About the development of the registration system of the address in the “midori-chouchin” store with Google Maps

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Abstract

The Green lantern “MIDORI CHOUCHIN” is an activity that promotes to elevate food self-sufficiency ratio of Japan. Shop can hung the green lantern as a sign that local products aid shop, when the ratio of local products in commodities provided at the shop is more than 50%. We have constructed a web site, http://www.midori-chouchin.jp/ to support to advertise the green lantern shops. The easiest way to display and emphasize the green lantern shop is to localize it on 2-D map visually. We have developed logic and a Google map based application program to find latitude and longitude of the location of the shop from its zip code and address, and localize the information on the map automatically. The process of the application is as follows, (1) Input shop’s information, name, zip code, address, phone number, FAX number, profile of the shop and etc… by applicant, (2) Read zip code and address from the information imputed, (3) Logic using the Ajax technology searches latitude and longitude of the location, (4) Display sign of the green lantern ready for popup information balloon at the location on Google map with its API. The program processes those steps automatically and seamlessly. By this function, the site can display the shop information visually on the Google map immediately after application by the applicant.

Keywords: web site, 2-D map, Google map, information on the map automatically, food self-sufficiency ratio of Japan.

Introduction

The Green Lantern (GL) is the activity that hangs a GL to the shop aiming at the improvement of food self-sufficiency and using domestic products as 50% or more commodities. A web site is an important element to spread the activity for public. On the web site, the GL shops are displayed on the map to let customer understand easily their location. Logic to search automatically the longitude and latitude of the GL shop from the address at the registration was built in the web site, and to display the shop on the Google Map. The function to retrieve the address by inputting the ZIP code and to retrieve the ZIP code from the address oppositely is proved to make the registration of shop much easier, and this function synchronizes with retrieving the location information on the map is an unprecedented excellent. Immediate publishing of the location information of the shop became possible when application had been done as a GL shop in the map on the Web site by this function.
Outline of registration system of address in GL shop

1) Problem in retrieving location information
The shop that wishes to join this activity applies for the shop by a voluntary declaration in the GL activity. On the GL web site, a registration page that an applicant can input the shop information by oneself was made to simplify registration (Fig 1). The registered content is basic information such as the shop name and the address, etc., and then, the system obtains the location information of the shop based on the registered address, and displays the icon of the GL is displayed on the Google Map.

Fig. 1. Shop information input page.

However, inputting error of the ZIP code and the address was happened frequently when applications for registrations had been entrusted to the shop side, and the problem that the
position of the shop was not displayed on Google Map correctly caused by the inaccurate information occurred.

On the other hand, the existence of the GL supporter as a customer the GL shop is essential for the GL activity. The purpose of the GL supporter is to try to use the GL shop, to promote the prosperity of the GL shop, to expand demand of the domestic product in the shop, and to tie to improvement of the food self-sufficiency ratio by demand for domestic agricultural products.

The GL supporter searches the GL shop to find the GL shop on the GL site regularly. The GL icon of the shop displayed on Google Map is used as easy finding mark of location of the shop (Fig.2). Therefore, correctly displaying the location information of the shop on Google Map has a crucial element for activating the GL activity. The problem that the location of the GL shop displayed inaccurately on the Google Map mentioned above was a very serious problem, and it was necessary to be improved it immediately.

Fig.2. GL shop searching page.

2) Mutual retrieval of ZIP code and address
A system to retrieve address from its ZIP code and ZIP code from its address mutually to prevent the input mistake in registering the shop address was developed (Fig.3). The address of the ZIP code can be retrieved according to the MS-IME dictionary in PC equipped the latest ZIP code dictionary but in the case of the dictionary is not installed or too old, it is necessary to do some retrieval in searching the address, and it becomes barrier in registering step. Therefore, we built logic to display the ZIP code from the address automatically in the system by taking the function of Ajax and Escape Codec Library.
A concrete input method is as follows. First of all, when the ZIP code of the shop address is known, the applicant inputs the ZIP code. Then, a list of ZIP codes is displayed by the Suggest function (function to display the input candidate in the pull-down menu), the applicant chooses a corresponding ZIP code among the displayed input candidate. When the ZIP code is input by using the Suggest function, the address having the ZIP code in the database is set to the address input column by the automatic operation. Next, in the case of the ZIP code is unknown, you can leave the ZIP code column empty, and input the address. The candidate of the ZIP code will be displayed by the Suggest function based on input address. The applicant can acquire information on the ZIP code by choosing the address of the applying shop among the address candidate displayed.

After a rough address is input by the above-mentioned method, a detailed address including the house number and the part that cannot be retrieved by the ZIP code is added by the hand input. The mistake of address information that had been happened before has decreased greatly by these functions.

3) Positional confirmation function on map
The address information that had been obtained by doing as previously stated was synchronized with Google Map, and a new function that enable the applicant to see and the location was developed (Fig.4). The applicant can immediately confirm and adjust the shop position interactively on the map by this function, and it is a remarkably epoch-making and an
unprecedented excellent function to prevent the registration mistake by visual confirmation work.

A concrete method of this function is as follows. First of all, a button "Display the shop is on the map" on the site is clicked. As a result, the position of the shop is displayed with the icon that moulds a GL on Google Map by acquiring the longitude and latitude based on the content set to the address column with Google Maps API, and using the location information. Next, the position is corrected by clicking the correct position on the map when the applicant finds an error in the positioning on the location displayed.

Discussion

It is considered that the farming diary by an electronic medium that has not spread easily up to now spreads widely by using this system. At the same time, cost accounting can be done by reusing important information on the farm management effectively and by tying to the bookkeeping software additionally. As a result, the farmer can obtain important information to engage in sustainable agriculture by a strict profit calculation by referring and recognizing detailed labor for farming data reasonably. It is considered that the development of this system becomes one of the crucial step to hold off the decline of agriculture that is becoming a severe problem now in Japan.
References

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