

Online Advertising Platform for Small Scale Businesses

Ankita Argade¹, Aishwarya Ashtekar², Priyanka Bhorkar³, Sakshi Katkar⁴, P. P. Jorvekar⁵

^{1,2,3,4}Student, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune, India

⁵Professor, Department of Computer Engineering, NBN Sinhgad School of Engineering, Pune, India

Abstract: Nowadays the popularity of the large businesses can reach to height. Because of the increasing use of mobile, technologies along with the communication over an Internet. The online businesses become the favorite one option for people and hence it proved a significance benefits in their growths. Due to this small business get more affected. So, we are providing the same facilities and for Small businesses ultimately which work beneficial and profitable for them like large businesses. This implementation will give a staging for all small businesses. The advertising plays a vital role development of business. According to that business holder design their products using latest features and publish them over an Internet. As soon as product displayed over media the people which are interested can automatically attracted toward the services. The main functionality of the business holder after that is accepting the requests serves the buyers. User always prefers the best services in nearby areas. So, we make the services available according to locations. For this we are considering both the locations of service provider and service buyer as well. After finding perfect match we are suggesting some of them. Nearby searching capability of this application is its primary feature and is very useful for both customers and business owners. With this web application, small scale businesses will get greater exposure to the customers and will be able to reach to them.

Keywords: Spatial Query, latitude, longitude

1. Introduction

Marketing is the best platform for the advertising and growing of the businesses. Due to their manpower, resources availability and financial support Large-Scale businesses automatically popularity. Internet is the strong media from where the information gets easily and spread in just within a seconds. By using such powerful tools, the business grows easily and ultimately which leads them towards huge profit. But in growing of large-businesses the small scale businesses get scaled down. So there is need to improve their marketing as well as the selling style. But sometimes it is not cost-efficient for the business to get advertise themselves. Many small businesses have less price for the same present in the online business but with best quality. Due to lack of their advertisement they can't reach to the people. Hence we are implementing a web application which gives same opportunity for the small businesses in their budget.

Local businesses are also popular but in within their particular areas. Their services and products are famous in that

area. We are trying to popular them over internet. Their services may used by other people around different areas so our intention behind is only that they grow easily without any troubles. There is also other organization which have done research in this field but we are implementing one extra feature this is the location tracking. These issues are our primary target zones. We are endeavoring to build up an undeniable web application that will be an answer for this issue. Additionally with the perspective of client, finding nearby organizations turns out to be simple with this application. Following are the main features of this application which provide facilities along with above :

- User
- Business
- Product
- Location

2. Literature survey

In 2007 many web search tools are created. The NQS system used to select the yield from various entries at a time. NQS stands for the novel query suggestion technique. Query logs are generated along with them. The expansive web index thus it if proficient than more seasoned one. Hence for the result generation it will uses the traditional query logs [5].

Instant Search and PR-tree. Instant are proved the best techniques later. Because where clients don't need to express full query. Smart Search technique is implemented here. Smart web index can consequently updated. PR tree can used in the implementation that is Prefix-Region tree is utilized to overcome reports by utilizing ordering systems. [Location-Aware Instant Search Ruicheng Zhong, Ju Fan, Guoliang Li, Kian-Lee Tan, Lizhu Zhou,

In 2012 the paper is published by Senjuti Basu Roy, Kaushik Chakrabarti. In this they will found the security is the main issues in other older applications they were try to solve it by using following [10]. In 2016 the progress done in the field of the programming as well in locations. In this year web crawler imagined that right the unambiguous question automatically. The LKS technique is utilized for getting the outcomes. LKS stand for the least keyword search. Because of this if the user have unclear idea about his searches then it will displayed

shortly then method will generate the results accordingly. [1]

A. Spatial query

Additional details contain with the query. This question not contain just the inquiry portrayal but rather additionally the clients area certainty is analyzed.

B. Safe zone

This gives the data of any element. The data get by specific region until client stay on that zone. If the client is activated in particular area then and then only the data is send to client otherwise the status of client is send as inactive. If the client get relocate then the area is consequently refreshed. In this the spatial database is utilized alongside the depictions of areas. [“A web application for small scale businesses” Ankita Argade,Aishwarya Ashtekar,Priyanka Bhorkar,Sakshi Katkar, Prof. P.P. Jorvekar]

The paper is Firstly invented in 2006. Query suggestions used for the mining technique. This gives the proposals according to the client's requirements. In this paper the basic small web search tool is utilized to figure the hints. According to the previous history the traditional search method gives the output they found the matching between the entered value and database historical data. But the issue comes with this methodology is the sequential search. Because of this the retrieval process of data takes more time. And hence it is not sufficient for the large amount of data [7]. After the employments of the portable clients builds the need id the keen search. For this the moment seek appears.

3. Architecture

A. System design

The architecture mainly divided into the three parts:

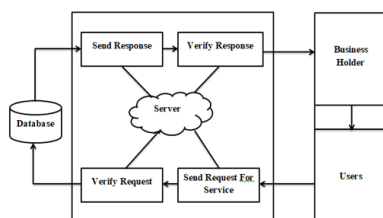


Fig. 1. System architecture

B. Database

Every information of the business and customer is handled by the database. The database used is the MongoDB. The horizontal scalability one of the feature of MongoDB, which makes it a useful for database big data applications. All data stored unstructured format in MongoDB hence this database is utilized rather than the other database. MongoDB store data in key-value pair which proves its functionality. Every module has each table which is called as the collection, and store and retrieve information according to key-pair, For Example: login, signup, data includes name, id, password, mobile number, etc.

for each items in distinct businesses.

C. Server

The verification is the main goal of server as shown in architecture the request and response get manage by the server. Server verifies both the user and business holder too. By using Instant Search Method.

- **Instant Search Method:** If user have unclear idea. In this user don't need to type full long query. ISM uses Smart Search Engine. This engine loads the suggestions by default automatically related to the inserted query. Due to this improve interactive speed as well as improve the working of the system. Fast data processing done under this method which makes it more user friendly [8].
- **LKS** is the least keyword search method is used to retrieve the most related data or to find matching information.

The server is implemented by using Java Spring framework. Spring Framework is a powerful lightweight application development framework used for Enterprise Java (JEE). This framework was choose for its following advantages:

- **Lightweight:** Spring Framework is lightweight with respect to size and transparency.
- **Inversion of control (IOC):** In Spring Framework, loose coupling is achieved using Inversion of Control. The objects give their own dependencies instead of creating or looking for dependent objects.
- **Aspect oriented programming (AOP):** By separating application business logic from system services, Spring Framework supports Aspect Oriented Programming and enables cohesive development.
- **Container:** Spring Framework creates and manages the life cycle and configuration of application objects.
- **MVC framework:** Spring Framework is a MVC web application framework. This framework is configurable via interfaces and accommodates multiple view technologies.
- **Transaction Management:** For transaction management, Spring framework provides a generic abstraction layer. It is not tied to J2EE environments and it can be used in container-less environments.
- **Client:** Same functionality like server will be implemented on the client side

D. Modules

In this project, we have main four modules to achieve the intended functionality.

1. User
2. Business
3. Product
4. Location

4. Implementation

Each module has its own functionality and by combining

them we get whole working project : Homepage will give the basic idea about the application rather than explicit searching. So it will contain all redirecting links to other system features. This is the homepage of website which includes the various fields through which user can navigate within system website. Also overview and categories of services are displayed in home page.

A. User

This module encompasses all the operations related to the user of the system. These functionalities include:

- *Register user:* User details are accepted through a signup form from frontend, with the help of rest api, transferred to the server and are saved in database.
- *Login:* If user is already registered, he/she can use email and password that he/she entered while registration. This allows user to access his/her private data such as businesses he/she uploaded, products, etc.

Any user can login to the website by using his/her valid user id and password to access their account. If a user is new, then he/she can do the registration first. For the registration we are accepting the parameters like name, mobile number, password for future login and email, etc. Once the user gets registered then and then he/she will go to access the other details of application. After registration the details get saved into the database can use for the future login purpose. The user may act as buyer and seller at a time if he/she registers their particular business.

Services Advertisement Page - After logging to the website system user is able to access account all nearby services suggestion's. This contains the business names and the images of the products along with the address and distance from user. Inside the business it will contain the different products. One business may have more than one product. Each product contains its own attributes like name, price and quantity, etc. This contains the functionalities like Adding, updating and deleting of the business as well as for individual product

B. Business

A user can upload his/her businesses. This module encompasses operations related to handling those businesses those operations are:

- *Add business:* If user owns one or more businesses, he/she can upload them on system. Various attributes of business like name, description, location, etc are received from the user and all this data is stored in database
- *View businesses:* User can view previously registered businesses along with their details
- *Edit business:* User can edit the details of previously added businesses. Only the owner of the business holds the authority to edit business.
- *Delete business:* Owner of the business can delete the previously registered business. Delete Business() function provides this functionality. After deletion the

contents are removed from database permanently and cannot be retrieved again.

C. Product

A business can have many products. The business owner can manage, add and perform operations on them using this module.

- *Add Product:* Adding multiple products can be one of the features of the business. One business may have many products. Products have to first be registered inside the business and then this can be displayed under the business for selling.
- *Update Product:* If any changes want to be implemented with respect to the product can be done under this field. The change may be changing price of product or update quantity etc. All the fields go under the update if needed.
- *Delete Product:* If no product remaining or all the products get sold and the seller doesn't want to add them again into their business then delete option is provided. Once the product is deleted cannot be displayed again. If the seller wishes to again sell this particular product in future the he/she must have to add that product again.

D. Location

Location provides the current location of the user. For that we are using the parameter Longitude and Latitude. By considering the current location, the product gets sorted and only nearby businesses will be displayed on screen. Finally, we are providing the rating for each product stored into the business. This is feedback recorded from user for each item. This may be used for user in future, according to rating the next users will check the quality of product based on that.

5. Conclusion

There is no efficient way through which small scale businesses can expand their businesses and make more profit. So to solve this problem, we are proposing a web application which will provide different features and it will be easy to use. We have studied various approaches to implement these features.

References

- [1] Qi, Shuyao and Wu, Dingming and Mamoulis, and Nikos, "Location aware keyword query suggestion based on document proximity," in IEEE, 2016, pp. 82--97.
- [2] Dik Lun and Zhu, Manli and Hu, Haibo Lee, "When location-based services meet databases," *Mobile Information Systems*, vol. 1, pp. 81--90, 2005.
- [3] M and MCA, T Rajendra Prasad and Tech, M Padmaja, "Keyword Query Suggestion Based on Document Proximity,"
- [4] Twinkle and Kulkarni, Pradnya Pardeshi, "A Survey on Location Aware Keyword Query Suggestion Based On Document Proximity," *International Journal of Advanced Research in Computer Science and Software Engineering*, vol. 6, no. 12, pp. 218-221, December 2016.
- [5] Dingming and Yiu, Man Lung and Jensen, Christian S Wu, "Moving spatial keyword queries: Formulation, methods, and analysis," *ACM Transactions on Database Systems (TODS)*, vol. 38, p. 7, 2013.

- [6] Ruicheng and Fan, Ju and Li, Guoliang and Tan, Kian-Lee and Zhou, Lizhu Zhong, "Location-aware instant search," 2012, pp. 385--394.
- [7] Zhiyong Zhang, Olfa Nasraoui, "Mining Search Engine Query Logs for Query Recommendation," 2006, pp.1--2.
- [8] Doug Beeferman, Adam Berger, "Agglomerative clustering of a search engine query log," pp. 1-10
- [9] Mohamed Bouberia, Faycal M'hamed Bouyakoub, Abdelkader Belkhir, "A collaborative recommendation system for location based social networks," in IEEE 2018, pp.1-6.
- [10] Senjuti Basu Roy, Kaushik Chakrabarti, "Location-Aware Type Ahead Search on Spatial Databases: Semantics and Efficiency", 2012, pp. 1-12.