

Automated mess service based on user's location

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Abstract - This paper discusses Android based system to develop online mess ordering system which will identify and locate nearby mess and order mess food services via online. By using GPS service, user's location is detected which then is used to show nearby mess service providers which have registered this application, by which user can easily be aware of the mess service providers prior to its location and user can select required mess based on user's requirements to order food. Users can search for different varieties of mess providers and system is able to sort them according to their price, ratings or type of service with in their range at any place. A user based mess review system is included to validate and encourage good services among mess. It can likewise be valuable for educating mess service providers to engage in digital way of communication. Our system also allows the user to order the mess service based on weekly, monthly or quarterly basis. This thought would accomplish great outcomes.

Key Words: Mess, GPS (Global Positioning System), Google map API, Food, Travel, Online ordering, Sorting, Android, Review, Business.

1. INTRODUCTION

Nowadays, hotels services are digitally active were as traditional mess services lag behind, mess services don't have a platform for advertisement and make themselves aware among the busy crowd. New comers to unknown place for job, study, travel, etc., usually face the problem in finding mess services near to their location. Also the one who leaves in hostel don't always get meal for their budget or a satisfactory canteen service they look for external food source and end up having unhealthy junk food or having overpriced food from hotels. That motivates us to develop an android application to solve these issues and promote good service and customer satisfaction along with profiting current mess services.

Our system will interact with user's location with the help of 'GPS & Geo Tagging on Android Platform' [2] [4] and provide information of active mess services prior to their location. We use 'Dijkstra algorithm' to find the shortest path to measure nearest mess. [1] By using this application user can give their review based on their order history which will validate good service practices among mess to compete for higher ratings. Thus our system provide platform for advertise and interact-action between mess and customers

and vice versa. Filters are added to sort on bases of user's requirements, such as sort by ratings, popularity, price, veg or non-veg, nearest, etc. [5]

We use cloud computing and mobile computing and data mining technologies in developing this system.

1.1 Location

Today android smartphones are very much common and GPS 'Global Positioning system' present everywhere creating a higher feasibility to use it in our application. [2] We use Google map API 'Application Interface' for getting detailed geographical information for identifying mess around the user over a fixed radius. [1] Along with it we use dijkstra algorithm to track and identify the nearest mess service. Since we are working on android smartphones which has limited power supply and while using GPS along with WIFI will drain smartphone battery to a larger extent. [4] By using several LBSs 'Location Based Services' running in parallel could be beneficial from each other's positioning information.

1.2 Online order

Our application automate traditional dealing and subscribing mess service over a on weekly, monthly or quarterly basis and also give ready order on need. Before placing order we make sure that the user is registered to avoid anonymous entry, If user gives repeated fake orders misusing our application will be blocked by checking their record. Order is placed after selecting mess based on customer's requirements such as price, time, type, rating, reading reviews, popularity, etc. This is done by using appropriate filters which will sort accordingly. Order is only proceed after there is conformation from customer as well as mess service provider for that customer.

Our main aim to fulfill customer satisfaction by making them aware of nearby mess service providers with their food style, which will be fulfilled using our application. [3] We will use popular technologies for intelligent mobile phone software development in order management via Android and J2EE.

1.3 Review

It's important to give customer validation to mess service and encourage good service to improve the standards and quality of services. We use anonymous review where user name is not displayed but not all users can give review, only that customers who have their order history from the respective mess can give review, thus it provides more faithful review. Reviews are the way to give feedback and views of user experiences. Based on the review we rate the mess and are triggered to show top ranked mess services [5], creating a positive completion among mess service providers to provide good service to customers. Furthermore we could use 'Latent-Semantic Analysis' LSA algorithm [6] to analyzes the relationships between a set of documents and the terms they contain by producing a set of concepts related to the documents to provide more efficient review.

2. Proposed system

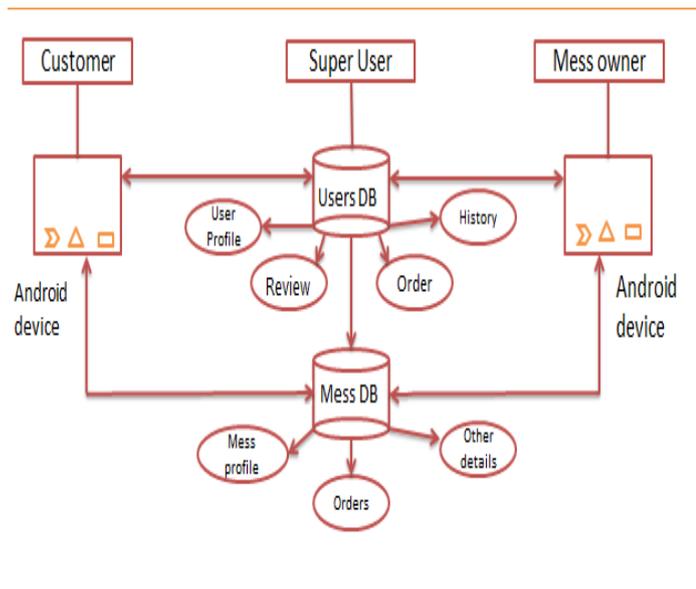


Fig -1: System Architecture

Fig -1 show the System architecture of our system. Here, there are three users as Customer the one who place order and review mess service, Mess owner the person who does their business using our application and finally the Admin termed as 'Super user' so that admin can have read only permission to the users and mess database. Both the mess owner and customer uses the same android application to interact with each other.

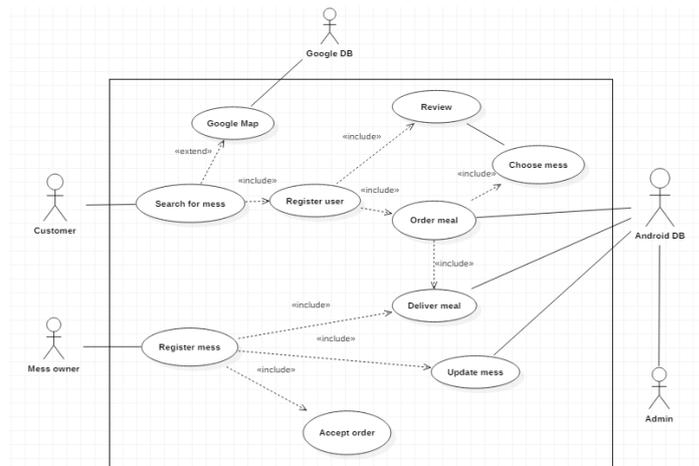


Fig -2: Use case of the system

From the above Use case diagram fig-2, Mess owner must register himself/herself through our application then only they are permitted to make their profile by uploading mess pictures, details, location, menu items with price, etc. Whereas customer can view nearby mess profiles prior to their location with the help of Google map API. He/she can select mess based on their requirements and place their order. User is permitted to order only after completing their registration process once they are registered they can log into their account and precede their ordering process. Order should be accepted by the mess provider to complete their communication via call or notifications in case order cannot be fulfilled. Ordered customer can share their experiences via giving review.

Table -1: List of modules

List of modules	
[A] Profile management module	Manages user profile details, also mess profile including mess location and menu details
[B] Location module	Location tagging and tracking nearby mess service providers Mess profile module
[C] Online ordering	Order mess food online also subscribe to mess weekly, monthly or quarterly basset
[D] Review and Rating module	Review based rating system to validate mess service
[5] Record maintenance module	Overall record such as order history of users mess service fulfillment details for statistics

3. CONCLUSIONS

This paper discussed a framework for developing an online mess service booking system based on user's location where users are able to sort messes according to their requirement. Here user is permitted to rate their favorite mess and give feedback to improve and encourage their experiences with mess providers. This system is providing the easy way towards mess service and this is very helpful for the small scale enterprises, employees and mainly for the students staying far away from their home. In addition, a record maintenance is added for statistical analysis of food distribution over the area, which will be useful for government, bigger business bodies to help in developing a smarter life around us. This system helps to give more priority to mess service and enrich their growth from their current fading situation.

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