Covid Epidemic Record Tracker

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A R T I C L E I N F O

A B S T R A C T

In response to the COVID-19 pandemic, this project intends to generate information for the world's respiratory and mental health sections as well as the COVID-19 epidemic tracker. We plan to add useful, reliable, and thought-provoking content to the website covering every facet of caring for people with a COVID-19 diagnosis. The World Health Organization designated the virus to be a pandemic while the research was being developed. The project's initial phase was devoted to raising awareness of the epidemic. The aftermath of COVID-19 is a topic of much conversation right now, and while it is not quite behind us, many individuals are still healing and in need of care. Since a lot of the issues of discussion these days center on patient and healthcare worker mental health and rehabilitation.

Keywords: COVID-19, Hidden Pattern, Hospital, Staff, Pandemic Tracker, Web Based System.

I. INTRODUCTION

In many cases, medical science has prevailed over specific diseases though knowledge, expertise, technology, capacity and medicament applied to disease management are inequitably distributed with the world being the worst hit and conquer in most cases [1]. In the 21st century, advances in information communication technologies (ICTs) have played vital roles in the management of diseases, disease transmission, treatment, and `prevention [2]. The rapid spread of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus responsible for COVID-19, requires an urgent, collaborative, and multidisciplinary response supported by innovative methods [3]. Hospital staff (including both health-related and non–health-related professionals) form the backbone of the response to the ongoing pandemic. However, these professionals are among the most frequently and severely affected by COVID-19 [4]. Indeed, the disease has had a tremendous impact on the hospital workforce of affected areas due to the high risk of infection and heavy workloads. The dissemination of SARS-CoV-2 within hospitals may result in large nosocomial outbreaks and other devastating consequences. In the current scenario, timely information on how these risks evolve and are managed is almost anecdotal and reliable scientific data are urgently needed. In addition, understanding the determinants of SARS-CoV-2 infection and transmission by individuals with asymptomatic or very mild symptomatic cases of COVID-19 is crucial for the

design of containment strategies. In August 2020, the World Health Organization (WHO) declared that the COVID-19 pandemic is far from controlled. The cumulative number of confirmed COVID-19 cases across 216 countries, areas, or [5] territories worldwide amount to over 21,989,366, and 775,893 confirmed deaths have been reported to date [6]. Record daily numbers of both infections and deaths are seen in many countries, with many of them already experiencing "second waves" after lockdowns were lifted [7]. Spain is among the countries hardest hit by the pandemic, with over 376,000 total cases and over 28,000 deaths as of August 2020 [8]. The aim of the project is to provide a list of priority areas for work and health research, that addresses evidence gaps and emerging evidence needs within the context of global pandemics generally and COVID19 specifically. We will conduct a review of research literature, a survey of COVID19 research registries, and administer a survey of researcher and knowledge users. The summary of needs and gaps will be submitted to research funders and knowledge users at provincial, national and international level [9]. The COVID-19 epidemic Tracker monitors responses taken by governments worldwide to tackle the pandemic, and highlights those that have integrated a gender lens. It captures two types of government responses: women's participation in COVID-19 task forces and national policy measures taken by governments [10]. It analyzes which of the policy measures address women's economic and social security, including unpaid care work, the labour market and violence against women. The Tracker can provide guidance for policymakers and evidence for advocates to ensure a gender-sensitive COVID-19 policy response.

II. Related Work

The aim of this study is to look into the COVID-19 pandemic mobile applications that have already been created. To achieve this research goal, the related applications were first identified using a systematic search technique in common app stores. Second, information about the app's goals, features, user ratings, and feedback was collected. Finally, the affinity diagram, noticing collecting-thinking, and descriptive analysis were used to examine the extracted data [11]. Only a small number of mobile applications have been created, according to the study. However, we should anticipate further application development activities in the future. Our investigation revealed the primary goals for developing mobile apps [12], as well as the functionalities required to achieve these goals for COVID-19 prevention, mitigation, and containment. Individuals who have come into touch with a COVID-19 positive patient are identified and informed through contact tracing [13]. Manual touch tracing techniques are ineffective in controlling the virus's spread. Individuals may help automate communication tracking efforts during the COVID-19 pandemic by disclosing personal details [14]. Touch tracing is done in a variety of ways and with different apps in different countries. Singapore, for example, created and implemented the Trace Together app in March 2020. The app collects information about users who have been in close proximity to one another using Bluetooth technology. The app collects information about users who have been in close proximity to one another using Bluetooth technology. The health ministry uses this information to monitor and notify anybody who has come into contact with a COVID19 patient. However, people in the country have been slow to adopt this app [15]. On the other hand, researchers around the world are rigorously involved in the development of an effective drug or vaccine to fight the COVID-19 outbreak. Although different vaccines and drugs are still passing through various testing stages before they can be available worldwide, social distancing, quarantining and tracking based strategies are useful to control and reduce the effects of COVID-19 [16]. This paper proposes a novel model to control the spread of coronavirus using hybrid advance technologies. These hybrid technologies include call data record (CDR) using cellular technology, physical contact without

having a call history using low range wireless technologies such as Bluetooth, and voice over Internet protocol (VOIP) calls using cyber technologies. A CDR is basically a log file that is maintained by different telecom operators. It contains different types of data, which include latitude and longitude details of base transceiver station (BTS), type of call, international mobile equipment identity (IMEI), detail of cell site, numbers of source and destination, and calls duration made and received at a certain time [17].

III. Objectives

The main objectives of the COVID-19 epidemic tracker are to quantify hospital-based outcomes and deaths, including in relation to sociodemographic characteristics and comorbidities as ascertained from hospital AND general practice data. To estimate the strength of association between these outcomes and sociodemographic and health characteristics. It remains critical for national programme to continue to offer testing for COVID-19 [18] in line with three main objectives: reduce morbidity and mortality through linkage to prompt care and treatment, reduce onward transmission and track the evolution of the epidemic and the virus itself.

IV. Problem Identification

If you've been following the evolving data on the coronavirus in the U.S., you're probably familiar with the COVID Tracking Project. Every day, they publish the latest numbers on tests, cases, hospitalizations, and patient outcomes from all 50 U.S. states and five territories, and visualize this data in Tableau. They've also begun tracking COVID data by race and ethnicity an effort that's proved critical to understanding the disparate impacts of the virus. In the U.S., it's been over half a year since the virus materialized, and the work that the COVID [19] Tracking Project is doing is essential for understanding its spread. Their data has been cited by the White House, the CDC, numerous

state governments, and all across the media. But when Tableau sat down to chat with Erin Kissane, the project's managing editor, she said that initially, the team did not anticipate how long term and vital this project would become. The effort launched organically in early March, after two journalists at The Atlantic, Robinson Meyer and Alexis Madrigal, built a tracker investigating lagging COVID-19 testing rates. Separately, Jeff Hammerbacher, Founder and General Partner at Related Sciences, had built a tracking spreadsheet of his own. They joined up on March 7 and made a call for volunteers to help source data, and that's when Kissane joined as managing director. Absent any comprehensive data collection and sharing efforts from the federal government, the growing team was pulling numbers from wherever they could state public health data tables, press conferences, Tweets, Facebook posts, and anywhere else data were shared. "We expected we'd be updating the data for a few days maybe a week until the federal data emerged," she told Tableau shown in figur1. "It never did, but we're still here." Since that time, the COVID Tracking Project has been building the most accurate record it can of data [20] related to the coronavirus, and has amassed a large cohort of volunteers and an advisory board of public health experts to drive the work forward. Tableau talked to Kissane about why this effort is so important, how they get it done, and how this substantial data project has grown over time.
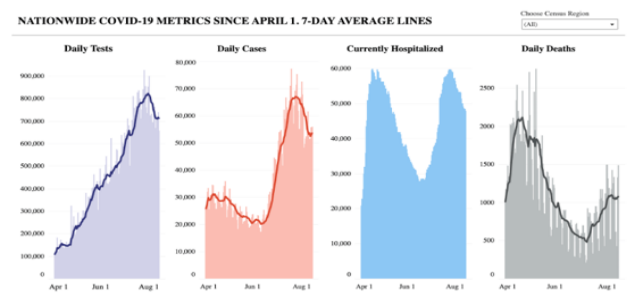

Figure 1: National COVID-19 Metrics

V. Proposed Work

The aim of the project is to provide a list of priority areas for work and health research, that addresses evidence gaps and emerging evidence needs within the

context of global pandemics generally and COVID19 specifically. We will conduct a review of research literature, a survey of COVID19 [21] research registries, and administer a survey of researcher and knowledge users. The summary of needs and gaps will be submitted to research funders and knowledge users at provincial, national and international level. The COVID-19 epidemic Tracker monitors responses taken by governments worldwide to tackle the pandemic, and highlights those that have integrated a gender lens. It captures two types of government responses: women's participation in COVID-19 task forces and national policy measures taken by governments. It analyzes which of the policy measures address women's economic [22] and social security, including unpaid care work, the labour market and violence against women. The Tracker can provide guidance for policymakers and evidence for advocates to ensure a gender-sensitive COVID-19 policy response.

The following actions help prevent the spread of COVID-19.

- ✓ Wear a face mask in public indoor spaces.
- ✓ Maintain at least six feet of distance between yourself and others.
- ✓ Avoid large gatherings.
- ✓ Socialize outdoors.
- ✓ Get vaccinated and boosted as soon as you are eligible.
- ✓ Avoid close contact with people who are sick.
- ✓ Minimize touching your eyes, nose, and mouth.
- ✓ Stay home when you are sick.
- ✓ Cover your cough or sneeze with a tissue, then throw the tissue in the trash.
- ✓ Clean frequently touched objects and surfaces regularly.
- ✓ Wash your hands often with soap and water.
- ✓ If soap and water are not readily available, use an alcohol-based hand sanitizer with at least 60% alcohol, covering all surfaces of your hands and rubbing them together until they feel dry.

5.1 Html/Html5

HTML, short for Hypertext Markup Language, is a widely accepted markup language utilized for the purpose of constructing and organizing web pages. This particular programming language is commonly employed in the process of creating and enhancing web sites. Furthermore, this programming language not only enables the development of interactive and adaptable websites but also offers compatibility with several other programming languages including CSS, PHP, JavaScript, and several others. The HTML5, seen in figure 2, can be considered as an updated version of the HTML standard. The platform offers assistance for innovative functionality, supplementary attributes, recently introduced HTML components, extensive compatibility with CSS3, video and audio capabilities, and 2D/3D graphics. These capabilities facilitate the smooth development and incorporation of innovative elements into websites, benefiting both users and web developers.
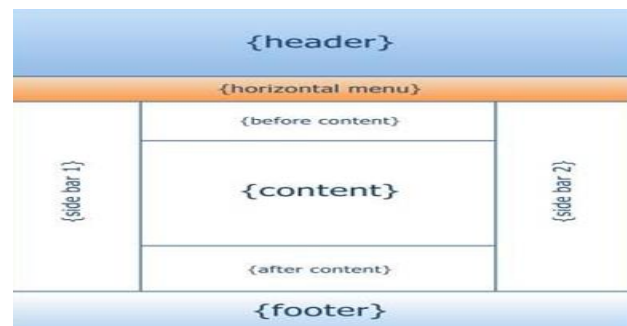

Figure 2: The structure of the Html/Html5

5.2 PHP

PHP is a widely utilized server-side programming language commonly employed in the creation of dynamic websites. The resource is easily accessible in multiple versions without any charge. This software application possesses the capacity to function on multiple operating systems, such as macOS, Windows, and UNIX, as well as various platforms. The execution of programme code occurs subsequent to the execution

of the programme due to the scripting language's inherent characteristics. PHP can also be utilized in the creation of desktop applications. One of the justifications for choosing PHP as the programming language for our project is from its compatibility with MySQL, which has been identified as the ideal database management system for our project. The PHP programming language enables the smooth integration of images and PDF files into HTML websites. Figure 3 depicts the operational procedures of the web server.
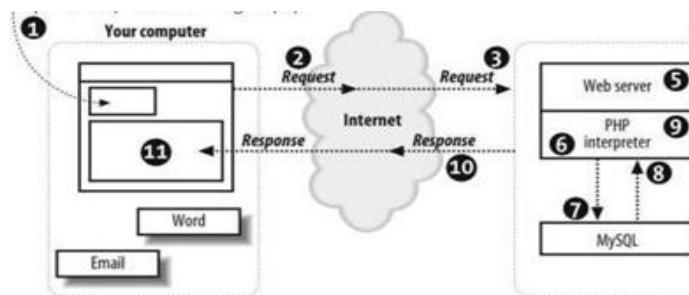
Figure 3: Demonstrating how the Web Server Operates using PHP

5.3 MySql

MySql is a database system that is open-source in nature. It enables the deployment of web-based and embedded database applications in a cost-effective manner, while ensuring reliability, high performance, and scalability. The aforementioned system can be categorized as a relational database management system (RDBMS). The programme demonstrates outstanding performance and possesses the capacity to efficiently expand in order to meet the needs of users and data [23]. MySql is developed through the utilization of the programming languages C and C++, hence guaranteeing compatibility with a diverse array of operating systems that are widely widespread on a global scale. In order to proficiently manage this type of data, it is vital to utilize a database management system, such as MySQL, which streamlines the retrieval of data and permits a range of activities including data addition, deletion, and change. MySQL is categorized as a relational database management

system (RDBMS) and, as such, follows the principle of organizing data into distinct tables rather than consolidating it within a single repository. The act of saving and organizing data into tables serves to optimize the efficiency of data access, retrieval, and manipulation, hence enhancing the speed and adaptability of data management.

5.4 CEI Implementation

CEI stands for Corona Emergency Information which use the imperative data giving or getting concerning corona, CEI will interface and offer assistance their concerns. The local user feed the information in the website which store into the database. By the use of this, the Authorized member resolves the concern of users to corona which is educated by the admin from the database. In this database the fundamental data will feed into the biometric database so, the individual covid report will be effortlessly identified.

5.5 Use Case Diagram

A use case diagram is a graphical representation of the expected user interaction with the system. The use case diagram models the functionality of the system using actors and use cases. While the actors are considered to be different kinds of users, people, or entities serving different roles within the system, the use cases are considered to be a set of actions, services, or functions that the system is expected to perform shown in figure 4. Since a use case is a methodology used in the system analysis phase to identify, clarify, and organize system requirements, this diagram will be used to also identify if there are any other internal or external factors that may influence the system. In order to do that we have designed the following use case diagram shown in Figure to show the interaction between the different actors, use cases, and the system.
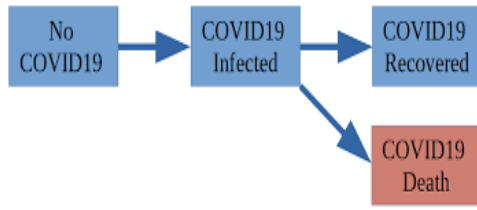
Figure 4: Use Case Desigen

VI. Outcome

These websites are chiefly intended to help prevent COVID support hot lines from collapsing and collecting certain socio-demographic data, such as user gender and age. And, while at it, they can also gather geolocation data from users' devices, although, in principle, all this data is anonymized and aggregated. We performed an observational, cross-sectional, descriptive study of all smartphone apps and sites associated with COVID-19 available on the iOS and Android platforms. The methodology used for the selection of the sites was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) system. Between April 27 and May 2, 2020, we searched the App Store (iOS) and the Google Play Store (Android) for all COVID-19–related apps. The search terms were corona virus, COVID-19, and SARS-COV-2, and no language restrictions were applied. After identification, the information available on each platform was analyzed, and all sites were evaluated. In the proposed system, there's a home function shown in figure 5. The CovidTracker possesses the ability to add users, modify user information, alter user roles, and delete users shown in figure 6. In order to change user profiles, administrators have the capability to do a search using the How to Protect Yourself individuals shown in figure 7. Subsequently, the user has the capability to Tracking Graph, as illustrated in Figure 8 and 9.
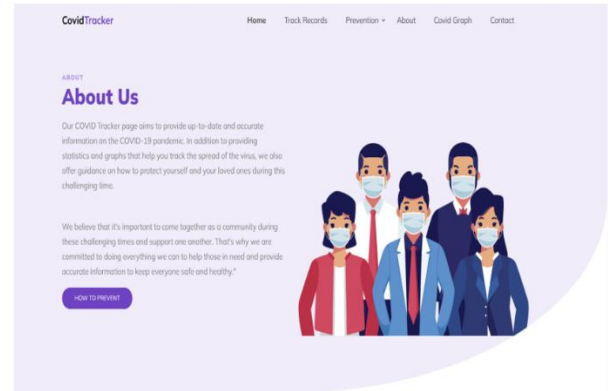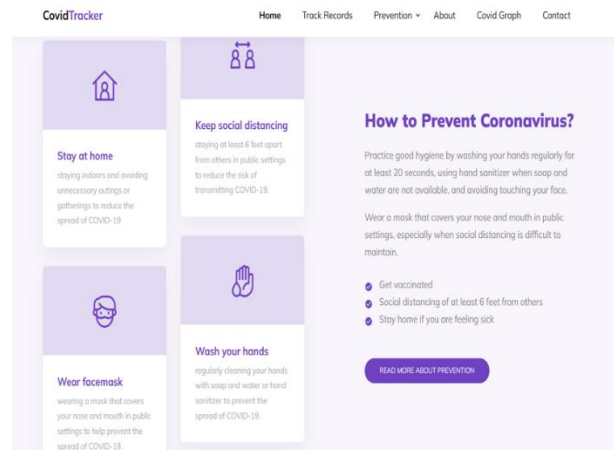

Figure 5: Home' Page of Proposed System

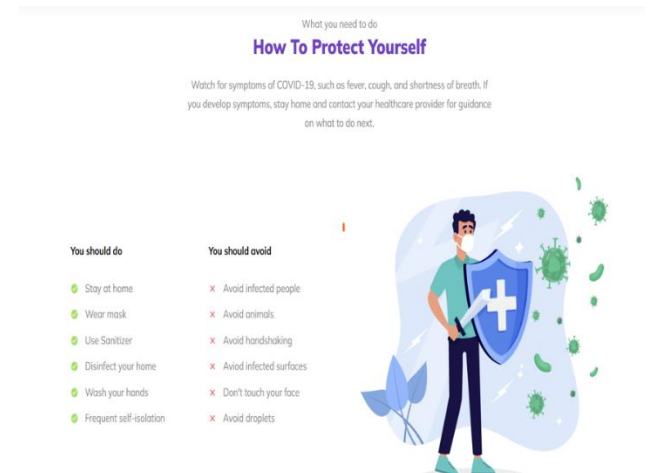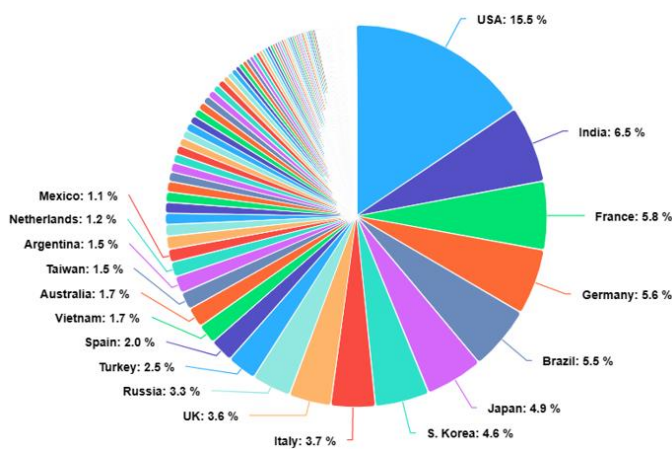
Figure 6: CovidTracker of Proposed System

Figure 7 : How to Protect Yourself of Proposed System

Figure 8 : Tracking Graph of Proposed System

Figure 9: Percentage of Confirmed Cases of Proposed System

One of the global apps for symptom monitoring is the iPhone and web-based COVID-19 Screening Tool app developed by Apple. This is available for all iPhone users, irrespective of their location. Furthermore, countries such as Spain, the United Kingdom, Germany, Singapore, and Malaysia have also developed symptom monitoring apps . These apps identify if the user is experiencing symptoms related to COVID-19 [24]. If the user's responses indicate that the user may have COVID-19, they are provided with simple management advice to follow. Generally, these apps pose a series of diagnostic questions that include symptoms like fever, type of cough, body aches, contact with any infected individual, and recent travel, among others, which help identify via a back end algorithm whether the user is suspected to have

COVID-19. If the user is suspected to be infected, these apps will generally provide information on what to do in that scenario (eg. , wearing a face mask to reduce the spread and providing information about nearby hospitals). For example, the United Kingdom's symptom monitoring app, called C-19 COVID Symptom Tracker was made by a private developer. It was highly welcomed by the public with 2,979,018 contributors as of May 6, 2020 [25]. The app was also helpful in identifying that 1 in 10 people in the United Kingdom had coronavirus symptoms. In addition, Spain's app could also alert officials on whether quarantine measures were being followed by the public in an area.

VII. Conclusion

Mobile apps are being viewed by the public, medical professionals, and policymakers as an invaluable resource for tackling important issues brought on by the pandemic, including lessening the strain on hospitals, facilitating access to reliable information, monitoring patient symptoms and mental health, and finding new predictors. The Covid-19 Tracker site is an online portal that allows users to access a wealth of information related to viruses from anywhere at any time. By providing the user with up-to-date and helpful information, such as statistics on the virus, symptoms, and preventative measures, the site can aid in educating users about this deadly virus. providing the user with information on what to do in the event of infection and a report case button. Consequently, in the event that he contracts the virus, he can either email a question or go straight to a hospital website. Because downloading the app just requires a mobile phone, a Wi-Fi connection, a phone number, an email address, and the Google Play store, this web-based portal is simple to use. Furthermore, this application not only gathers all of this data in one location, which makes it easier than searching the web for different data, but it also lets the user compare data from all around the world by just scrolling down. Ultimately,

the goal of this COVID-19 Tracker website is to provide the user with as much global information as possible about the virus, which is now spreading over the world in a variety of ways, in order to better educate them about it.

VIII. Acknowledgement

IX. REFERENCES

[1]. Kohnert, D. (2021). On the socio-economic impact of pandemics in Africa-Lessons learned from COVID-19, Trypanosomiasis, HIV, Yellow Fever and Cholera. Trypanosomiasis, HIV, Yellow Fever and Cholera (May 5, 2021).

[2]. Joseph-Shehu, E. M., Ncama, B. P., Mooi, N., & Mashamba-Thompson, T. P. (2019). The use of information and communication technologies to promote healthy lifestyle behaviour: a systematic scoping review. BMJ open, 9(10), e029872.

[3]. Zhao G. [Taking preventive measures immediately: evidence from China on COVID-19]. Gac Sanit 2020 May;34(3):217-219

[4]. Black JRM, Bailey C, Przewrocka J, Dijkstra KK, Swanton C. COVID-19: the case for health-care worker screening to prevent hospital transmission. The Lancet 2020 May;395(10234):1418-1420.

[5]. World Health Organization. WHO coronavirus disease (COVID-19) pandemic.

[6]. Nikhat A, Nazia Tabassum, Asif Perwej, Y. Perwej," Data Analytics and Visualization Using Tableau Utilitarian for COVID-19 (Coronavirus)", Global Journal of Engineering and Technology Advances (GJETA), ISSN : 2582-5003, Volume 3, Issue 2, Pages 28-50, 2020, DOI: 10.30574/gjeta.2020.3.2.0029

[7]. Mahase E. Covid-19: Medical leaders call for rapid review to prepare for second wave. BMJ 2020 Jun 24;369:m2529.

[8]. Centro Nacional de Epidemiología. Situación y evolución de la pandemia de COVID-19 en España. COVID-19 en España.

[9]. Kohnert, D.,"On the socio-economic impact of pandemics in Africa-Lessons learned from COVID-19", Trypanosomiasis, HIV, Yellow Fever and Cholera. Trypanosomiasis, HIV, Yellow Fever and Cholera, May 5, 2021

[10]. Al-Mushayt O., Haq Kashiful, Yusuf Perwej, "Electronic-Government in Saudi Arabia; a Positive Revolution in the Peninsula", International Transactions in Applied Sciences, India, ISSN-0974-7273, Volume 1, Number 1, Pages 87-98, 2009

[11]. Y. Perwej, Dr. Shaikh Abdul Hannan, Firoj Parwej, Nikhat Akhtar , "A Posteriori Perusal of Mobile Computing", International Journal of Computer Applications Technology and Research (IJCATR), ATS (Association of Technology and Science), India, ISSN 2319–8656 (Online), Volume 3, Issue 9, Pages 569 - 578, 2014, DOI: 10.7753/IJCATR0309.1008

[12]. Nikhat Akhtar, Firoj Parwej, Y. Perwej, "A Perusal of Big Data Classification and Hadoop Technology", International Transaction of

Electrical and Computer Engineers System (ITECES), USA, ISSN (Print): 2373-1273 ISSN (Online): 2373-1281, Volume 4, No. 1, Pages 26-38, May 2017, DOI: 10.12691/iteces-4-1-4

[13]. Braithwaite, I., Callender, T., Bullock, M., & Aldridge, R. W. (2020). Automated and partly automated contact tracing: a systematic review to inform the control of COVID-19. The Lancet Digital Health.

[14]. Chowdhury, M. J. M., Ferdous, M. S., Biswas, K., Chowdhury, N., & Muthukkumarasamy, V. (2020). COVID-19 contact tracing: challenges and future directions. IEEE Access, 8, 225703-225729.

[15]. Jalabneh, R., Syed, H. Z., Pillai, S., Apu, E. H., Hussein, M. R., Kabir, R., ... & Saxena, S. K. (2021). Use of mobile phone apps for contact tracing to control the COVID-19 pandemic: A literature review. Applications of Artificial Intelligence in COVID-19, 389-404.

[16]. Armitage R, Nellums LB (2020) COVID-19 and the consequences of isolating the elderly. Lancet Public Health 5(5):e256

[17]. Ekong I, Chukwu E, Chukwu M (2020) COVID-19 mobile positioning data contact tracing and patient privacy regulations: exploratory search of global response strategies and the use of digital tools in Nigeria. JMIR mHealth uHealth 8(4):e19139

[18]. Cascella M, Rajnik M, Cuomo A, Dulebohn SC, Di Napoli R (2020) Features, evaluation and treatment coronavirus (COVID-19). Stat Pearls https://www.ncbi.nlm.nih.gov/books/NBK554776/

[19]. Ahmed N, Michelin RA, Xue W, Ruj S, Malaney R, Kanhere SS, Seneviratne A, Hu W, Janicke H, Jha SK (2020) A survey of COVID-19 contact tracing apps. IEEE Access 8:134577–134601

[20]. Y. Perwej, Mohammed Y. Alzahrani , F. A. Mazarbhuiya, Md. Husamuddin, "The State of the Art Cardiac Illness Prediction Using Novel Data Mining Technique", International Journal of Engineering Sciences & Research Technology (IJESRT), ISSN: 2277-9655, Volume 7, Issue 2, Pages 725-739, 2018, DOI: 10.5281/zenodo.1184068

[21]. Di Gennaro F, Pizzol D, Marotta C, Antunes M, Racalbuto V, Veronese N, Smith L (2020) Coronavirus diseases (COVID-19) current status and future perspectives: a narrative review. Int J Environ Res Public Health 17(8):2690

[22]. Perwej, A.,"The women adoption in owned businesses and entrepreneurship in India", International Journal of Emerging Trends & Technology in Computer Science (IJETTCS). 1 (4): 56-61, 2012

[23]. Y. Perwej, Firoj Parwej, Nikhat Akhtar, "An Intelligent Cardiac Ailment Prediction Using Efficient ROCK Algorithm and K- Means & C4.5 Algorithm", European Journal of Engineering Research and Science (EJERS), Bruxelles, Belgium, ISSN: 2506-8016 (Online), Vol. 3, No. 12, Pages 126 – 134, December 2018, DOI: 10.24018/ejers.2018.3.12.989

[24]. Hoque A, Shikha FA, Hasanat MW, Arif I, Hamid ABA (2020) The effect of coronavirus (COVID-19) in the tourism industry in china. Asian J Multidiscip Stud 3(1):52–58

[25]. Schiffbauer MT (2020) Western Balkans regular economic report, no. 17, spring 2020: the economic and social impact of COVID-19. World Bank, Washington, DC

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