

Decentralized Architecture for Location Oriented ContextAware Mobile Applications

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Abstraction

In order to quickly access to information requirement on services and products has developed to be an essential part in the modern world and thousands of applications, systems have been emerged as a major role in the same domain by allowing users to get things done easily by searching for any information they require. Although with the increase of mobile applications for every single need of our day to day life has lead to overload the mobile applications in the app stores. Mobile users are showing very low tendency towards installing many applications in their mobiles due to storage limitations and the limited features available in an individual application. In addition they will not impress or satisfy user needs due to the time and effort that they have to invest in the searching process and then visit many places to find the right service, products and etc. Further when considering the existing systems available to acquire those requirements it was understood that due to the unreliability of the information available and not being able to provide location base service, can be identified as a limitation that many people face in finding information that would match their specific requirements or preferences in one hand.

In other hand the service providers face many difficulties due to not having an effective method to connect with customers and fulfil their queries, obtain user interest, and user behaviour patterns. The common approach of the business owners are to design their own mobile application or website to address aforementioned needs. Although still they have to through many obstacles in maintaining mobile applications and hosting a cloud base services which is costly.

Thus the LocMo system came into play in order to bridge the gap between customers and service providers with the approach of decentralized architecture and location oriented context aware technology. It can be stated as the most ideal solution which contributes towards addressing the problems identified by connecting both customers and service providers through a single platform with a common conversational interface.

Service providers can easily maintain and keep the data stored in their own servers to fulfil the customer requirements efficiently and effectively with wifi networks. Since it provides location based service customers now can reach any information through a single platform without much hassle.

LocMo system was introduced which provides a location base service with decentralized architecture to achieve a high accuracy in the decision making and recommendation process. This solution not only saves time, but also it is cost effective and allows to provide high efficient services. LocMo system was designed and implemented to have a mobile client and a server. Servers will be the information providers in the decentralised system. Mobile client will have the capability of take decisions on selecting the appropriate service provider on the user's requirement. Information retrieval methods will be used by the mobile client in addition to the location aware parameters in order to take more accurate decision. Android framework has used to develop the mobile client while Play framework has used to develop the demo server. UDP broadcast is used to identify servers in a WIFI network. Project has scoped to develop fully functional mobile client and a demo server application which can participate in presenting the decentralised architecture.