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A CLOUD BASED TRACKING SYSTEM TO IDENTIFY NEAREST STORES ON WHEEL BY AZURE TOOLS AND CACHING MECHANISMS

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ABSTRACT

Cloud computing is the delivery of computing services including servers, storage, databases, networking, software, analytics, and intelligence over the Internet ("the cloud") to offer faster innovation, flexible resources, and economies of scale. Consider that a customer who needs some special requirements and that will be on his door step. So if we have a system that we can track stores which is movable and near us so we can call their help. So it will be very different then purchasing from e-commerce platform as we can feel the products and their in our doorsteps. So this cloud based system will help us to track these stores and services by using latest azure services which has great scalability and caching mechanisms for avoiding delays in data transmission. This system helps people all over the globe to resolve this business section.

1. INTRODUCTION

We can see that lot of scenarios going around that many people are running business on wheels but the consumers are not able to track them. We have lot in-home shopping techniques but this application will help the consumers. Just concern that you want to purchase an item but we cannot feel or understand what's the quality of that item so in that scenario will be having lot of dilemma regarding this item, in that scenario these business people who are on the wheels will help us to identify the item and bring quality items to us. But we are not finding them that so in that scenario this kind of tracking application help us to reach us to them. So our application helps us to track this business people so it will give the current location of these particular stores on wheels and we can request them to come to our location so that we can go through the products and items and identify whether it is useful for us. For development of application we are following Cloud Computing methodology with multiple microservices technologies that includes caching and serverless computing. Cloud Computing application should have a feature which is more important than everything is best performance in getting the response. For that caching Technologies most latest and good for that. Here we are using redis cache which is one of the best method for the caching of responses and the data. We will identify the location of the user and will be updated to this caching database and also there be a background process that will update the location of all the stores and will be kept in a single key that will help us to fetch the data of all the locations of these stores at a time and that will be instantly will be available through the API and and that will be broadcasted to the UI. Cloud computing can offer elastic assets with dynamic provisioning and scaling base totally on user demands. This approach is supposed to cope with each resource over-provisioning, extra sources than wished are allocated and aid beneath-provisioning, and fewer resources than required are allotted. The elastic management yields higher ordinary machine aid usage and subsequently increases

system performance. Even though cloud computing is a relatively new and rising time period, many consider that other varieties of cloud existed long.

2. PROPOSED SYSTEM

In this system we are following the microservices architecture, we have more than one services. UI component the front end component that the consumer will use to access and find out nearest stores that they need according to their needs. So this UI will interact with services which are in the server computing methodology and also Web API. These services will be fast rest API that will interact with the necessary databases and to fetch the data that will be provided to the UI component.
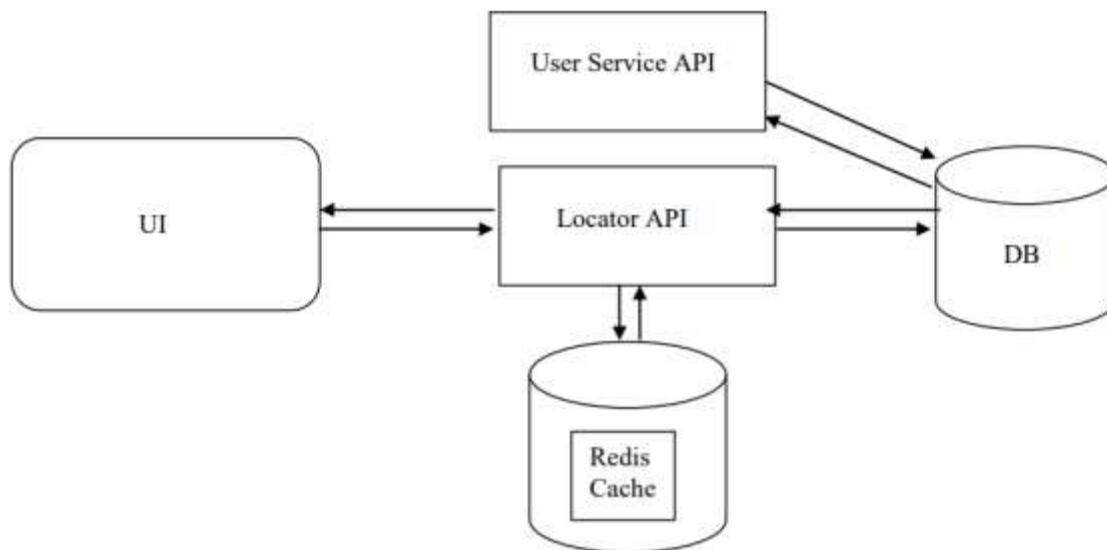

Fig 1. **System Architecture**

2.1 User Service API
In User service is a Web API that is developed using asp.net which mainly used to create users and login to users. So this API which has the endpoints which help us to register the new users with the necessary details and also verification details. Once this endpoint receive this data that will process the data through the various layers of the Web API and finally to be stored to the DB. Also this API consists of multiple endpoints which help us to fetch the data of the user and give in meaningful response. This API is the main endpoint for authorisation and authentication. It is the security gateway. It provides all the profile related details.

2.1 Locator API
Locator API is an API which is used serverless computing methodology. This API will fetch the location from the user and from the stores simultaneously and it will be stored to the redis cache DB. Locator API should be a very quick and instantly responsive API for better performance of the application. Serverless computing using Azure functions that help us to scale when we get lot of users at a time. The main advantage of serverless computing is scalability and that can be done very quickly.

3. MODULES

3.1 User Registration

User registration is the first and primary methods that should be used for the API. We need two types of uses one is the consumer and the other one is the vendor. Consumer are real users which will use this application to access the different vendors that is available near to us. Vendors are the other users that will give their profile and their details regarding their products and business. For that we have a user registration form that will collect out the first name, last name, email id, mobile number, user type and description about if they are a vendor. Once the user is registered they are able to login to the main part of the application. Once they are the main Dashboard of your application their location will be shared with the system. According to the user type the location will be shared between the consumers of the vendors

3.1 Main Dashboard

Main dashboard is the important part of this application. This will help the consumers to locate the vendors in the map. So that they can understand which vendor is near to us according to that they can give a request to the vendor. Main dashboard also have multiple features to view the profile of the vendor. It will have many settings regarding to customize the dashboard. All the activities will be happening from this main dashboard.

4. CONCLUSIONS

As we know upcoming stages will be a lot of needs for every person like everyone should depend on outside stores and mostly like we're going to many pandemics we are not able to go outside and purchase items. In this scenario this method of commercialization of the market need an application to track those vendors who are like mentioned as the stores on wheel which helps us to get all our products in front of us and without stepping out two public places. Just consider a people who is waiting for the fishermen to reach near their home to buy fish but it would be very difficult task to understand when they will arrive. In this scenario we can implement this tracking application between those vendor and the consumer and so they can easily track and also we can keep some alerts to know when they near to us so according to that we can plan what we were doing. After many multiple investigation, we be understood that this tracking application will help lot of people to fulfill their daily needs with getting quality

5. REFERENCES

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