International Journal of Emerging Technology and Computer Science
ISSN: 2455-9954

SMART DATA SHARING WITH WI-FI NETWORK AND AI

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ABSTRACT

With the development of society and the progress of science and technology, data transmission has increased to a great extent. This Data is transferred using various platforms like internet, adhoc, wifi network. Efficient use of data sharing using the wifi network to avoid the long queue at a shop or at mall during offer period. The system connects with the help of wifi, offers are shared with the customers through wifi –hotspot, user can see the offers on mobile application, order the particulars. User can also check specific offers with the help of Chabot based on artificial intelligence.

Keywords: Wi-Fi, ad-hoc, Artificial intelligence, network, internet

I. INTRODUCTION

In today's world fast and secured data transmission within the network is the prime fact of the smart data sharing system. Most of the applications uses the wifi/hotspot network and internet for data sharing. Due to the widespread coverage of internet, end users access Internet services on the run relying mainly on cellular networks. In 2018, the total mobile data traffic reached 16 hexabytes per month and this monthly volume is expected to surpass 30.6 hexabytes in the year 2020. To cope with these trends, WiFi offloading has gained a lot of attention by businesses and industry. Offloading mobile Internet connections to WiFi reduces the load on existing cellular infrastructure, which results in lower infrastructure expenses. WiFi offloading helps end users to avoid exceeding their data plan volume limitations. Most of the business is done through e-commerce as it is easier and cost effective, but the use of internet for e the deployment of WiFi hotspots is essential for the coverage and the strength of the received signal. Thus, when designing or evaluating services, which rely on the WiFi infrastructure (e.g., mobile traffic management solutions incorporating WiFi offloading, Internet of Things services for smart cities), the hotspot locations have to be taken into account. A low signal strength of the WiFi signal results in low throughput, which has an impact on energy consumption and may not meet the requirements of the application. The distribution of public WiFi hotspots within cities can be obtained from hotspot databases. To evaluate hypothetical scenarios and the scalability of mechanisms, a generic model would be needed to generate WiFi hotspot distributions for shops of different size, shape, customer density, and number of hotspots. Such a model could then facilitate the design and performance evaluation of mechanisms or services, which rely on WiFi infrastructure.

The ultimate goal of this work is to reduce the long queues and display offers, which presented a simple model for the WiFi hotspot distribution for shops or malls, by investigating its applicability and limitations. We investigated the accuracy of the model for performance evaluation applications, such as offloading potential, coverage, signal strength, interference, handovers, or bandwidth sharing. With the use of AI we have made it easier to transfer the data in efficient manner.

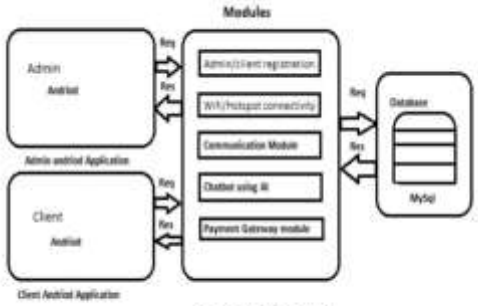
II. SMART OFFLOADING PROXY SERVICE

In this section, we present the Smart Offloading Proxy (SOP) service to improve the users experience in uploading files over the mobile network. We hypothesize that network utilization in crowd events can also obtain better performance if users can finish their uploading task and then leave the system as soon as possible. Here we present the prototype of our proposed system. We then introduce various scheduling schemes that controls the bandwidth allocated to users for reducing file-uploading time.

A. Architecture

Fig. 1 illustrates a network with Smart Offloading Proxy (SOP) service. A SOP service consists of a set of offloading trackers and servers. A Smart Offloading Tracker is a tracking system focuses on providing suggestions of proper offloading server for vendors. In order to make a feasible offloading server suggestion, it will analyze all the server information it recorded, including geo-location, loading and bandwidth capacity. A Smart Offloading Server (SOS) is a storing system for caching uploaded data temporarily. It targets on providing a lower round trip time (RTT) and higher throughput for users. By enabling the request to send/clear to send (RTS/CTS) mechanism of the 802.11 wireless networking protocols, network resource scrambling between users can be reduced.

To upload a file via SOP service, connection between end vendor and an offloading server should be established. User information will be collected and sent to the server for offloading s. Server will choose proper offloading servers by analyzing the information it recorded and the information user provided. Then, connect information and a token of the candidate SOS will be sent back to the vendor. After retrieving the information, a connection between the vendor application and the Server can be established. To make the occupation of network resources as short as possible, the SOS caches uploading data from vendors. The SOS then supersedes as a proxy to transmit data to the target server.



System Architecture

B. Bandwidth scheduling

To improve user experience in uploading, we then introduce various schemes for scheduling the bandwidth allocated to vendors.

1) Method 1-Equal bandwidth: Bandwidth will be shared equally to jobs.

2) Method 2-Longest remaining job first: Bandwidth will be allocated as a reciprocal according to the elapsed time of a job.

3) Method 3-Shortest k jobs with equal bandwidth: Bandwidth will be shared equally to the shortest k jobs with shortest execution time.

4) Method 4-Shortest k jobs with longest remaining time: Bandwidth will be allocated to the shortest k jobs as a reciprocal of elapsed execution time.

5) Method 5-Shortest remaining k jobs with equal bandwidth: Bandwidth will be shared equally to the shortest jobs with shortest remaining time.

C. Overview of a Chat Tool and an Interface

The chat tool has four parts:

1. An interface for a discussion

2. A module for making a log file of comments.

3. A module for generating questions.

4. A module for generating back-channel responses.

Here we are using Google Assistant to making it more Smart. Discussion participants log on to the chat tool from the interface. After logging on, the discussion participants post comments. Of course, the discussion participants can post their comments through the interface or google assistant. Questions and back-channel responses by the chatting bot also can be read.

D. the Process of Online Payment Mode Based on Internet based payment gateway. Here we can use multiple wallets as an alternative to the traditional payment gateways. The Online Payment Mode based on IBPG can be divided modes such as B2B, B2C, C2C, etc. We are implementing the B2C online payment mode based on the IBPG as an example. This mode makes use of buyer's bank card account or online wallet to realize transferring the fund to the seller account. This involves the consumer (buyer), vendor (seller) and bank.

The bank guarantees the buyer can receive the goods after paying for the goods; also guarantees the seller receives the payment for goods fast, safely enough after delivering. The payment process of this kind is as follows:

(1)Customer (buyer) submits the order after selecting the products online, and consults with the vendor to pay for the goods by online payment banking card or wallets.

(2)Vendor accepts the order after carrying on the identify authentication to the buyer. Then transmit the buyer's payment instruction to the IBPG.

(3)The IBPG carries on the identity authentication to Vendor and provide the customer payment interface.

(4)Customer fills in the account information after checking the message from the IBPG on the payment interface.

(5)The IBPG sends the account information to the banking system in order to obtain the payment authorization of the bank.

(6)Bank authenticates buyer's account information, deduct payment for goods temporarily, and then feedback the information to the IBPF.

(7) The IBPG informs the Vendor to deliver goods.

(8)The Vendor offers the goods to the customer.

(9)The customer confirms after receiving the goods.

III. CONCLUSION:

This system includes the smart offloading proxy service, use of artificial intelligence for Chabot, e-commerce and the payment gateway. Smart Proxy Service makes the system easier for the vendors to offload the products easily on the server within the network. The use of artificial intelligence with the help of google assistant for effective request and response within user and the vendor. This system is main an e-commerce platform used only within the network of the server of vendor. The payment gateway will be integrated in the system for digital payment. The system run completely within single network. The network used will be mainly wifi or hotspot.

REFERENCES:

1. Hung-Ta Tai[1], Wei-Chun Chung[2], Chi-Jen Wu[3], Ray-I Chang[4], Jan-Ming Ho[5] -SOP: Smart Offloading Proxy Service for Wireless Content Uploading over Crowd Events, 2015

2. Yi Cheng, Jianxin Chen, Linhui Sun, Yunyi Zheng- Request Response Scheme on Server for the Centralized P2P-VoD System, 2016

3. Yoko Nishihara, Masaki Ikuta, Ryosuke Yamanishi, and Junichi Fukumoto- A Generation Method of Back-

Channel Response to Let a Chatting bot be a Member of Discussions in a Text-based Chat-2017

4. Michael Ruth, Feng Lin, Shengru Tu -Adapting Single-Request/Multiple-Response Messaging to Web Services, 2005

5. Qifeng Yang[1], Zhengwei Cheng[2], Ping Song[3] Research on Online Payment Mode Based On Internet Banking Payment Gateway, 2007