전자상거래에서 LBS의 활용 시나리오
LBS Service Scenarios in E-Commerce

굴 가 첩, 최 종 명[1)]
목포대학교 컴퓨터공학과

JiaJie Qu, Jongmyung Choi
Department of Computer Engineering, Mokpo University

ABSTRACT

Advances in the Internet and network technology and the rapidly growing number of personal devices result in the fast growth of E-Commerce, M-Commerce. Nowadays, location-based services are widely used in E-commerce. A location-based service (LBS) is a service based on the geographical positions of mobile handheld devices such as smart phones or tablet computers. In this paper I will view the combination of the E-commerce and LBS.

I. Introduction

E-commerce (electronic commerce or EC) is the buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, primarily the internet. Nowadays onine shopping has become a popular way of shopping. Location-based service (LBS) is a service based on the geographical positions of mobile handheld devices such as smartphones or tablet computers. Nowadays LBS is widely used in express delivery in E-commerce. LBS can be used in more places in E-Commerce. We need to innovate to enlarge the usable range of LBS technology. So in this paper I will introduce our scenarios of combination LBS with E-commerce.

Ⅱ. Related Works

We want to create a LBS mall system, combine LBS with E-Commerce. Next, I will introduce our system from the users' view. When a person come to a strange place who want to find the local special restaurant and eat local special foods, or want to find the local flea market and buy some cheap and special products, or want to go to the local celebration activity, our system is very necessary. When the user buy the product in the system will get some discounts. Firstly, the user need to register. And then every time the user only need to login our system, then can browse products' informations that the user needs. Only when the people came to the place can see surrounding commdity informations. If the people didn't come to the place, he won't see these informations. Our system is very suitable for travellers. The system describes as shown in Figure 1.

Next I will introduce our system from salers' view. Firstly, the saler need to register. And then salers can use our system to sell their products. But our system has geographic
area restrictions. When the saler register, the saler's location that the saler filled out is very important. Products that the saler add must be in the saler's location. Otherwise the saler won't add products on our system.

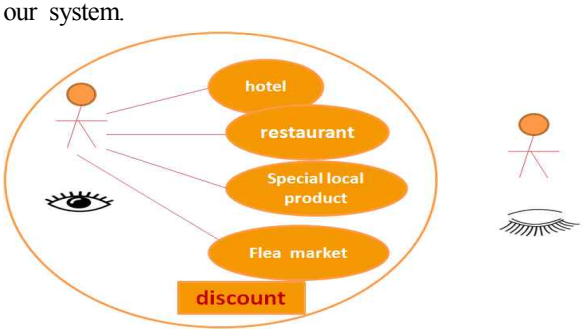

Figure 1. Service Scenario E-commerce.

Ⅲ. Key Code

1. HTML5 code

In our system we used HTML5 Geolocation technologies to complete. The focus of this research is to show the technologies of HTML5 Geolocation.

1) 교신저자

Figure 2 is a part of codes about add a marker on google maps.

```
var map=new
google.maps.Map(document.getElementById("ma
pholder"),myOptions);
 var marker=new
google.maps.Marker({position:latlon, label: user,
map:map});
  var infowindow = new
google.maps.InfoWindow({content: '<iframe
src="' + url +'" width="50", height="45"
frameborder="0" scrolling="no"></iframe>' });
  infowindow.open(map,marker);
  geocoder = new GClientGeocoder();
  GEvent.addListener(map, 'click',
function(overlay, latlng)
    geocoder.getLocations(latlng,
showAddress);});
```

Figure 2. Add marker's code

2. Algorithm

In our system,we need to calculate distance between two latitude longitude points. Next I will show the code of calculating distance.

```
public static float distFrom(float lat1,float
lng1,float lat2,float lng2){
 double earthRadius =6371000;
 double dLat =Math.toRadians(lat2-lat1);
 doubl dLng =Math.toRadians(lng2-lng1);
 double a = Math.sin(dLat/2)*Math.sin(dLat/2)+
Math.cos(Math.toRadians(lat1))*Math.cos(Math.toR
adians(lat2))*
Math.sin(dLng/2)*Math.sin(dLng/2);
 double c =
2*Math.atan2(Math.sqrt(a),Math.sqrt(1-a));
 float dist =(float)(earthRadius * c);
 return dist; }
```

Figure 3. Calculate Distance

Ⅳ. Conclusions

Nowadays, most of online shopping websites use LBS technology in express delivery. But LBS technology can not just be used express delivery. LBS can be used in more places in E-Commerce. So innovative thinking is very impotant to enlarge the usable range of LBS technology. In this paper, we have briefly described the scenario of combining LBS and E-Commerce. We introduced our system's functions and different actors' functions. And we showed our system's key codes. I hope you can exchange ideas with us to make our project more perfect.

▌References ▐

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