Coronavirus Live Mapping Using Django

AKASH SUBHEDAR , LOKESH NAGOSE , PAWAN BAWANKULE , ROHIT RASEKAR , Mr. DR.V.G.GIRIPUNJE

Department of Electronics and Telecommunication Engineering
Priyadarshini Collage of Engineering,
Nagpur – 440019

ABSTRACT

In December 2019, a new virus (initially called 'Novel Coronavirus 2019-nCoV' and later renamed to SARS-CoV-2) causing severe acute respiratory syndrome (coronavirus disease COVID-19) emerged in Wuhan, Hubei Province, China, and rapidly spread to other parts of China and other countries around the world, despite China's massive efforts to contain the disease within Hubei. As with the original SARS-Cov epidemic of 2002/2003 and with seasonal influenza, geographic information systems and methods, including, among other application possibilities, online real-or near-real-time mapping of disease cases and of social media reactions to disease spread, predictive risk mapping using population travel data, and tracing and mapping super-spreader trajectories and contacts across space and time, are proving indispensable for timely and effective epidemic monitoring, response and accurate Covid-19 cases.

This paper offers pointers to, and describes, a range of Project on based on API and mapping dashboards and applications for tracking the current cases coronavirus epidemic and associated events as they unfold around the world.

Some of these dashboards and applications are receiving data updates in near-real-time (at the time of writing), and one of them is meant for individual users (in World) to check, if the web user has had any close contact with a person confirmed or suspected to have been infected with SARS-CoV-2 in the recent past. We also discuss additional ways GIS can support the fight against infectious disease outbreaks and epidemics and this project based Python based framework Django and Software requirement and use for general purpose.

Keywords: covid-19, LIVE mapping, Django.

INTRODUCTION

The Corona virus live mapping using Django is some graphing libraries, we can project the total number of confirmed cases of COVID-19, and also display the total number of deaths in INDIA on a given date. Humans sometimes need help interpreting and processing the meaning of data, so this project also demonstrates how to create an animated horizontal & vertical bar graph for INDIA, showing the variation of cases by date & Projecting confirmed cases and deaths for Country in this project.

Django is the open source Python based high-level web framework for building high end web applications. It makes it easy for developers to quickly build prototypes and meet their project deadlines by providing a plethora of built-in APIs and sub-frameworks such as Django.

Django aims to provide a world-class geographic web framework. It has been refactored over the years with the goal of making it easier to work with geospatial data, in other words data that identifies the geographic location of natural or artificial features on Earth and is stored as

coordinates and topologies and analysis for the corona virus on the world id most important unwanted events occur we see in news day by day. This project is based on the problem we are facing for the covid-19 cases and help for people . We are in addition to this also provides helpline numbers and authorized information on the pandemic in nation.The Django project's stability, performance and community have grown tremendously over the past decade since the framework's creation. Detailed tutorials and good practices are readily available on the web and in books. The framework continues to add significant new functionality such as database migrations with each release.

LITERATURE SURVEY

Corona virus live mapping using python Django is one of the essential application for help to find the corona condition of the country. This application perform COVID-19 patients identify, safe zone, hospitals, beds, patients recovery rate and safety Precautions. The integral projection based method of LIVE MAP for COVID-19 condition and find instantly information and effectively in handaling various in one map and detecting the area and condition on web search.

The goal of this project is not to build another dashboard. But to focus on collabrorative plot ideas, and a mobile or computer friendly feel free to open an issue requesting a type of problems related COVID-19. Django is a high-level web framework that encourages rapid development and, pragmatic design.

Building interactive map into Django web application can seem daunting if we do not know where to begin but it is easier than think use a developer tool such as. My team build a simple Django project with a single application and add an interactive map live the one you see below to the web page that Django render with the COVID-19 cases.

We can use Django *django-admin.py* tool to create the boilerplate code structure to get our project started. Change into directory where you develop this applications. For example, I typically use */user s/matt/devel/py.* Then run the following command to start a Django named *djmaps:.*

We can modify the map by changing parameters for the style, zoom level, location and many other attributes. We'll start by changing the location that the initial map centers in on as well as the zoom level and accurate result. The map will provide a current condition of COVID-19 and it help for fight with coronavirus.

BLOCK DIGRAM
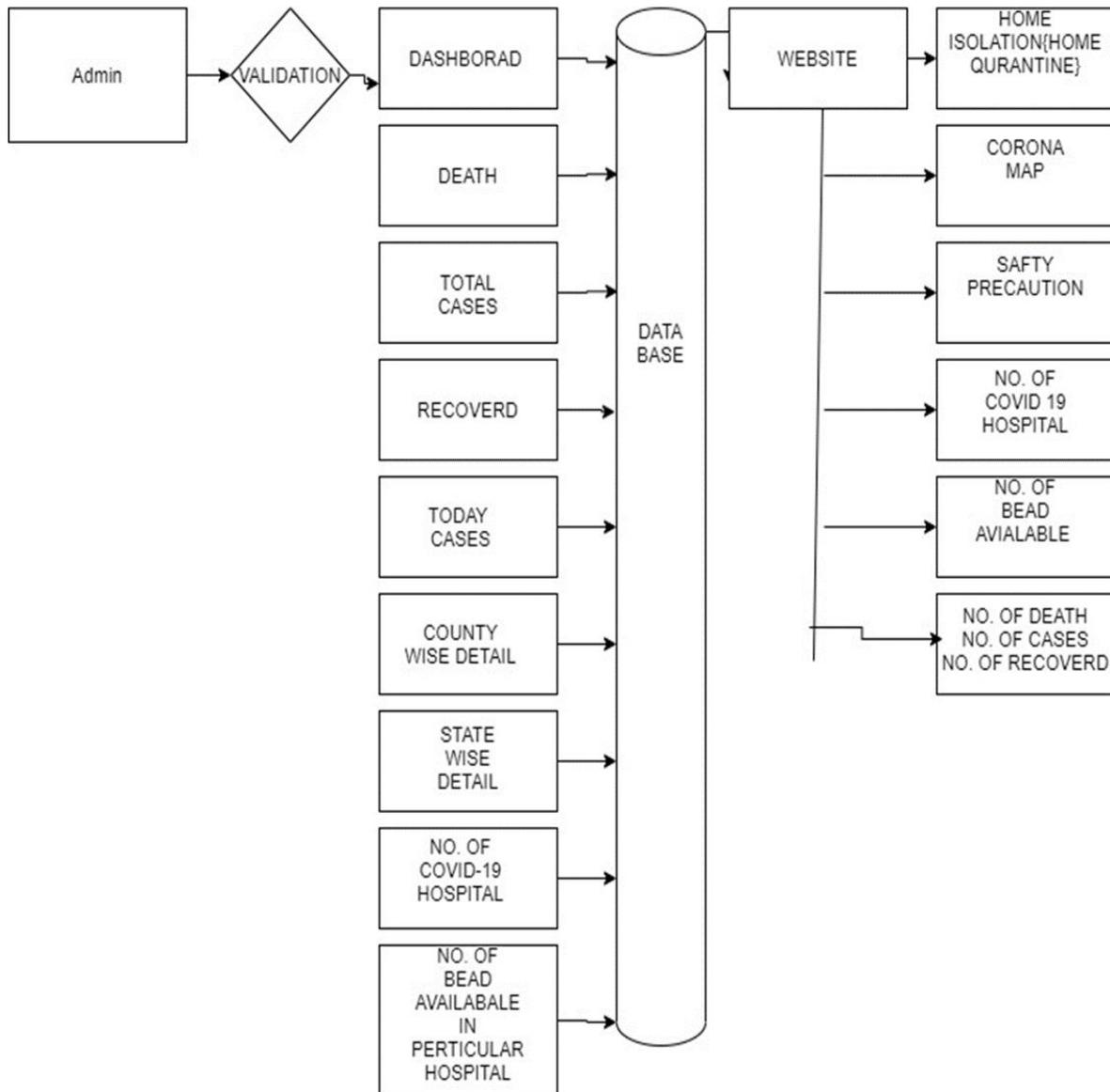
WORKING

- The given block diagram is mainly consist of :

  Admin

  Validation

  database

  website

All of these have there own unique id and password which use for the authentication of valid user.

- All the data is saved in dashboard.
- Validation will access the dashboard only when the entity will enter the given user name and id and then the following data will be access to the admin.
- Every one can only access the data but as per there validation and if DATABASE login using the id and password the system will check there data in DB and only then the DATABASE will be able to know there DATABASE covid-19 test, active cases, recovered cases, availably of bed etc.
- If DATABASEs want to see other DATABASEs data, that will not going to happen without validation.
- Admin will play the role of maintaining the data of hospitals, doctors, where the proper treatment will be provided according to the requirement.
- Now here admin crosses the validation then all the details related to DATABASE management , doctors, and   staff, hospital management and lab report will show on the dashboard.
- Test labs it play a vital role to keep the data regarding the updated reports of DATABASEs to the dashboard.
- Test lab describes the three stages of covid 19 disease progression in DATABASEs, urging medical professionals to consider an individualized treatment approaches for DATABASEs based on there symptoms corresponding to there stages of infection.
- Where the second stage will show all the symptoms which have been observed in people who test positive for the deadly disease.
- the third stage will show the final result of the test whether it is positive or negative.
- If the DATABASE test positive :- know what protective steps to take to prevent others from getting sick.
- If the DATABASE test negative :- you probably were not infected at the time your sample was collected. The test result only means that you did not have Covid-19 at the time of testing. Continue to take next step to protect yourself.
-
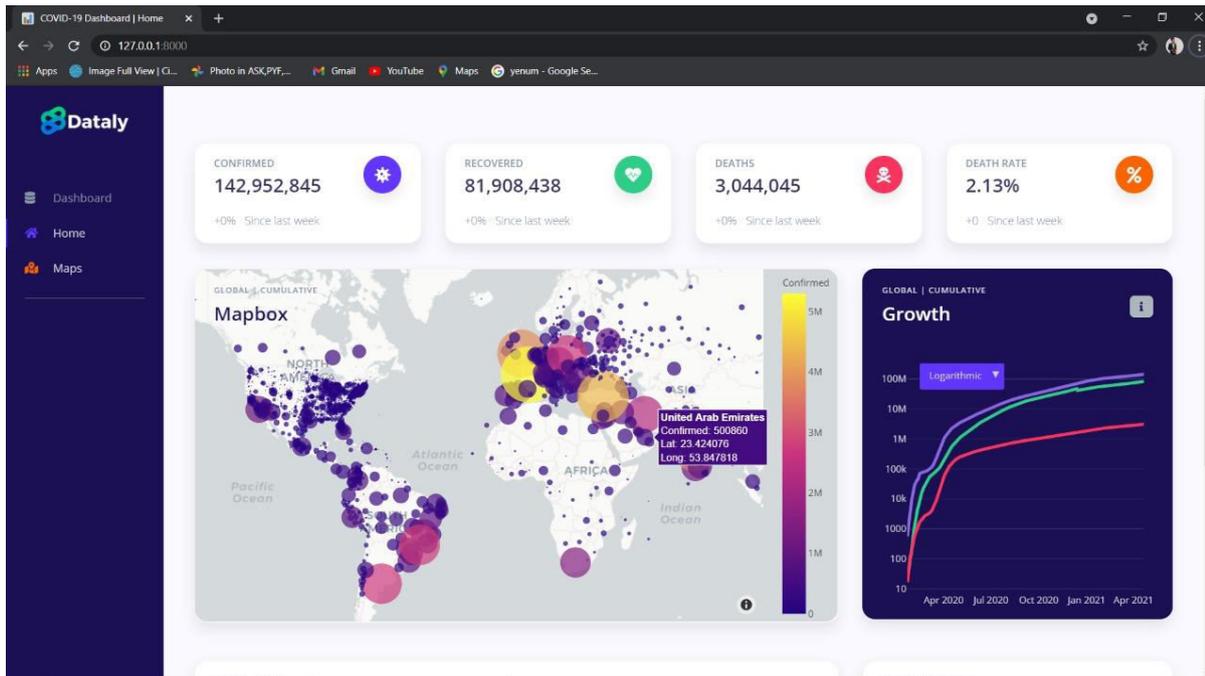
CONCLUSIONS

Django is Python based high level Web Framework technologies centre around web-based tools, improved data sharing and real-time information to support critical decision-making. Dashboards exemplify those ideals and have been extremely popular in sharing and understanding the spread of SARS-CoV-2 coronavirus. Communication through map-based dashboards offers accessible information to people around the world eager to protect themselves and their communities. This tool type improves data transparency and helps authorities disseminate information.

Certainly, dashboards have taken centre stage in COVID-19 outbreak awareness. But we hope that readers consider how a comprehensive Framework platform can support the entire process of infectious disease surveillance, preparedness and response, because as one epidemiologist put it, outbreaks like this *"should be expected to happen more frequently moving forward"* . In other words, it is not a question of *if* another outbreak will occur, but *when* and *where*. Viruses like SARS-CoV-2 know no country or continent boundaries.

REFERENCES

1.Chinese Center for Disease Control and Prevention (CCDC). The Epidemiological Characteristics of an Outbreak of 2019 Novel Coronavirus Diseases (COVID-19)–China. 2020. http://weekly.chinacdc.cn/en/article/id/e53946e2-c6c4-41e9-9a9b-fea8db1a8f5117 Feb 2020.

2.World Health Organization. Statement on the second meeting of the International Health Regulations Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV),

Geneva, Switzerland, 30 January 2020. 2005. https://www.who.int/news-room/detail/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

3.Kamel Boulos MN. Descriptive review of geographic mapping of severe acute respiratory syndrome (SARS) on the internet. Int J Health Geogr. 2004;3(1):2. https://doi.org/10.1186/1476-072X-3

ArticleGoogle Scholar

4.U.S. Centers for Disease Control and Prevention (CDC). 2019–2020 U.S. Flu Season: Preliminary Burden Estimates. https://www.cdc.gov/flu/about/burden/preliminary-in-season-estimates.htm.

5.World Health Organization. WHO HealthEmergencyDashboard. https://extranet.who.int/publicemergency.

6.HealthMap. Novel Coronavirus 2019-nCoV (interactivemap). https://healthmap.org/wuhan/.

7.Koch T. Plague: Bari, Naples 1690–1692. In: Koch T, editor. Cartographies of disease: maps, mapping and medicine. Redlands: Esri Press; 2005. p. 19–24.

Mapping the worldwide spread of misinformation about coronavirus
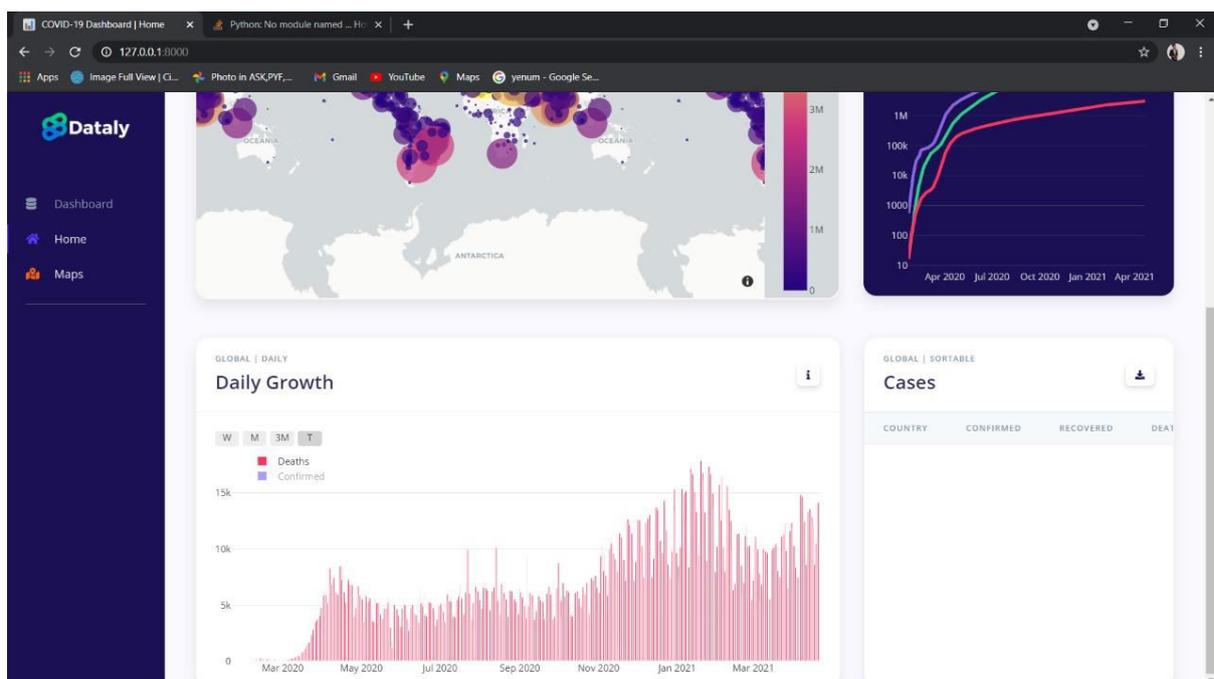
During infectious disease outbreaks and epidemics, social media play an important role in communicating verified facts and correct prevention tips to the masses, but also carry the risk of 'virally' spreading misinformation, confusion and fear among the general public [28, 29]. In the case of COVID-19, false or misleading information, (such as 'eating sesame oil or garlic can help prevent and cure coronavirus' and a decade-old map showing global air travel [30]), rumours and panic have been spreading globally on social media much faster than the virus.

To partially illustrate this phenomenon, A research scientist at Max Planck Institute for Human Development, Berlin, Germany, published an animated map of the world on his account showing the worldwide propagation of the hashtag#coronavirus on Twitter (in green) and the actual cases of coronavirus (in red) between 24 and 31 January 2020. course, not all tweets and retweets with the hashtag #coronavirus are spreading misinformation, and many of them originate from legitimate bodies and organisations such as the WHO, but the map serves as a good illustration of the 'viral nature' of Twitter and other social media. A more detailed map set covering other coronavirus hashtags and classifying tweets by their truthfulness before mapping them could offer valuable insights and guidance for social media companies and health organisations worldwide in their fight against misinformation.

In fact, it has been said that the WHO is fighting a parallel pandemic (or 'infodemic') of misinformation besides COVID-19. The WHO has joined forces with social media giants such as Facebook, Twitter, YouTube (Google) and Pinterest to combat the spread of misinformation around coronavirus. For example, Pinterest and YouTube users can now (at the time of writing this article) see a link prominently displayed that points to an official WHO page about COVID-19 whenever they search for, or browse/watch, material about coronavirus on these platforms.

Outbreak source

John Snow (1813–1858) was able to trace the source of a cholera outbreak in Soho, London, in 1854, thanks to his well-known manual spatial analysis exercise using hand-drawn paper maps of cholera cases and water pumps/water companies supplying them with water. Today, more advanced computerised spatial analyses integrating phyloepidemiological methods are used to identify the likely sources of new outbreaks; e.g., see the map and discussion of the likely source of SARS-CoV-2 .

Public events

An important factor affecting epidemics such as COVID-19 is the calendar. During the Ebola and MERS scares of 2014, many people considered cancelling their participation in the Hajj pilgrimage to Mecca made by over two million Muslims every year. Equipped with days-old data and rumours, many faithful proceeded with their pilgrimage, putting themselves at risk of contracting potentially deadly viruses and further spreading disease when they returned home.

Fall Start (Graduate in May)	Spring Start (Graduate in December)	Recommended Task Completion	Overview
Prior to the start of the term	Prior to the start of the term	1. Select a master project advisor. 2. Select a project topic. 3. Register for a master project/thesis section.	Planning
August	January	1. Select a committee	
September	February	1. Finish the literature review and finalize the project topic. Schedule 2. and complete the thesis proposal defense if needed: Submit a one page proposal to the thesis committee at least two week prior to the scheduled proposal defense meeting.	
October	March	1. Working on the research project and submit introduction to the thesis advisor	Research & Writing
November	April	1. Working on research project and submit chapters to the project advisor as agreed. Student should be making significant progress toward finishing his/her project and writing his/her project report/thesis.	

December - January	january	1. Register for a master project/thesis section. 2. Continue working on and finishing the project and report/thesis.	
February		1. Continue working on and finishing the project and report/thesis. Submit conclusion and discussion to the project advisor; student should complete his/her project and finish his/her project report/thesis draft.	
March		1. Schedule project presentation and/or thesis defense meeting. Submit the draft project report/thesis to the committee at least two/three weeks prior to the scheduled presentation/defense meeting.	
April	May	The thesis defense will consist of a 20-30 min. presentation where the students includes: 1. Literature review 2. Introduction and objectives 3. Proposed research 4. Results 5. Conclusions 6. Future work	

Prior to the end of term	Prior to the end of term		