

A Literature Review on Live user location tracker and infectious zone approach warning system.

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ABSTRACT: Simulation studies play a significant role in supporting pandemic disease scenario prediction and facilitating the understanding of how infectious diseases spread. This is of high priority for the prediction, reduction and containment of pandemics. Disease-spread simulation applications are used to detect and acknowledge users about various pandemic zones and behavior or to study disease outbreak parameters and mitigation-strategy features. Here, we focus on how to improve future global pandemic containment zones with the help of advanced digital technologies. The idea of the project is to develop an application which collects data with the help of government agencies and displays it to the users in the form of containment zones so when the user enters in that specific area he can take various preventive measures to keep himself safe. Consistently the application also tracks the pandemic in that specific area to show the density of that outbreak.

Keywords: Web Development, Mobile App development, Location Based Engine (GPS), Warning system, Live data for covid-19 pandemic.

I. INTRODUCTION

The system is code-named COVID-19 Alert and Tracking System. It would be a portable system operable on different platforms (Web, Smartphones and other information dissemination platforms). Mobile development is done using Android Studio whereas the web front end is developed using Dart and Flutter on Microsoft Visual Studio 2019 platform. The software system comprises modules: login/sign-up, coding, case tracking module, and information module respectively. Welcome screen as may be presented on mobile displays such as smartphones.

II. LITERATURE SURVEY

The systematic literature review (SLR) was conducted by searching databases of Google Scholar, Web of Science, PubMed, IEEE Xplore Digital Library, PsycInfo and ScienceDirect using

the search terms (“Contact Tracing” OR “Contact Tracing apps”) AND (“COVID-19” OR “Coronavirus”) to identify relevant literature. The search strings were run against the title, keywords, and abstract, depending on the search platforms. The searches were conducted between January 1, 2020, through January 31, 2021. Further inputs were also taken from relevant preprints, published government and technical reports. Previous studies have used similar methods to conduct an SLR. To achieve the objectives of extensively reviewing the most relevant studies and answering the research questions. We conducted the SLR under the guidance published. According to Kitchenham and Charters, a Systematic Literature Review is “a form of secondary study that uses a well-defined methodology to identify, analyse and interpret all available evidence related to a specific research question in a way that is unbiased and repeatable”. The SLR allows us to implement the three phases of planning the review, conducting the review, and reporting or documenting the review. Each phase of the SLR is outlined below: Planning the review involves the following steps: • Identification of the need for an extensive literature review.

A. **Paper Name:** Tracking covid-19 by Tracking infection trajectories.

Author Name: Badreddine Benreguia, hamouma moumen

Description: In this article, we propose an IoT investigation system that was specifically designed to spot both undocumented patients and infectious places. The goal is to help the authorities to desinfect even if they have no apparent symptoms. The proposed system also allows determining all persons who had close contact with infected or suspected patients. Consequently, rapid isolation of suspicious cases.

B. **Paper name:** Survey of decentralized solution with mobile devices for user location, proximity detection and contact tracing in the COVID-19 era.

Author name: Shipper Sylvia Holcer, Michael Gould

Description: this paper provides a comprehensive survey of user location -tracking proximity detection and digital contact tracing solution in the literature from the past two decades analyses their advantages and drawback concerning centralized and decentralized solution and presents the authors thoughts on future field.

C. **Paper Name :** A survey of covid-19 contact tracing app

Author name: Nadeem ahmed, regio a, michelin

Description: we provide the first comprehensive review of these much-discussed tracking app attribute we also present an overview of many proposed tracking app

D. **Blog Name:** Create a GPS tracking application with Firebase Real-time Database. **Author Name:** Jessica Thornsby

Description: The Firebase Real-time Database is a NoSQL, cloud-hosted database that uses data synchronization to automatically receive new information in real-time from every connected client, without requiring you to setup your own application server.

Since real-time Database is a Firebase service, the first step is creating a connection between our project and the Firebase Console. I'm also going to

register a user account in the Firebase Console, which we'll eventually use to test our project.

E. **Blog Name:** The Next Big Thing in School Bus Tracking Mobile App.

Author name: Sayantani Neogi

Description: One of the latest additions to the on-demand apps is the school bus tracking mobile App. School bus tracking mobile app has become one of the most utility apps, when it comes to the safety of school children. Owing to many recent accidents and mishaps with the school children, while they were travelling in their school buses and vehicles, the urgent need of such mobile apps have been increased all over the world. The school bus tracking system offers a number of advantages to the schools as well as to the parents.

III. PROPOSED SYSTEM

A. Problem Definition

Our main purpose behind pursuing this idea is to help people to care their life and save their and other peoples life . To develop an application for users which detects and displays pandemic containment zones in various circumstances with respect to additional features like live tracking and infected cases attached to it. The complete implementation of this project is explained in great detail in the further section of this paper..

B. System Architecture

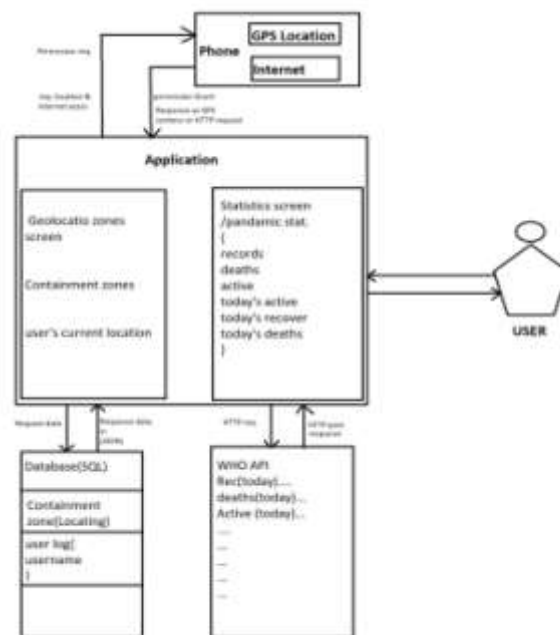


Fig: 1. System Architecture

C. Explanation of System Architecture :

A common layered architecture has been developed based on the client-server model as shown in Fig. 1. On the client side, user agents are used for the presentation layer, business layer, and data layer. The security layer is shown as cross cutting because security issues are mandatory and common to all layers. The security cross-cutting layer of the purpose system. Supports operations like authorization, authentication, exception management, and validation.

1) Presentation layer

The presentation layer facilitates user interaction and consists of user interface components and presentation logic. This layer consists of three main

components. all these component uses the services of access control, business logic and data manager from lower layer.

2) Business layer

The business layer works as a mediator between the presentation layer and data layer and implements the core functionality of our system. The business logic layer commonly consists of components like access control, business logic, data manager.

3) Data layer

A data layer essentially is a specific layer in our system that is used for reporting and collecting data. This data will be used for analyzing later to help make business decisions.

IV. USE CASE DIAGRAM OF PROPOSE SYSTEM

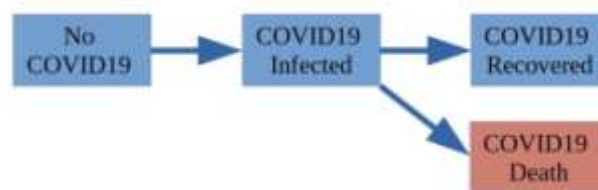


Fig. 2. Use Case Diagram

V. FUTURE SCOPE

The future of this industry lies with mobile applications. It's favorable for both business and customers as apps really make a difference in terms of cost cuts, helping to be competitive in the market

- Advanced Mobile Application
- Web Application

VI. CONCLUSION

The impact of the COVID-19 pandemic represents an unprecedented challenge to public health authorities and respective governments across the world. This has brought severe pressure on health services and introduced radical changes to the way of life for both individuals and organizations. In a way to stop the infection of the SARS-CoV-2 virus from spreading, public health authorities have considered and introduced robust contact tracing systems which include the use of digital contact tracing app

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