Location-based Chat Service during Quarantine for Covid-19 Patients with Smart Navigation

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Abstract— we live in the world of internet with everything on ourfinger- tips. This can be realized when users go to a new placessuch as new building, restaurants, parks as well in emergencysituations or pandemic etc. There is no a common infrastructureto communicate at that particular location. Such accessibility canprove to be very useful in various scenarios. The proposed workprovides a unique application of map- based-connectivity that ismissing in the today's world. So, the issue is that users don't havesuch platforms which can help in hot spots. Particularly chat andthe features that it provides. This work creates a web applicationthat solves this problem using map-based chat hot spots.

Keywords— Location based Chats, Navigation, RoutineLearner/Predictor, Chat houses, Accessibility.

I. INTRODUCTION

The society has communication all over the world but sometimes, users feel the need to get connected to nearby service providers or health workers and get more information about the world and need to know about emergency around quickly, discover new people around to get help during quarantine period. Similarly, there can be plenty of other implementations of getting connected to people around. The Figure1 shows the percentage of users to know about location based chat services, this survey was conducted through online and got some responses.
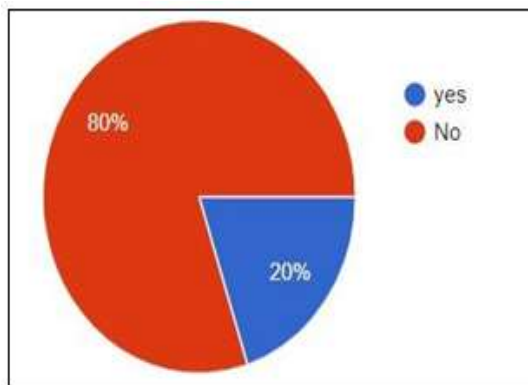

Fig1. Represents percentage of people knowing about Platforms supporting location based chat

Fig2. Represents percentage of people finding Local Area based chats

The survey is conducted about the need of such applications, which are beneficial to the society and useful for a longer duration and above Figure1, Figure2 shows the responses, which is obtained from the users and by looking at the responses, it is indeed required for such an app for users during pandemic. Maps are one of utilities used by millions of people around the world daily. An important aspect of maps, which has been kept in mind with respect to work, is that it can easily know the traffic in the navigation path and predict ETA more accurately.

Maps Database - It can be huge, and can have endless amount of data containing coordinates of places, path between two places, traffic information, reviews, places' images, satellite images, geographical features etc.

Machine Learning - has important applications in all the fields. Maps with Machine Learning can fetch us great results. It can be used to detect traffic load, blockage like concert, public gathering, road construction, etc. in the navigation path. Also, Machine Learning can help us to know our daily routines, frequently visited places, etc.

The primary feature of the map is its navigation capabilities, because the way it finds and show you the shortest path to your destination, detects & notifies you about possible traffic increase in the way etc.

The shortest path between the source and the destination is calculated using Djikstra's Algorithm. The role of database is that all these things such as storing coordinates, edges, machine learning outcomes, chat histories etc. require a database for implementation.

The chatting application is a clear inspiration from the social networking sites and applications, which are currently available in today's world- Facebook, WhatsApp, Twitter, Instagram etc. The role of social networking sites is to be keep you in touch with your near and dear ones, and also keep you updated with the recent happenings/events in the world, as it sometimes acts as a source of news.

The proposed chat application is a clear inspiration from the social networking sites and applications, which are currently available in today's world- Facebook, WhatsApp, Twitter, Instagram etc. The role of social networking sites is to be keep you in touch with your near and dear ones, and also keep you updated with the recent happenings/events in the world, as it sometimes acts as a source of news.

Mapping satellite images using crowdsourcing for building a network, where places and path connecting them is known, Building navigation system with shortest path between source and destination. Machine Learning based frequently visited places detection and marking them as routine.

II. LITERATURE REVIEW

The reason for this paper is to research the effect of security worry on client reception of location-based administrations (LBS). The outcomes show that among four elements of security concern, accumulation and auxiliary use are the primary variables influencing seen chance, while blunders are the fundamental factor influencing trust. Trust influences apparent hazard, and the two components decide utilization aim [1-2].

The rising universe of versatile trade is portrayed by a variety of energizing new advances, applications, and administrations. Among the most encouraging ones will be the capacity to distinguish the careful geological area of a versatile client whenever. This capacity opens the entryway to another universe of inventive administrations, which are generally alluded to as **Mobile Location Services (MLS)**. This part targets investigating the intriguing universe of MLS, distinguishing the most appropriate issues that will decide its future potential, and setting out the establishment of another field of research and practice. The commitment of our examination is exemplified into a novel grouping of portable area benefits that can serve both as an expository toolbox and a noteworthy structure that systemizes our comprehension of MLS applications, basic advancements, plans of action, and valuing plans [3].

How do users accept, and use, for a long period of time, location-based services (LBS) on their mobile handsets? FriendZone, a suite of mobile Location-based Community Services has been launched. The services included Instant Messaging and Locator (IM&L), Location-based Chat, and Anonymous Instant Messaging (AIM), with supporting Privacy Management. A 21-month usage survey of more than 47,000 users, most of them young adults, followed by user interviews, is reported herein. The results indicate that AIM is the most popular and used service, more than IM&L, with lower use of Chat. The interviews showed that young adults are interested in immediate stimulations and therefore use AIM, which could lead them to face-to-face meetings. In addition, IM&L is limited to one carrier and hence is less attractive. Lastly, young adults using this service are more interested in sharing their location than in their privacy [4].

III. PROPOSED METHOD

The proposed method has three modules namely.

Location based chat: This is a unique feature introduced by us, this feature has never been used in any of the applications till now and can be used during pandemic.

Navigation: This application is used to route the goods and services during pandemic, this is bit different with special emphasis on transportation facilities.

Routine Predictor: It helps to predict your routine based on the activities tracked. It helps in not missing out any important task during quarantine.

Linear Regression: It is the most suitable model of machine learning; it is used to predict a particular event at a particular time or date.

Google Maps APIs: It is mainly used for navigation and to route the goods and services during pandemic and facilitates GUIs.

Dijkstra's Algorithm: It is the most suitable method to find the shortest path between two chat houses or locations
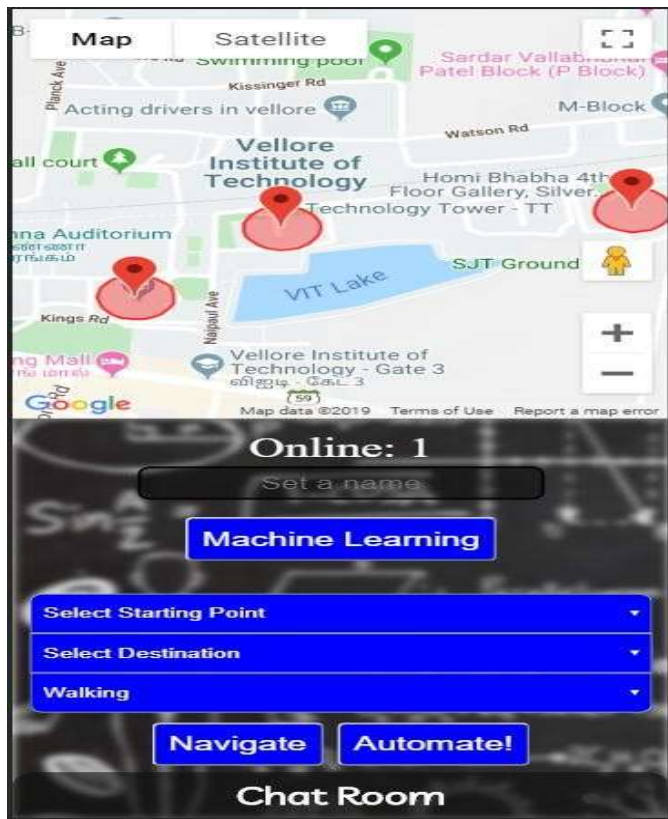
Figure1. Represents the visual representation of the Mobile Site

The figure1 shows the overall view of different locations with chat houses, where users can chat with others during quarantine for services.
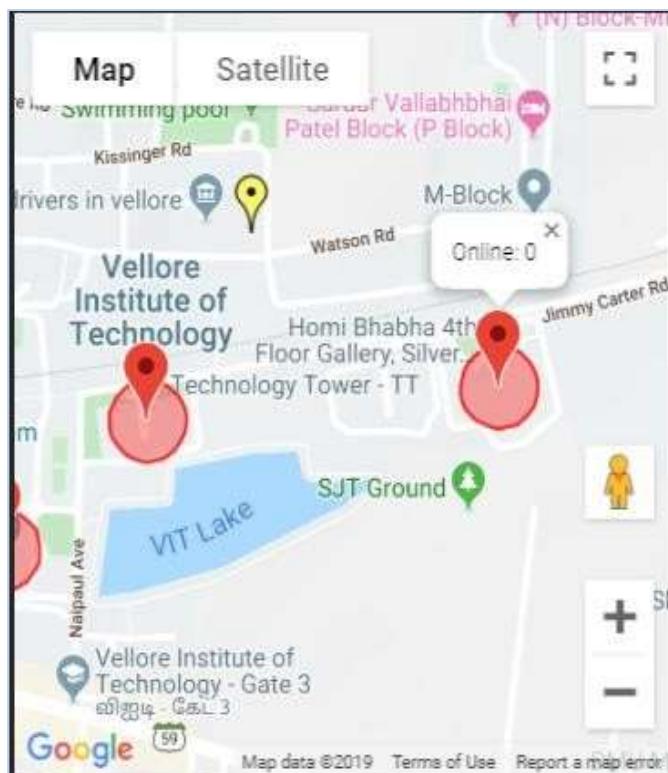

Figure2. Represents Chat-houses on the map and the location of the use

Figure3. Represents the User inside the Chat-house with circle

Figure4. Finding shortest path using Dijekstra

The figure4 shows the shortest path between two chat houses for transportation of goods and services.

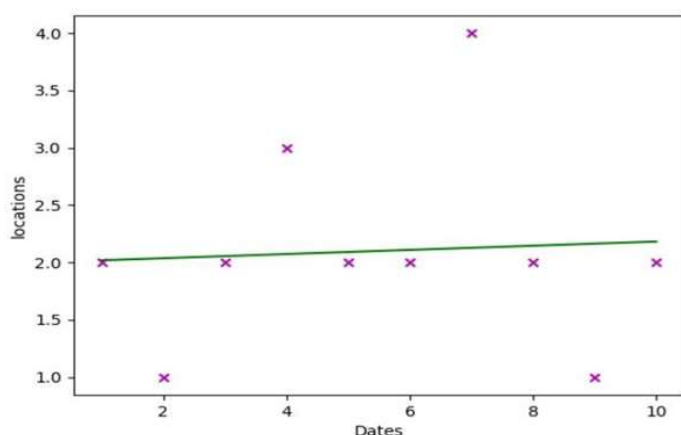Figure5. Represents the usage of chat feature in mobile platform.

Figure6. Represents the Machine Learning Linear Regression Graph, used for predictions.

V. CONCLUSIONS

Technology is used in all walks of life day-by-day to make things smart. So in today's technical world, it is necessary to have a user-friendly web and mobile based application to get assistance during pandemic. In future, this app will be more open, and expanded with more features. So that it is accessible by one and all, the user will be able to make new friends after interacting.

REFERENCES

[1] The impact of privacy concern on user adoption of location-based services Tao Zhou | Industrial Management & Data Systems ISSN: 0263-5577 | Publication date: 15 March 2011.

[2] George M. Giaglis (University of the Aegean, Greece), Panos Kourouthanassis (Athens University of Economics and Business, Greece) and Argiros Tsamakos (Athens University of Economics and Business, Greece).

[3] Asaf Burak: Carnegie Mellon ETC, Pittsburgh, PA Taly Sharon: MIT Media Laboratory, Cambridge, MA Published in: Proceeding MUM '04 Proceedings of the 3rd international conference on Mobile and ubiquitous multimedia College Park, Maryland, USA — October 27 - 29, 2004 ACM New York, NY, USA ©200.

[4] https://developers.google.com/maps/documentation/javascript/shapes.

[5] https://devdocs.io/async/

[6] https://appdividend.com/2018/04/14/how-to-deploy-nodejs-app-to-heroku/

[7] https://www.siteground.com/tutorials/phpmyadmin/administration/

[8] https://www.igi-global.com/chapter/mobile-commerce-technology-theory-applications/26468

[9] Pradthana Jarusriboonchai , Aris Malapaschas , Thomas Olsson , Kaisa Väänänen, Increasing Collocated People's Awareness of the Mobile User's Activities: a Field Trial of Social Displays, Proceedings of the 19th ACM Conference on Computer-Supported Cooperative Work & Social Computing, February 27-March 02, 2016, San Francisco, California, USA

[10] Tiago Camacho , Marcus Foth , Markus Rittenbruch , Andry Rakotonirainy, TrainYarn: Probing Perceptions of Social Space in Urban Commuter Trains, Proceedings of the Annual Meeting of the Australian Special Interest Group for Computer Human Interaction, December 07-10, 2015, Parkville, VIC, Australia

[11] Daniel Kuen Seong Su , Victoria Siew Yen Yee, Designing usable interface for navigating mobile chat messages, Proceedings of the 19th Australasian conference on Computer-Human Interaction: Entertaining User Interfaces, November 28-30, 2007, Adelaide, Australia .

[12] Susanna Paasovaara , Ekaterina Olshannikova , Pradthana Jarusriboonchai , Aris Malapaschas , Thomas Olsson, Next2You: a proximity-based social application aiming to encourage interaction between nearby people, Proceedings of the 15th International Conference on Mobile and Ubiquitous Multimedia, December 12-15, 2016, Rovaniemi, Finland

[13] Christo El Morr , Jalal Kawash, Mobile virtual communities research: a synthesis of current trends and a look at future perspectives, International Journal of Web Based Communities, v.3 n.4, p.386-403, November 2007

[14] Anuj S. Saxena , Mayank Pundir , Vikram Goyal , Debajyoti Bera, Preserving location privacy for continuous queries on known route, Proceedings of the 7th international conference on Information Systems Security, December 15-19, 2011, Kolkata, India