost on recruiting extra delivery staffs, and enable the long-distance food delivery.

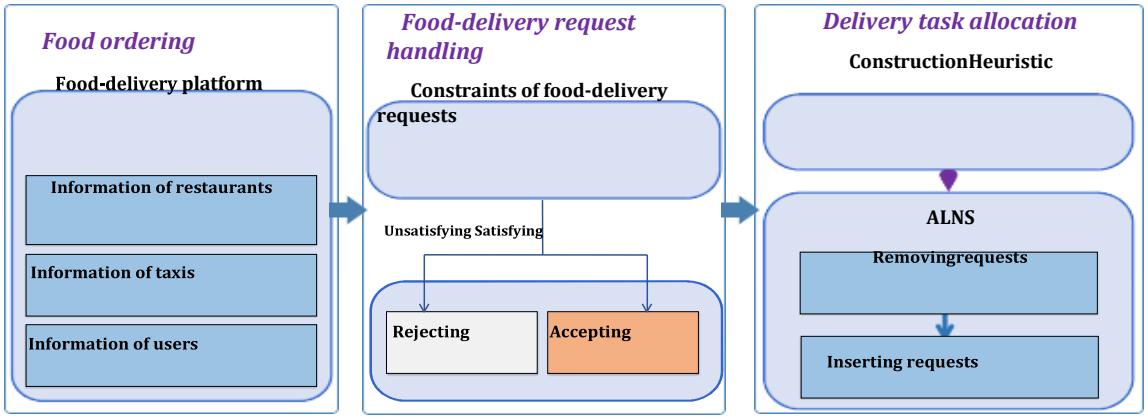


Fig:3.1 System Architecture

4.IMPLEMENTATION

INTRODUCTION OF TECHNOLOGIES USED

Initially Java language was called as “oak” but it was renamed as “java” in 1995.The primary motivation of this language was the need for a platform-independent i.e. architecture neutral language that could be used to create software to be embedded in various consumer electronic devices.

APPLICATIONS AND APPLETS

An application is a program that runs on our Computer under the operating system of that computer. It is more or less like one creating using C or C++ .Java’s ability to create Applets

makes it important. An Applet I san application, designed to be transmitted over the Internet and executed by a Java-compatible web browser. An applet I actually a tiny Java program, dynamically downloaded across the network, just like an image. But the difference is, it is an intelligent program, not just a media file. It can be react to the user input and dynamically change.

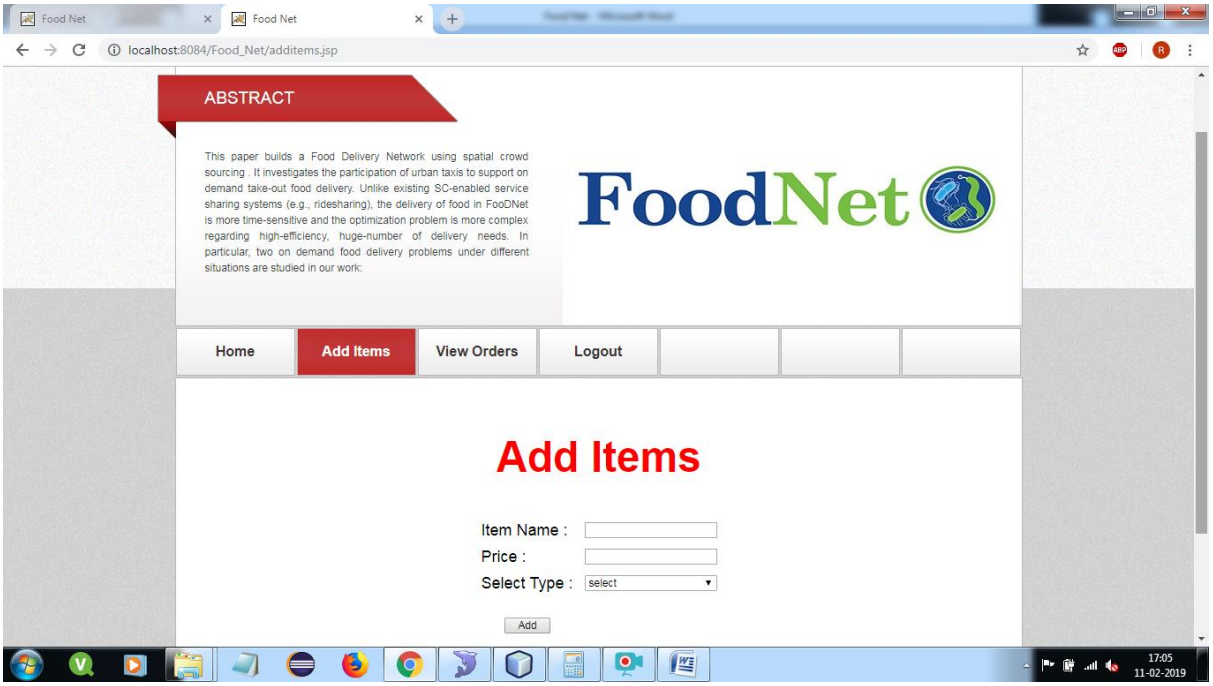
5 RESULTS AND DISCUSSION

SCREEN SHOTS

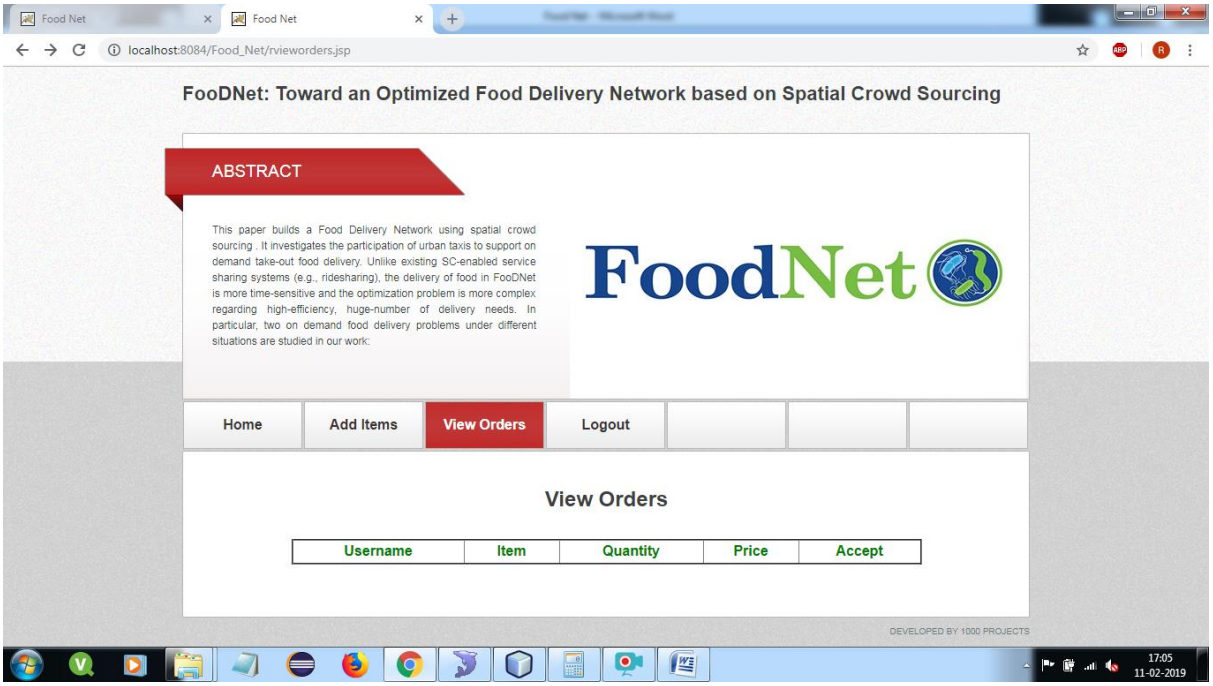
5.2.1 HOME PAGE

5.2.2 RESTAURANT LOGIN PAGE

5.2.3 ADD ITEMS



5.2.4 VIEW ORDERS



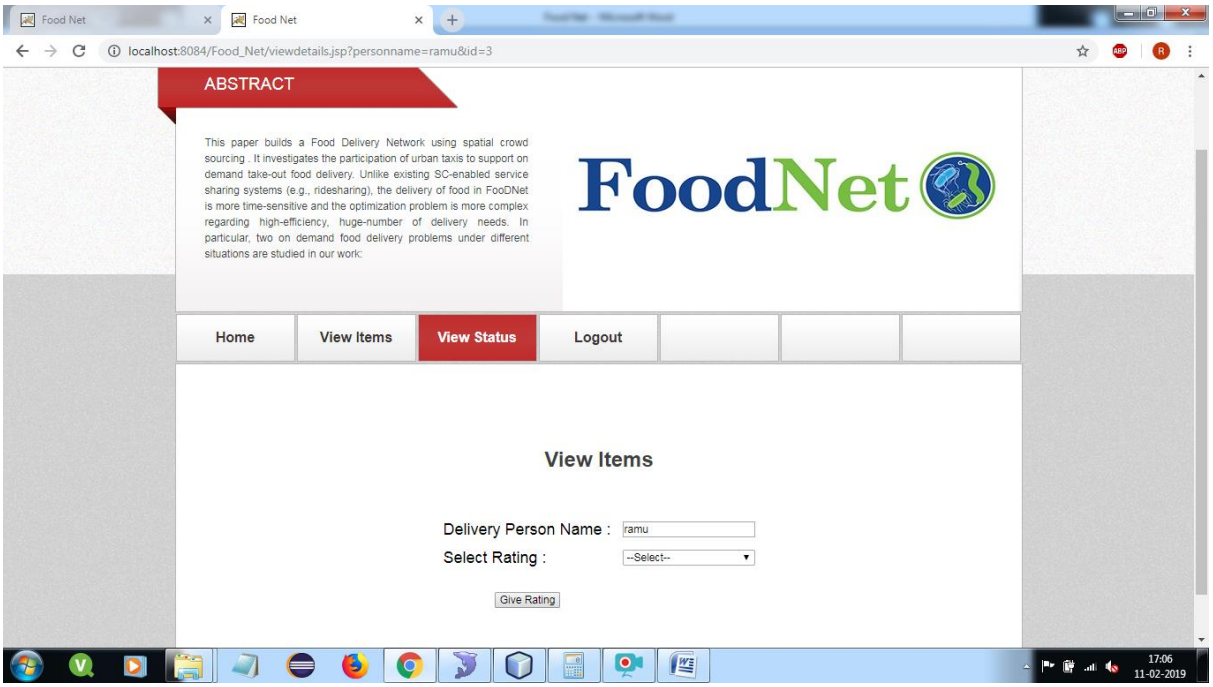
5.2.5 USER REGISTRATION:

5.2.6 USER LOGIN:

5.2.7 VIEW ITEMS:

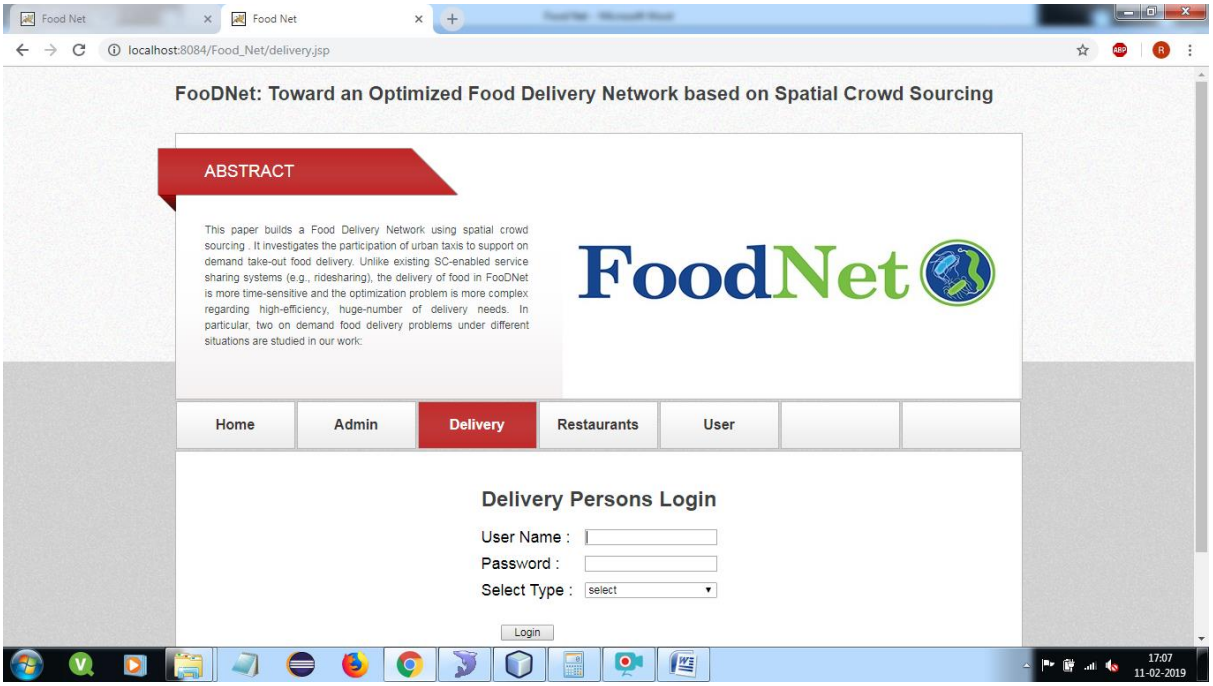
5.2.8 VIEW STATUS:

5.2.9 GIVE RATING:



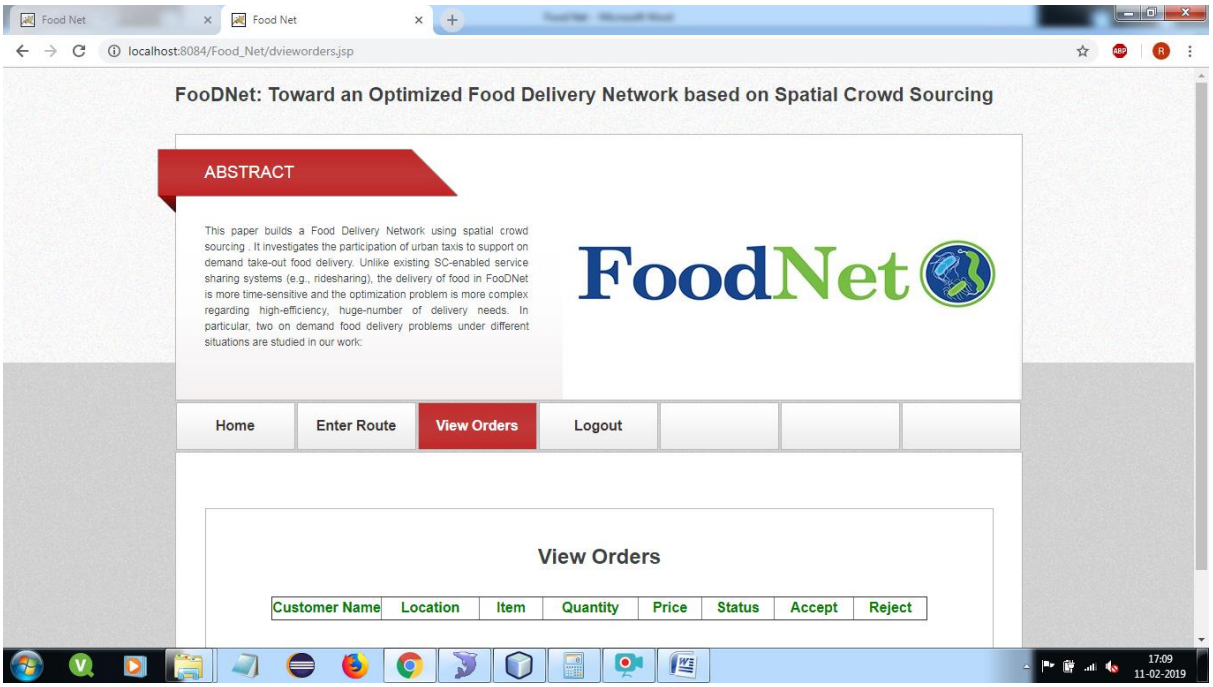
5.2.10 DELIVERY REGISTRATION:

5.2.11 DELIVERY LOGIN:



5.2.12 ENTER ROUTE:

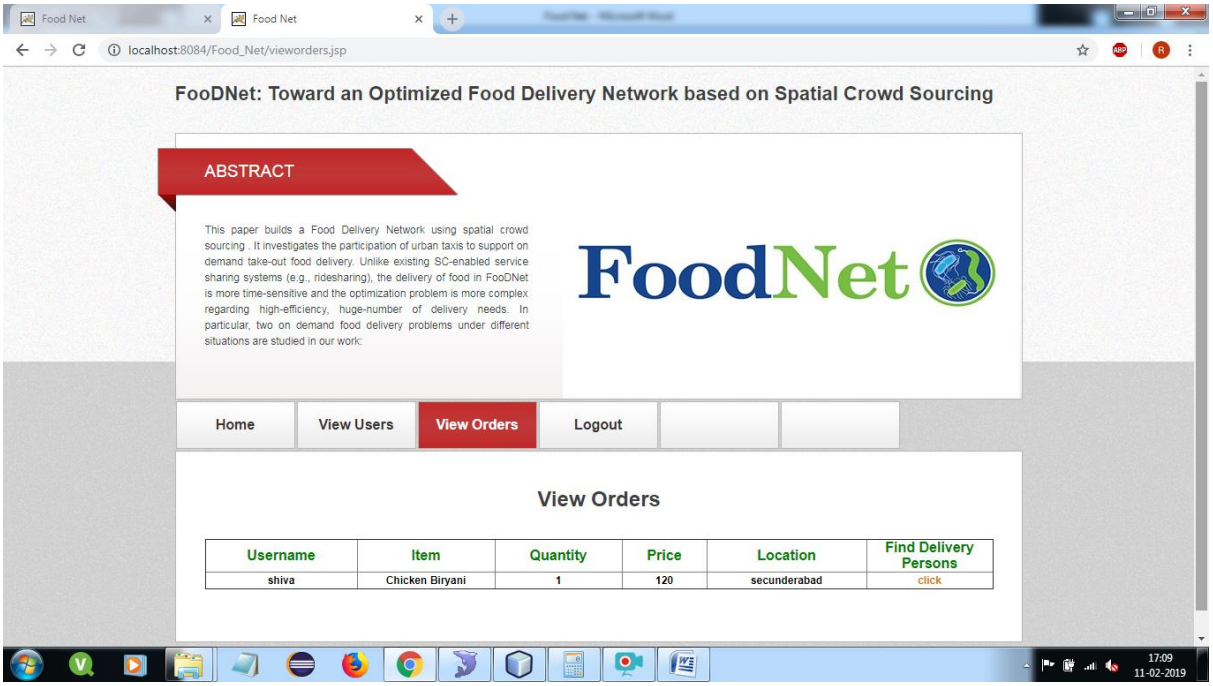
5.2.13 VIEW ORDER & ACCEPT:



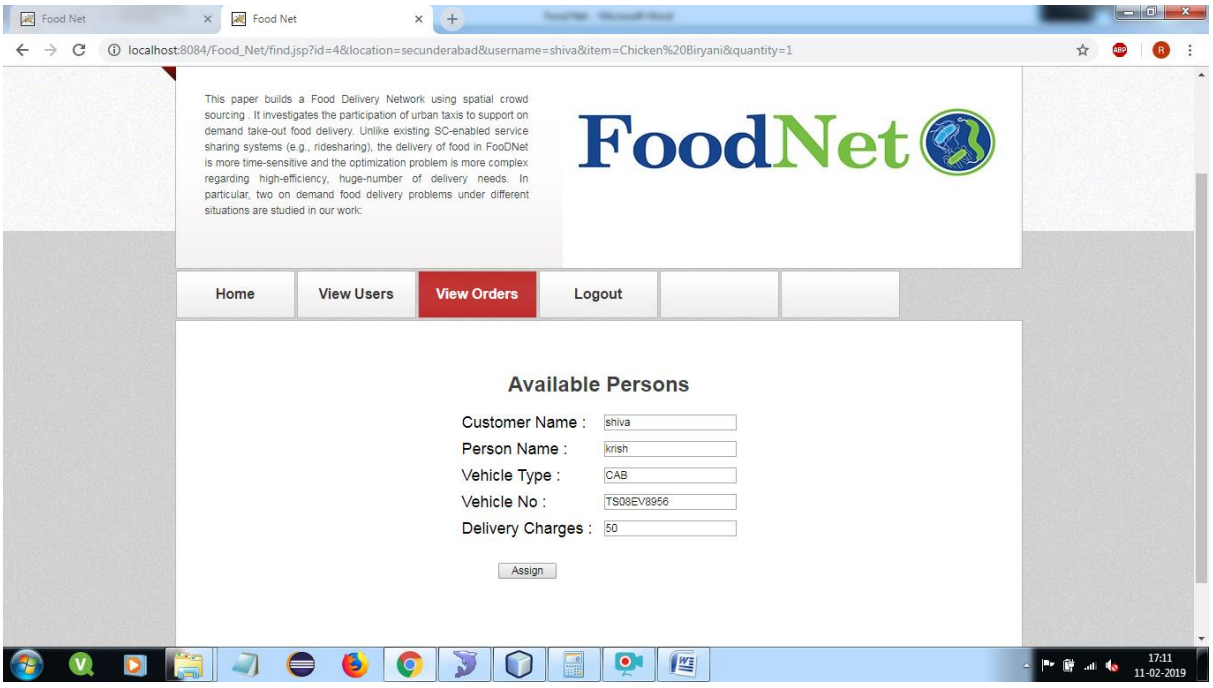
5.2.14 ADMIN LOGIN:

5.2.15 VIEW STATUS:

5.2.16 VIEW ORDERS:



5.2.17 ASSIGN DELIVERY PERSON:



6. CONCLUSION AND FUTURE WORK

CONCLUSION

in this research, we have presented a parallel community discovery algorithm for large-scale complex networks, named picaso. picaso functions by integrating multiple innovations, which include the mountain model, a new update strategy called the landslide algorithm, which is based on approximate optimization techniques and graph theory. picaso functions by finding the nodes that meet the condition of aggregation based on the mountain model, then forms new communities and calculates the modularity increment between the newly formed communities and other communities. the experiments to test the validity of the proposed methods were conducted on synthetic and real large-scale complex network datasets. the results demonstrate that picaso is more effective and efficient on detecting big communities in complex networks.

7. REFRENCES

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