MINI PROJECT – (II)

(2021-2022)

Covid19-Tracker

REPORT

DEPARTMENT OF COMPUTER ENGINEERING & TECHNOLOGY

INSTITUTE OF ENGINEERING & TECHNOLOGY

Submitted To:

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Declaration

I/we hereby declare that the work which is being presented in the Bachelor of technology. Project **"Covid19-Tracker"**, in partial fulfilment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Mr. Mandeep Singh, Technical Trainer, Dept. of CEA,GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "Covid19- Tracker", carried out in Mini Project – II Lab, is a bonafide work by Yash Garg, Yash Verma, Yashasvi Gupta and is submitted in partial fulfilment of the requirements for the award of the degree Bachelor of Technology (Computer Science & Engineering).

Signature of Supervisor:

Name of Supervisor: Mr. Mandeep Singh

Date:

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ACKNOWLEDGEMENT

Presenting the ascribed project paper report in this very simple and official form, we would like to place my deep gratitude to GLA University for providing us the instructor Mr Mandeep Singh, our technical trainer and supervisor.

He has been helping us since Day 1 in this project. He provided us with the roadmap, the basic guidelines explaining on how to work on the project. He has been conducting regular meeting to check the progress of the project and providing us with the resources related to the project. Without his help, we wouldn't have been able to complete this project.

And at last but not the least we would like to thank our dear parents for helping us to grab this opportunity to get trained and also my colleagues who helped me find resources during the training.

Thanking you

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ABSTRACT

Data visualization is an important tool for exploring and communicating findings in medical research, and specially in epidemiological surveillance. The COVID19-Tracker a systematically produces daily updated data visualization and analysis of SARS-CoV-2 epidemic in Spain. It collects automatically daily data on COVID-19 diagnosed cases, intensive care unit admissions, and mortality, from February 24th, 2020 onwards. Two applications have already been developed;

1) to analyze data trends and estimating short-term projections

2) To assess the effect of the lockdown on the trend of incident data. We are currently planning to improve the app by uploading shortly new applications for data visualization and analysis, which may help for a better understanding of the SARS-CoV-2 epidemic data in Spain.

Department of Computer Engineering and Applications

GLA UNIVERSITY, Mathura

Contents

1.INTRODUCTION

The “Covid-19 Tracker” has been developed to override the problems prevailing in the practicing manual system. This software is supported to eliminate and in some cases reduce the hardships faced by this existing system. Moreover this system with design for the particular need of the company to carry out operations in a smooth and effective manner. The application is reduced as much as possible to avoid errors while entering the data. No formal knowledge is needed for the user to use the system. Thus by this all it proves it is user friendly. Covid19- Tracker app as described above can lead to error free, secure, reliable platform. It can assist the user to concentrate on the other activities rather to concentrate on the record.

2.Existing System

Whenever we implement new system it is developed to remove the shortcomings of an existing system. The computerized has more Edge over the manual system. As we are doing a project on “Covid-19 Tracker”. So firstly we will introduce the existing system, the existing system based on manual system, which takes lot of time to get performance of the test. The Existing System doesn’t fulfilling the following activities. • Aims to develop content in the COVID 19 category • We intend to populate the site with practical, credible and thoughtprovoking information.

3.Proposed Technologies

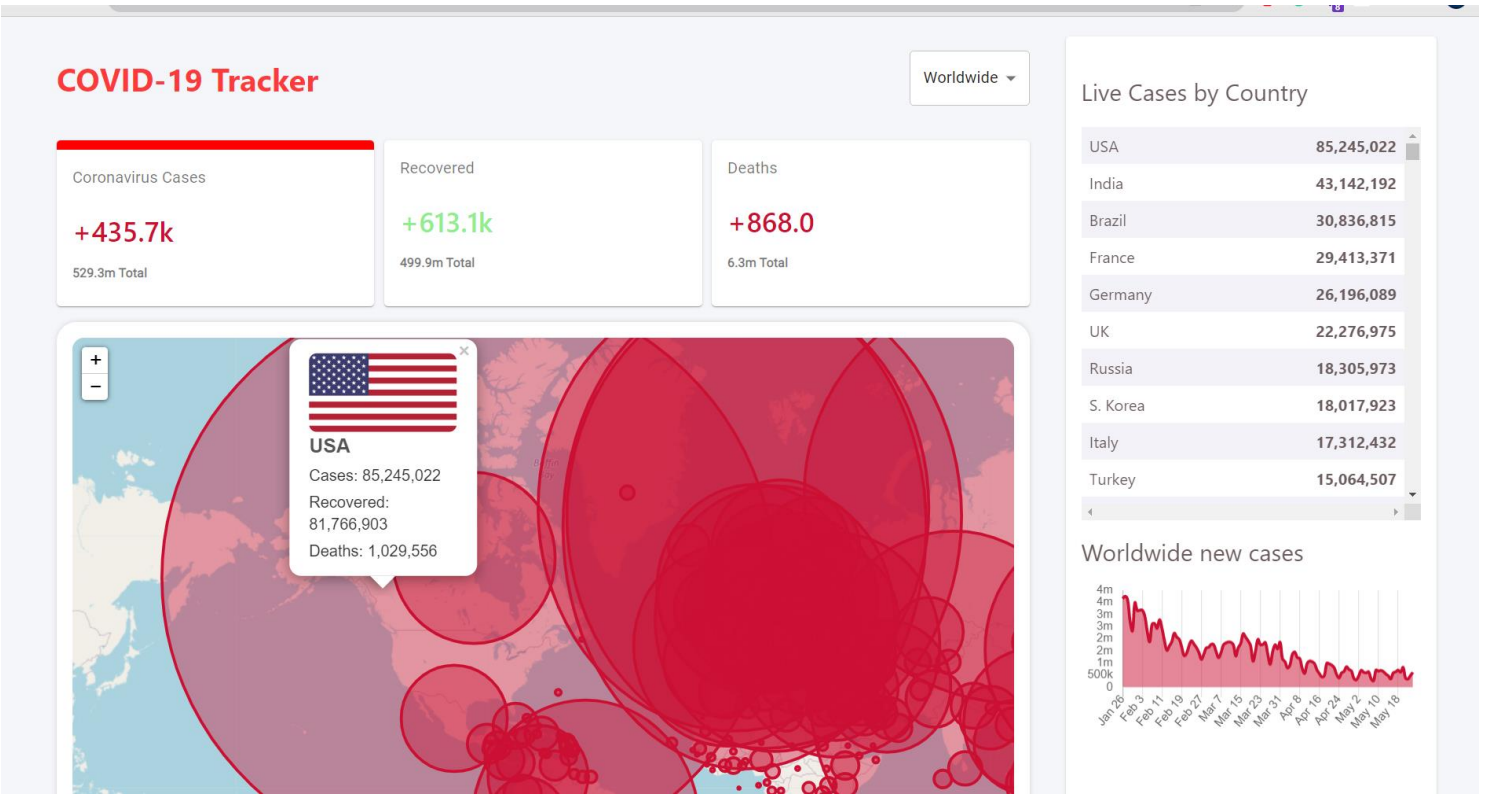
1. **HTML: Hypertext Markup Language** (**HTML**) is the standard markup language for documents designed to be displayed in a web browser

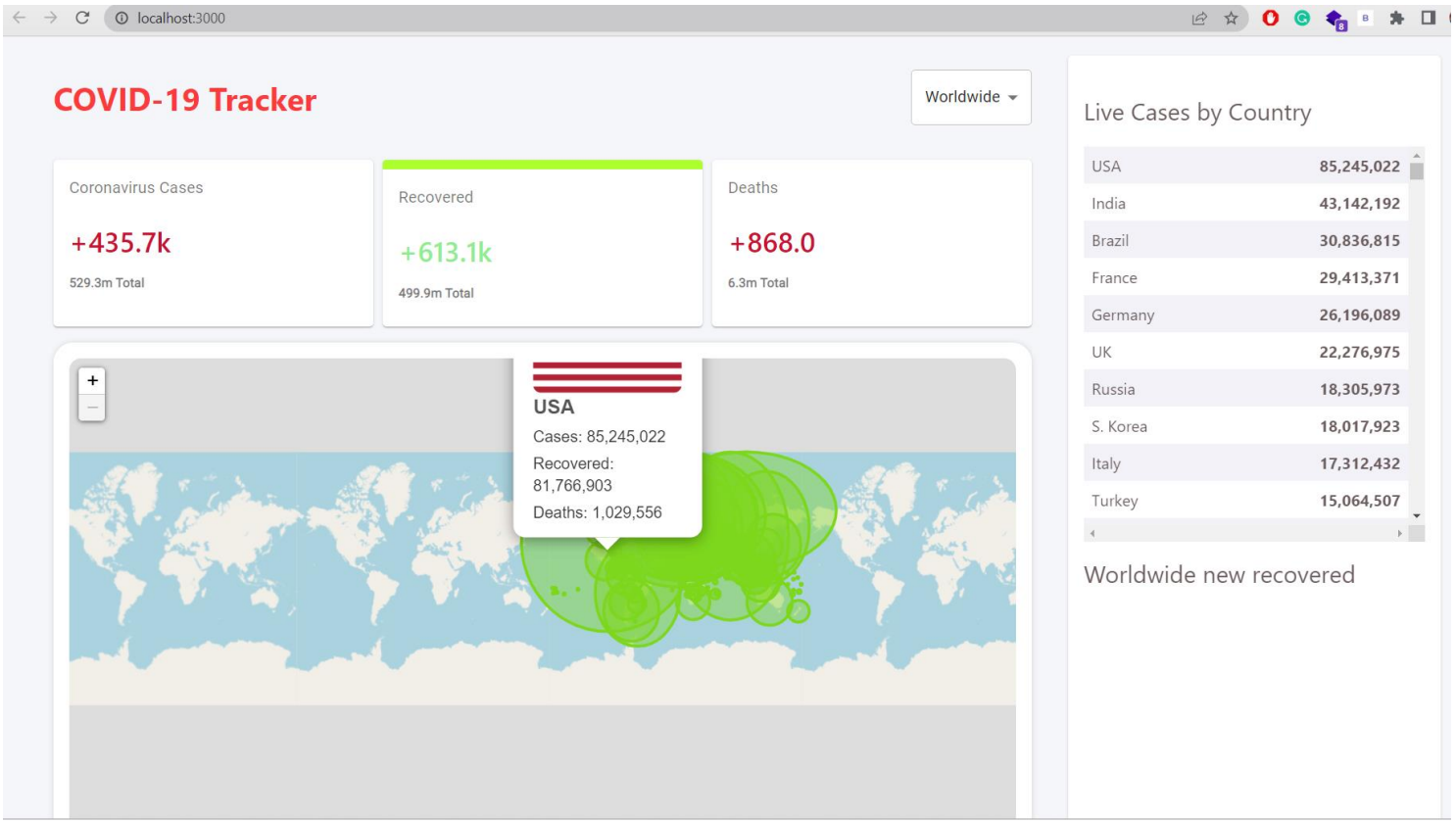
2. **CSS:** For making interfaces more attractive and stylish.

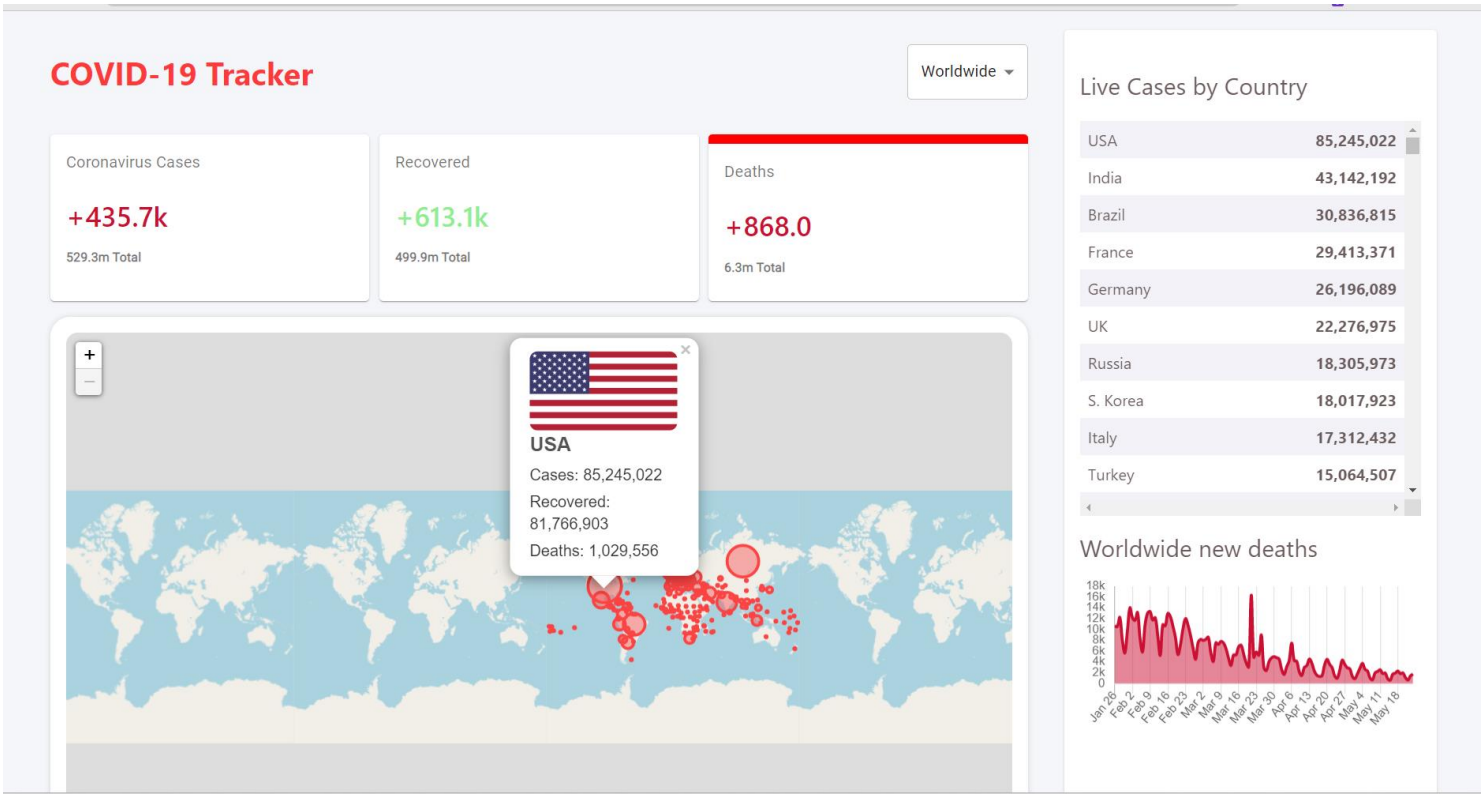
3. **React:** React is a declarative, efficient, and flexible JavaScript library for building user interfaces. It lets you compose complex UIs from small and isolated pieces of code called "components".

4. **JAVASCRIPT:** JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions.

4.Picturization of Our App




localhost:3000
COVID-19 Tracker
Worldwide
Coronavirus Cases
+435.7k
529.3m Total
Recovered
+613.1k
499.9m Total
Deaths
+868.0
6.3m Total
USA
Cases: 85,245,022
Recovered: 81,766,903
Deaths: 1,029,556
Live Cases by Country
USA 85,245,022
India 43,142,192
Brazil 30,836,815
France 29,413,371
Germany 26,196,089
UK 22,276,975
Russia 18,305,973
S. Korea 18,017,923
Italy 17,312,432
Turkey 15,064,507
Worldwide new recovered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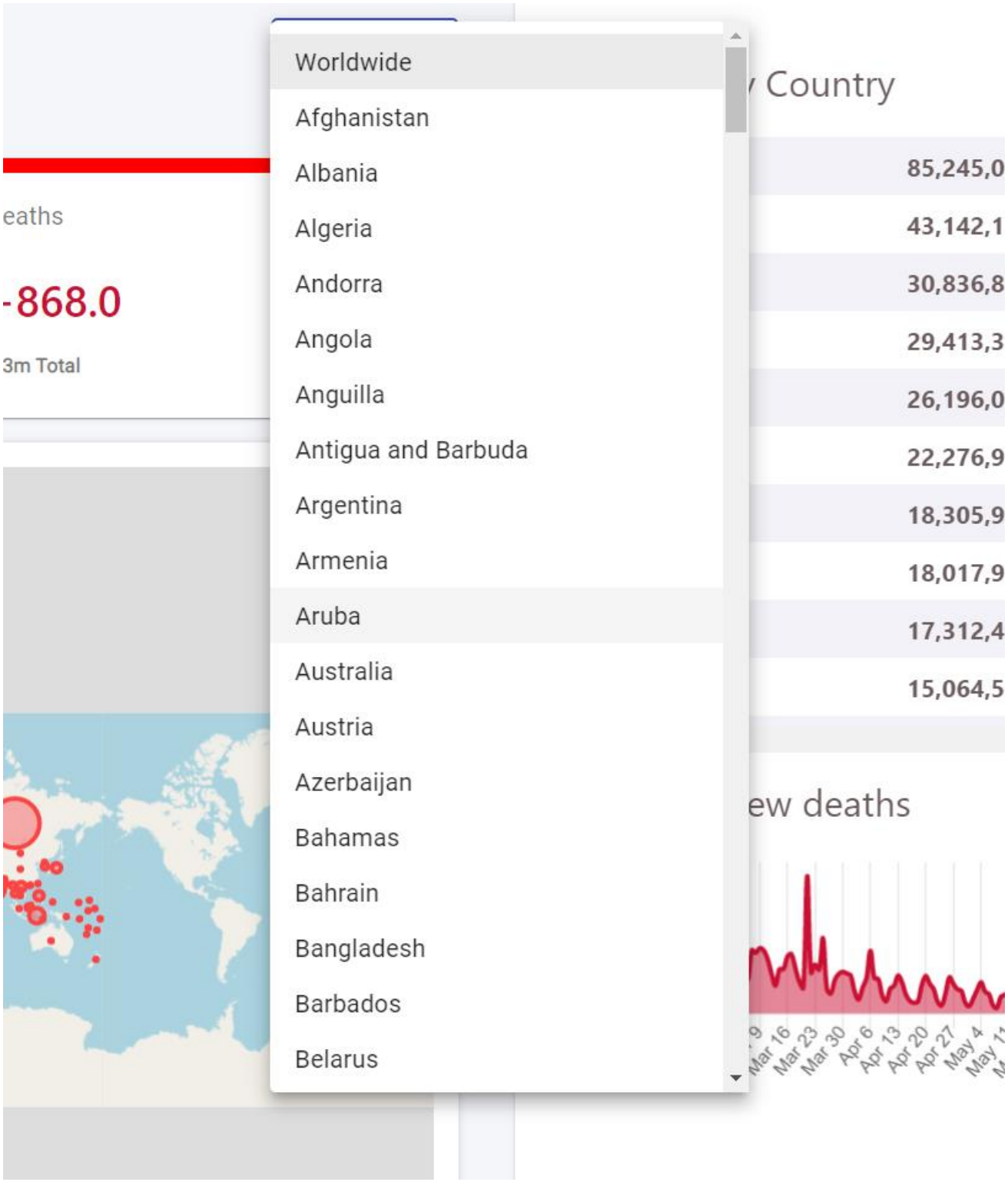
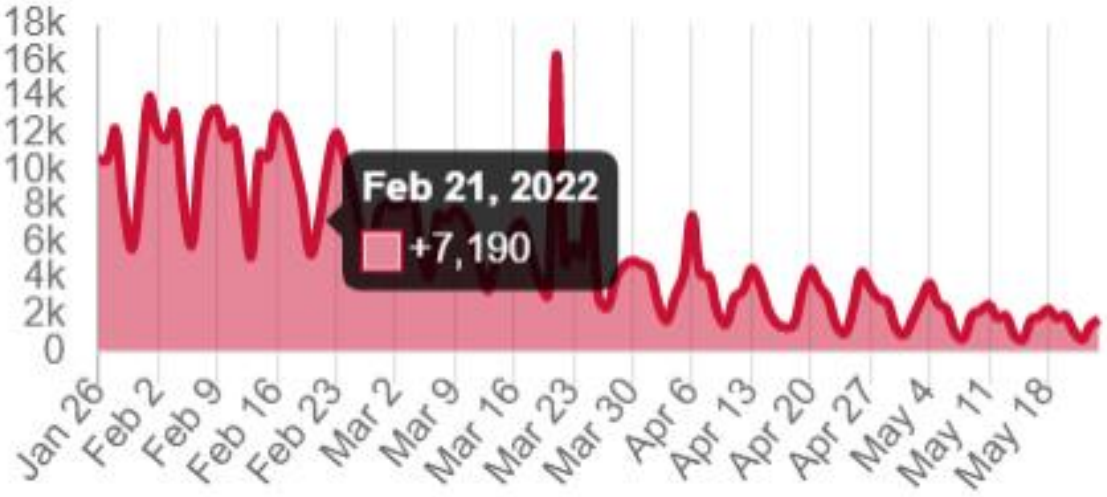

Worldwide
Afghanistan
Albania
Algeria
Andorra
Angola
Anguilla
Antigua and Barbuda
Argentina
Armenia
Aruba
Australia
Austria
Azerbaijan
Bahamas
Bahrain
Bangladesh
Barbados
Belarus
Country
85,245,0
43,142,1
30,836,8
29,413,3
26,196,0
22,276,9
18,305,9
18,017,9
17,312,4
15,064,5
eaths
-868.0
3m Total
ew deaths
Mar 16
Mar 23
Mar 30
Apr 6
Apr 13
Apr 20
Apr 27
May 4

Worldwide new deaths



Live Cases by Country

Sweden	**2,507,948**
Iraq	**2,327,557**
Serbia	**2,016,002**
Bangladesh	**1,953,328**
Hungary	**1,917,777**
Slovakia	**1,788,865**
Jordan	**1,694,216**
Georgia	**1,655,221**
Taiwan	**1,558,380**
Ireland	**1,551,835**

5.Use of this project

This project aims to develop content in the COVID 19 category and also the Respiratory and Mental Health Sections of Physiopedia as a response to the COVID-19 pandemic. We intend to populate the site with practical, credible and thought-provoking information on all aspects of management of individuals with a diagnosis of COVID-19. There is currently a lot of discussion on the aftermath of COVID 19, although it is not completely past us there are a lot of people recovering with continued needs. As many of the current topics focus on rehabilitation and mental health not only of patients but health workers too we decided to review the following categories.

- Respiratory
- Cardiopulmonary
- COVID – 19
- Mental Health

6.Feasiblity of Project

The spread of Covid-19 and its new variants is worsening on the World due in part to the many health challenges that existed prior to the pandemic. This project is Feasible enough to help policymakers to analyze the impact of these preexisting challenges more effectively, by providing them with up-to-date data and digital tools so that they can better plan their Covid-19 response.

A. Economical Feasibility :

This is a very important aspect to be considered while developing a project. We decided the technology based on minimum possible cost factor. • All hardware and software cost has to be borne by the project members.

B.Technical Feasibility:

This included the study of function, performance and constraints that may affect the ability to achieve an acceptable system. For this feasibility study, we studied complete functionality to be provided in the system, as described in the System Requirement Specification (SRS).

C.Operational Feasibility:

No doubt the proposed system is fully GUI based that is very user friendly and all inputsto be taken all self-explanatory even to a layman. Besides, a proper training has been conducted to let know the essence of the system to the users so that they feel comfortable with new system. As far our study is concerned the clients are comfortable and happy as the system has cut down their loads and doing

7.Future Scope

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding :

* We can add Vaccine tracking system in our app for more information about recent condition.

* We can add more new diseases in the system so that it can become more diverse/useful.

* We can host the platform on online servers to make it accessible.

* We can Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers.

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Also, as it can be seen that now- adays the players are versatile. Also Enhancements can be done. We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them. In the last we would like to thanks to all the persons involved in the development of the system directly or indirectly we hope that the project will serve its purpose for which it is developed there by underlining success of process.

8.Software Requirements

- **Database** **:** My SQL/PHP
- **User Interface Design** **:** HTML, CSS,React
- **Web Browser** **:** Mozilla, Google Chrome, IE8,OPERA
- **Software** **:** Vs code
- **Operating System** **:** Windows

9.Hardware Requirements

- **Hard Disk** **:** 100MB upto 210 MB
- **RAM** **:** 4GB
- **Processor** **:** Core i3 (8^{th} generation)
- Computer Device, Mobile (To check the working of our website).

10.System Design of Covi19-Tracker

In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following in the following two steps:

1. Primary Design Phase: In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimizing the information flow between blocks. Thus, all activities which require more interaction are kept in one block.

2. Secondary Design Phase: In the secondary phase the detailed design of every block is performed. The general tasks involved in the design process are the following:

1. Design various blocks for overall system processes.

2. Design smaller, compact and workable modules in each block.

3. Design Maps .

4. Specify details of programs to achieve desired functionality.

5. Design the data system for fetching data.

6. Perform documentation of the design.

7. System reviews

11.User Interface

Design User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventually presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue. The following steps are various guidelines for User Interface Design:

1. The system user should always be aware of what to do next.

2. The screen should be formatted so that various types of information, instructions and messages always appear in the same general display area.

3. Message, instructions or information should be displayed long enough to allow the system user to read them.

4. Use display attributes sparingly.

5. Default values for fields and answers to be entered by the user should be specified.

6. A user should not be allowed to proceed without correcting an error.

7. The system user should never get an operating system message or fatal error

12.Preliminary Product Description

The first step in the system development life cycle is the preliminary investigation to determine the feasibility of the system. The purpose of the preliminary investigation is to evaluate project requests. It is not a design study nor does it include the collection of details to describe the business system in all respect. Rather, it is the collecting of information that helps committee members to evaluate the merits of the project request and make an informed judgment about the feasibility of the proposed project.

Analysts working on the preliminary investigation should accomplish the following objectives:

- Clarify and understand the project request
- Determine the size of the project.
- Assess costs and benefits of alternative approaches.
- Determine the technical and operational feasibility of alternative approaches.
- Report the findings to management, with recommendations outlining the acceptance or rejection of the proposal.
- Benefit to Organization The organization will obviously be able to gain benefits such as savings in operating cost, reduction in paperwork, better utilization of human resources and more presentable image increasing goodwill.
- The Initial Cost The initial cost of setting up the system will include the cost of hardware software (OS, add-on software, utilities) & labor (setup & maintenance). The same has to bear by the organization

- **Running Cost Besides**

The initial cost the long term cost will include the running cost for the system including the AMC, stationary charges, cost for human resources, cost for update/renewal of various related software.

- **Need for Training**

The users along with the administrator need to be trained at the time of implementation of the system for smooth running of the system. The client will provide the training site. We talked to the management people who were managing a the financial issues of the center, the staff who were keeping the records in lots of registers and the reporting manager regarding their existing system, their requirements and their expectations from the new proposed system. Then, we did the system study of the entire system based on their requirements and the additional features they wanted to incorporate in this system. Reliable, accurate and secure data was also considered to be a complex task without this proposed system. Because there was no such record for keeping track of all the activities. The new system proposed and then developed by me will ease the task of the organization in consideration. It will be helpful in generating the required reports by the staff, which will help them to track their progress and services. Thus, it will ease the task of Management to a great extent as all the major activities to be performed, are computerized through this system

13.Project Profile

There has been continuous effort to develop tools, which can ease the process of software development. But, with the evolving trend of different programming paradigms today's software developers are really challenged to deal with the changing technology. Among other issues, software re-engineering is being regarded as an important process in the software development industry. One of the major tasks here is to understand software systems that are already developed and to transform them to a different software environment. Generally, this requires a lot of manual effort in going through a program that might have been developed by another programmer. This project makes a novel attempt to address the issued of program analysis and generation of diagrams, which can depict the structure of a program in a better way. Today, UML is being considered as an industrial standard for software engineering design process. It essential provides several diagramming tools that can express different aspects/ characteristics of program such as

Use cases: Elicit requirement from users in meaningful chunks. Construction planning is built around delivering some use cases n each interaction basis for system testing. Class diagrams: shows static structure of concepts, types and class. Concepts how users think about the world; type shows interfaces of software components; classes shows implementation of software components.

Interaction diagrams: shows how several objects collaborate in single use case. Package diagram: show group of classes and dependencies among them. State diagram: show how single object behaves across many use cases. Activity diagram: shows behavior with control structure. Can show many objects over many uses, many object in single use case, or implementations methods encourage parallel behavior, etc.

14.Use Case Model of the Project

The use case model for any system consists of "use cases". Use cases represent different ways in which the system can be used by the user. A simple way to find all the use case of a system is to ask the questions "What the user can do using the system?" The use cases partition the system behavior into transactions such that each transaction performs some useful action from the users' point of view.

The purpose of the use case to define a piece of coherent behavior without reveling the internal structure of the system. An use case typically represents a sequence of interaction between the user and the system. These interactions consists of one main line sequence is represent the normal interaction between the user and the system. The use case model is an important analysis and design artifact (task).Use cases can be represented by drawing a use case diagram and writing an accompany text elaborating the drawing. In the use case diagram each use case is represented by an ellipse with the name of use case written inside the ellipse.

All the ellipses of the system are enclosed with in a rectangle which represents the system boundary. The name of the system being module appears inside the rectangle. The different users of the system are represented by using stick person icon. The stick person icon is normally referred to as an Actor. The line connecting the actor and the use cases is called the communication relationship. When a stick person icon represents an external system it is annotated by the stereo type<>.

15.Security Testing of the Project

Testing is vital for the success of any software. no system design is ever perfect. Testing is also carried in two phases. first phase is during the software engineering that is during the module creation. second phase is after the completion of software. this is system testing which verifies that the whole set of programs hanged together.

White Box Testing: In this technique, the close examination of the logical parts through the software are tested by cases that exercise species sets of conditions or loops. all logical parts of the software checked once. errors that can be corrected using this technique are typographical errors, logical expressions which should be executed once may be getting executed more than once and error resulting by using wrong controls and loops. When the box testing tests all the independent part within a module a logical decisions on their true and the false side are exercised , all loops and bounds within their operational bounds were exercised and internal data structure to ensure their validity were exercised once.

Black Box Testing: This method enables the software engineer to device sets of input techniques that fully exercise all functional requirements for a program. black box testing tests the input, the output and the external data. it checks whether the input data is correct and whether we are getting the desired output.

Alpha Testing: Acceptance testing is also sometimes called alpha testing. Be spoke systems are developed for a single customer. The alpha testing proceeds until the system developer and the customer agree that the provided system is an acceptable implementation of the system requirements.

Unit Testing: Each module is considered independently. it focuses on each unit of software as implemented in the source code. it is white box testing.

Integration Testing: Integration testing aims at constructing the program structure while at the same constructing tests to uncover errors associated with interfacing the modules. modules are integrated by using the top down approach.

Validation Testing: Validation testing was performed to ensure that all the functional and performance requirements are met. System Testing: It is executing programs to check logical changes made in it with intention of finding errors. a system is tested for online response, volume of transaction, recovery from failure etc. System testing is done to ensure that the system satisfies all the user requirements

System Analysis:

System analysis is a process of gathering and interpreting facts, diagnosing problems and the information about the Covid-19 Website to recommend improvements on the system. It is a problem solving activity that requires intensive communication between the system users and system developers. System analysis or study is an important phase of any system development process. The system is studied to the minutest detail and analyzed. The system analyst plays the role of the interrogator and dwells deep into the working of the present system. The system is viewed as a whole and the input to the system are identified. The outputs from the organizations are traced to the various processes. System analysis is concerned with becoming aware of the problem, identifying the relevant and decisional variables, analyzing and synthesizing the various factors and determining an optimal or at least a satisfactory solution or program of action. A detailed study of the process must be made by various techniques like interviews, questionnaires etc. The data collected by these sources must be scrutinized to arrive to a conclusion. The conclusion is an understanding of how the system functions. This system is called the existing system. Now the existing system is subjected to close study and problem areas are identified. The designer now functions as a problem solver and tries to sort out the difficulties that the enterprise faces. The solutions are given as proposals. The proposal is then weighed with the existing system analytically and the best one is selected. The proposal is presented to the user for an endorsement by the user. The proposal is reviewed on user request and suitable changes are made. This is loop that ends as soon as the user is satisfied with proposal. Preliminary study is the process of gathering and interpreting facts, using the information for further studies on the system. Preliminary study is problem solving activity that requires intensive communication between the system users and system developers. It does various feasibility studies. In these studies a rough figure of the system activities can be obtained, from which the decision about the strategies to be followed for effective system study and analysis can be taken.

16.References

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