INSTITUTE OF TECHNOLOGY OF CAMBODIA

DEPARTMENT OF INFORMATION AND COMMUNICATION ENGINEERING

PROJECT REPORT ON

Internet Programming

"Covid-19 Information"

Under The Guidance Of:

Lecturer. CHHUN Thavorac

Lecturer. HOK Tin

Group: 1

Team Members:

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CHHON Devit	e20180113
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ACKNOWLEDGEMENT

Without the people who volunteered their time and effort to assist and direct us, our three months of work on covid information website would have been successful. We developed both our technical and soft abilities while working on this project. We want to let them know how much we value and appreciate them.

First and foremost, we would like to thank Lecturer. **Chun Thavorac** and Lecturer. **Hok Tin**, our course and TP instructors, for mentoring us during this project's duration. He has been very encouraging and helpful in providing suggestions, comments, and conversations as well as setting up meetings to track our project's development. He also provided us with some technical hints while we were struggling, which made

Additionally, he provided us with some technical advice while we battled, which helped us learn a lot. Last but not least, we would like to thank every member of our team who has consistently worked hard on this project with us, taught us how to function as a team, supported one another, and offered helpful suggestions for how to proceed.

In conclusion, I would like to express my gratitude to everyone who helped, encouraged, and supported us from the start of our initiative. Without them, we wouldn't be able to go over the obstacle.

ABSTRACT

We completed a three-month project on the covid-19 information website as part of our learning during the second semester of our fourth year, which assisted all people in checking information about covid19 online. For people who want to find information from anywhere they desire, the website covid-19 is a straightforward but useful service. The covid-19 will include all features that enable users to utilize this website more quickly, learn new information, and feel secure. We completed all user and administrative capabilities after working on this project for around three months. After this project was over, there were a lot of things I learned from it that helped me and the team collaborate, develop many soft skills, and boost our confidence in our careers.

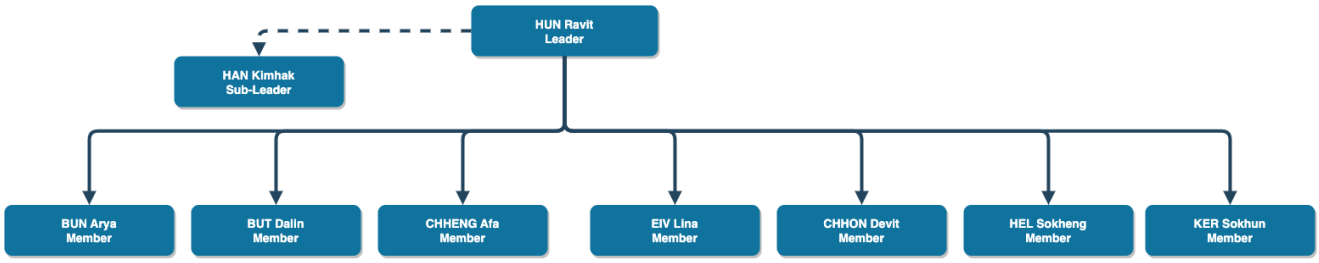
Contents

CHAPTER I: PROJECT INTRODUCTION

1. Introduction

COVID-19 Information is a website that provides information and educational purposes. It is a news, social awareness and medical prevention website, which is specially created for providing daily Covid19 cases, social awareness and some news related to Covid19.

2. Team Structure and Role



Name	Member Role	Responsibility
HUN Ravit	Leader	Developer(back-end)
HAN Kimhak	Sub-leader	Developer(back-end)
BUN Arya	Reporter	Developer(design)
BUT DALIN	Member	Developer(front-end)
CHHENG Afa	Member	Developer(front-end)
EIV Lina	Member	Developer(design)
CHHON Devit	Member	Developer(back-end)
HEL Sokheng	Member	Developer(design)

KER Sokhun	member	Developer(front-end)

3. Project Features

COVID-19 Information Website features are:

- Get Latest Cases of Covid19
- Get Latest News Related to Covid19
- Map Visualization of Cambodia
- User can read, comment, and add news to their favorite
- User can share the information about news that they know
- User can find more detail about COVID19 symptoms, prevention, etc
- User can find Frequently Asked Questions and they can post their question
- Admin Can Manage Metadata for the system

4. Functionalities Requirements

In our system, there are two role of users which are Admin and User, so we have divided the functionality as below:

User		
Module	**Feature**	**Description**
Authentication	Login	Users need to fill in their email address and password for The COVID19 website.
	Register	This function allows the user to create their account on our website. For creating an account. First, a user needs to fill in some information such as username, email address, password and confirm password.
	Forgot Password	When users forgot their password. They can reset it again by filling in their email address,

		wait a minute to get code for verification, and last fill their new and confirmation password.
	Logout	When the user clicks log out, the data (token, information that related to the user) stored in the website will be clear.
Homepage	Total Cases related to COVID19	Show daily cases of COVID19
	Cambodia Map Virtualization	COVID19 cases data on Map
	Pie Chart	Illustrate COVID19 statistics
	Graph	Illustrate COVID19 statistics
News	Read News	User can read news
	Read and Post Comment	User can read and post comment
	Add New to Favorite	User can add new to favorite
	Add Comment	User can post comment
	Filter by type	User can filter news by type
	Search by title	User can search news by title
Vaccines	Info of Vaccination	Info related to Vaccination
FAQ	Read and Post Question	User can read FAQ by type and post their question
Contact Us	Send Message to Admin	User can send their message to the platform
Favorite	List favorite news	Get all user's favorite news
	Remove From Favorite	User can remove news from their favorite list

Admin

Module	Feature	Description
Authentication	Login	Users need to fill in their email address and password for The COVID19 website.
	Register	This function allows the user to create their account on our website. For creating an account. First, a user needs to fill in some information such as username, email address, password and confirm password.
	Forgot Password	When users forgot their password. They can reset it again by filling in their email address, wait a minute to get code for verification, and last fill their new and confirmation password.
	Logout	When the user clicks log out, the data (token, information that related to the user) stored in website will be clear.
Dashboard	Total Cases of COVID19	Show daily cases of COVID19
	Pie Chart	Illustrate COVID19 statistics
	Graph	Illustrate COVID19 statistics
News	Create	Admin can create news
	Update	Admin can update news
	Delete	Admin can delete news
	Create	Admin can create faq

FAQ	Update	Admin can update faq
	Delete	Admin can delete faq
Type FAQ	Create	Admin can create Type FAQ
	Update	Admin can update Type FAQ
	Delete	Admin can update Type FAQ
Dashboard	Total Cases related to COVID19	Show daily cases of COVID19
	Cambodia Map Virtualization	COVID19 cases data on Map
	Pie Chart	Illustrate COVID19 statistics
	Graph	Illustrate COVID19 statistics
User	Create	Admin can create user
	Update	Admin can update user
	Delete	Admin can delete user
Contact	List	Admin can list contact from user

CHAPTER II: ANALYSIS AND DESIGN

1. Choice of Technology

1.1. Technologies

- **Node.js:** is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser, which was designed to build scalable network applications.

- **Express.js**: Now we're working on Express.js Framework version 4.17.3. Express.js is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications.

- **Redis**: Redis is an open source (BSD licensed), in-memory data structure store, used as a database, cache, and message broker.

- **VueJs**: Vue.js is an open-source model–view–viewmodel front end JavaScript framework for building user interfaces and single-page applications.

- **MongDB**: MongoDB is a source-available cross-platform document-oriented database program. Classified as a NoSQL database program, MongoDB uses JSON-like documents with optional schemas.

1.2. Languages

- **Javascript**: is a lightweight, interpreted, or just-in-time compiled programming language with first-class functions.

1.3. Tools

- **Visual Code Studio:** Visual Studio Code, also commonly referred to as VS Code, is a source-code editor made by Microsoft for Windows, Linux and macOS. Features include support for debugging, syntax highlighting, intelligent code completion, snippets, code refactoring, and embedded Git.

- **Postman**: is a collaboration platform for API development. Postman's features simplify each step of building an API and streamline collaboration so you can create better APIs—faster.

- **GitLab**: GitLab Inc. is an open-core company that provides GitLab, a DevOps software package that combines the ability to develop, secure, and operate software in a single application.

- **Docker**: Docker is a set of platform as a service products that use OS-level virtualization to deliver software in packages called containers. The service has both free and premium tiers. The software that hosts the containers is called Docker Engine.

- **DigitalOcean**: is an American cloud infrastructure provider headquartered in New York City with data centers worldwide. DigitalOcean provides developers, startups, and SMBs with cloud infrastructure-as-a-service platforms.

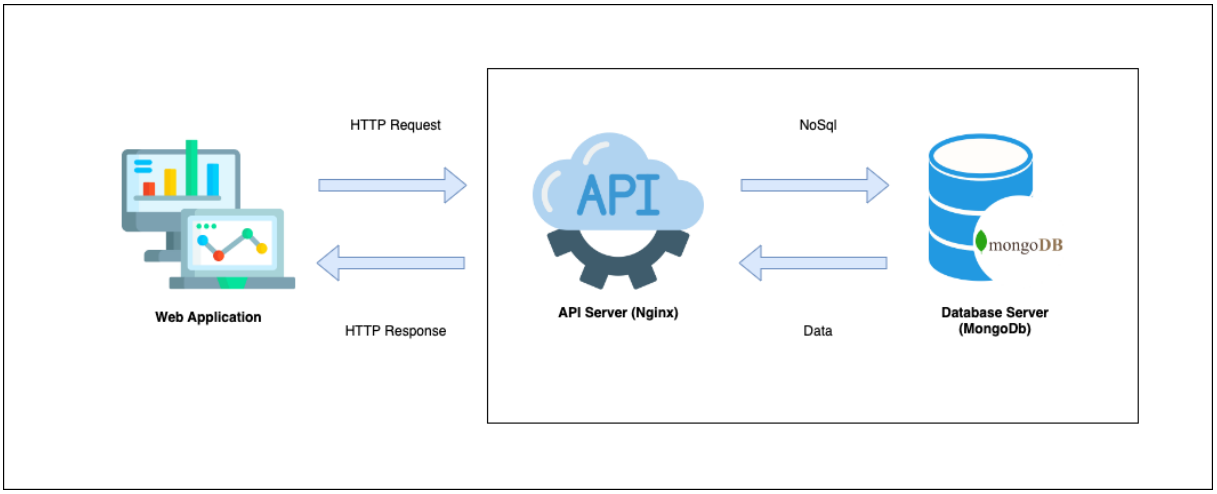
3. System Structure

In order to make our project work, we have to consider a lot about designing the system. We separate those design step into the following steps:

- Architecture Design
- Database Design

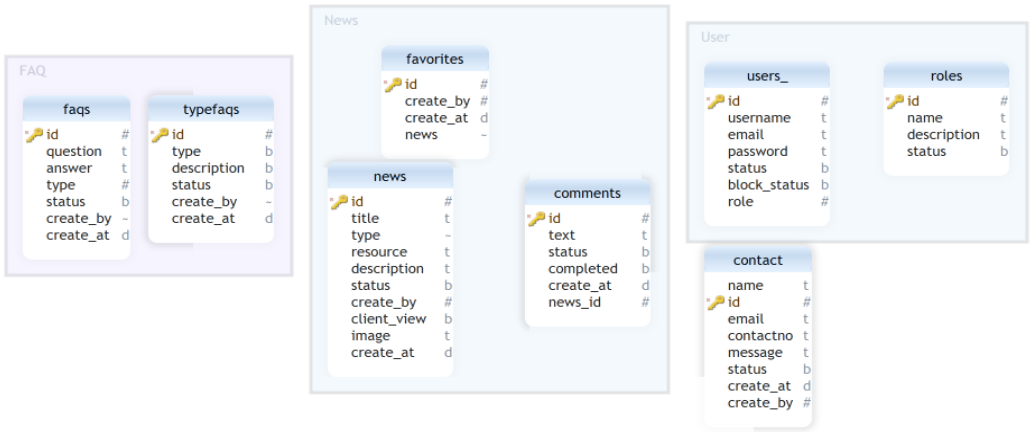
3.1. System Architecture Design

Considering the high availability and robust features of the system, we design the system into the services as below:



3.2 Database Design

For the database we use MongoDB Server. Here are our database schema:



CHAPTER III: IMPLEMENTATION

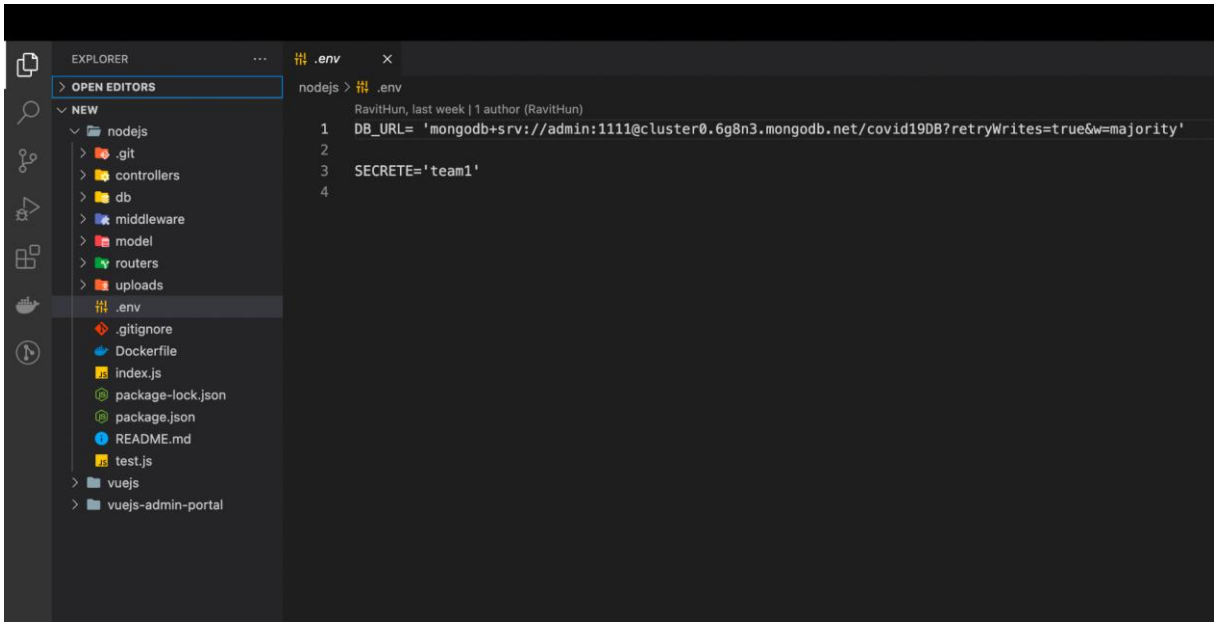
1. Project Setup and Installation

➢ Backend

npm install -g nodemon

(Nodemon used for running our server without refresh)

For configuration, we need to create .env file to add some configuration as below in order to connect to database server



➢ Frontend

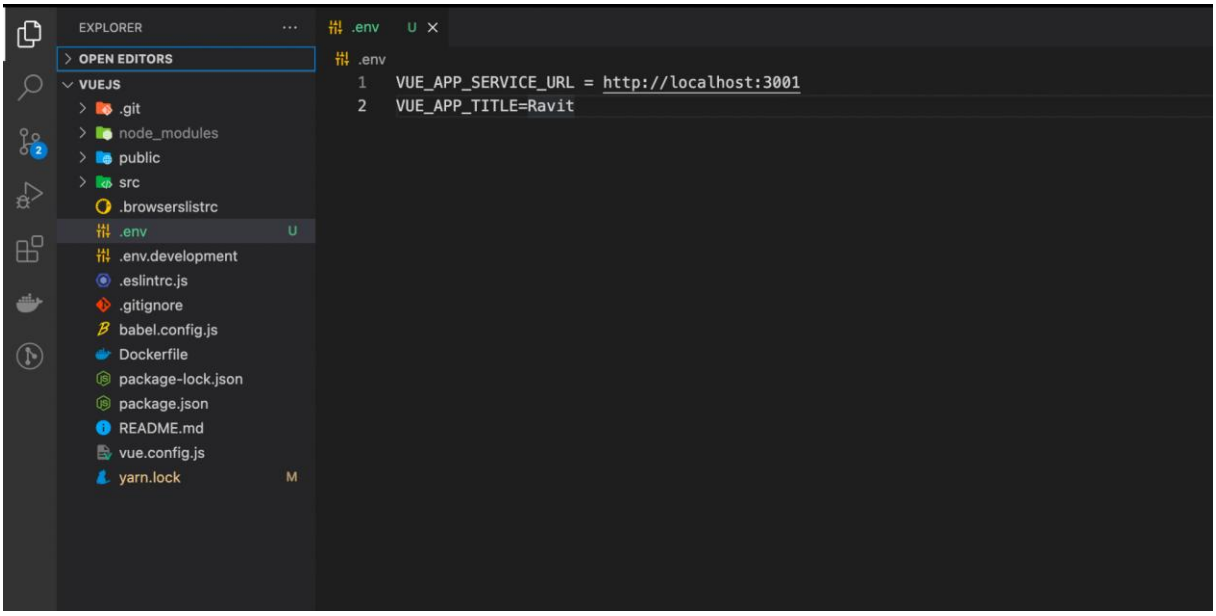
In order to run Frontend, we need to run these commands:

vue create vuejs

cd vuejs

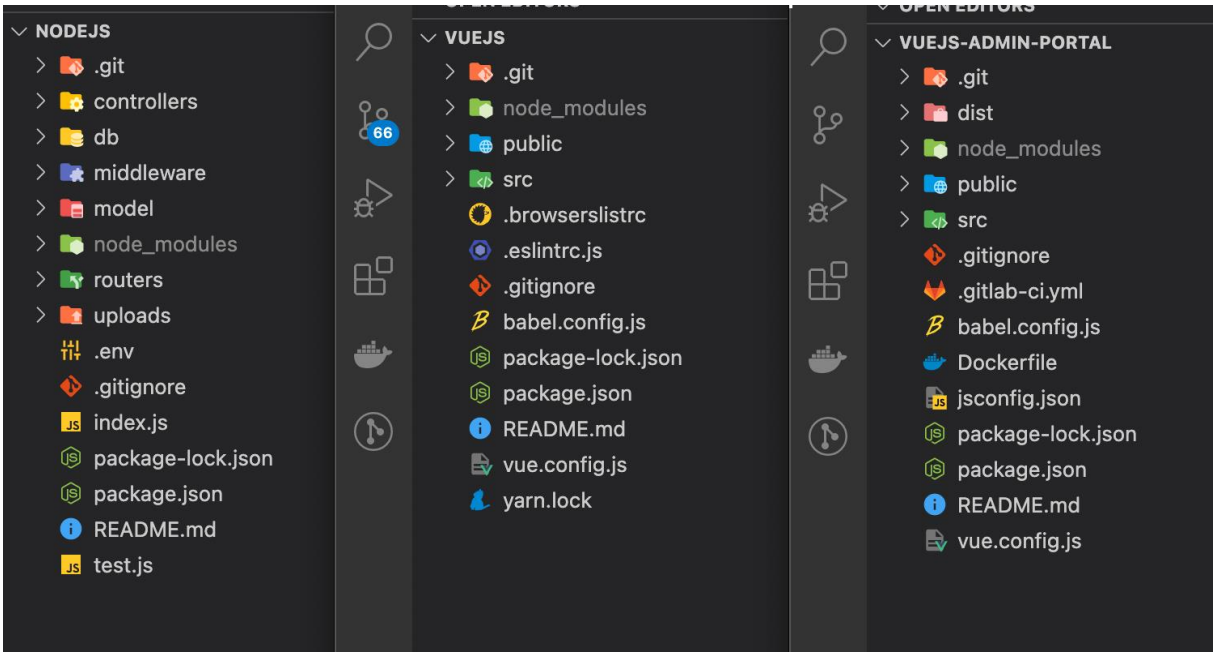
vue add vuetify

For configuration, we need to create .env file to add some configuration as below in order to connect to our Backend



2. Project Structure

The basic organization of a project's files, directories, and subfolders is represented by the application structure. An overview of the application's structure will be shown to us when we establish the project, as illustrated.



CHAPTER IV: Conclusion

1. Results

After three months of working so hard on system Mock Up, Backend and Frontend, we finally have completed all the features that we have planned from the start.

- Code completed as planned
- Teamwork and communication went well
- The project finished in time
- Team members had good responsibility for their tasks and assigned the work punctually
- Team members had high commitment to do the project
- Everyone always participate in the meeting and discussion via Telegram and Microsoft Team as well as meeting in presence

User		
Module	**Feature**	**Description**

Authentication	Login	Completed
	Register	Completed
	Forgot Password	Completed
	Logout	Completed
Homepage	Total Cases related to COVID19	Completed
	Cambodia Map Virtualization	Completed
	Pie Chart	Completed
	Graph	Completed
News	Read News	Completed
	Read and Post Comment	Completed
	Add New to Favorite	Completed
	Add Comment	Completed
	Filter by type	Completed
	Search by title	Completed
Vaccines	Info of Vaccination	Completed
FAQ	Read and Post Question	Completed
Contact Us	Send Message to Admin	Completed
Favorite	List favorite news	Completed
	Remove From Favorite	Completed

Admin		
Module	**Feature**	**Description**
Authentication	Login	Completed
	Register	Completed
	Forgot Password	Completed
	Logout	Completed
Dashboard	Total Cases of COVID19	Completed
	Pie Chart	Completed
	Graph	Completed
News	Create	Completed
	Update	Completed
	Delete	Completed
FAQ	Create	Completed
	Update	Completed
	Delete	Completed
Type FAQ	Create	Completed

	Update	Completed
	Delete	Completed

2. Experience

During this project, we have faced some problems as some of the members could not get what we were going to do at first. However, we all had high responsibility for our work. This project was not as easy as we expected since it contained a lot of functionalities and we needed to have a deep understanding of every part of it. Therefore, we have spent a lot of time reviewing and researching more for this project. To make sure that our system would work well, we always had online meetings via Microsoft Teams and doing the task together at school as well. We tried to make as many meetings as possible to discuss our project. All the problems we faced, we tried to solve it step by step as much as we could. Every member has worked so hard as a group, we also kept solidarity and patience. We kept going on however we met the obstacle ahead. Everyone has completed the tasks on the date we have determined. After almost a month of working together with a lot of experience, we were able to finish the project as we expected.

3. Perspective

Our idea is incredibly interesting, so if we get the chance to continue working on it, we'd like to expand it even more. Additionally, this effort will make it easier for many people who enjoy devoting their free time to reading to help without going directly.

4. Summary

In conclusion, it was a wonderful learning experience for us while working on this project. This project has taken us through the various phases of working as a team and also gave us real insight into another level of the IT world. Finally, we want to say congratulations and thanks to our team for finishing the project. We, in the name of GIC students, would like to say thanks to our dynamic lecturer who always gives us a lot of advice and guides the direction to do the project until we are able to accomplish it as well.

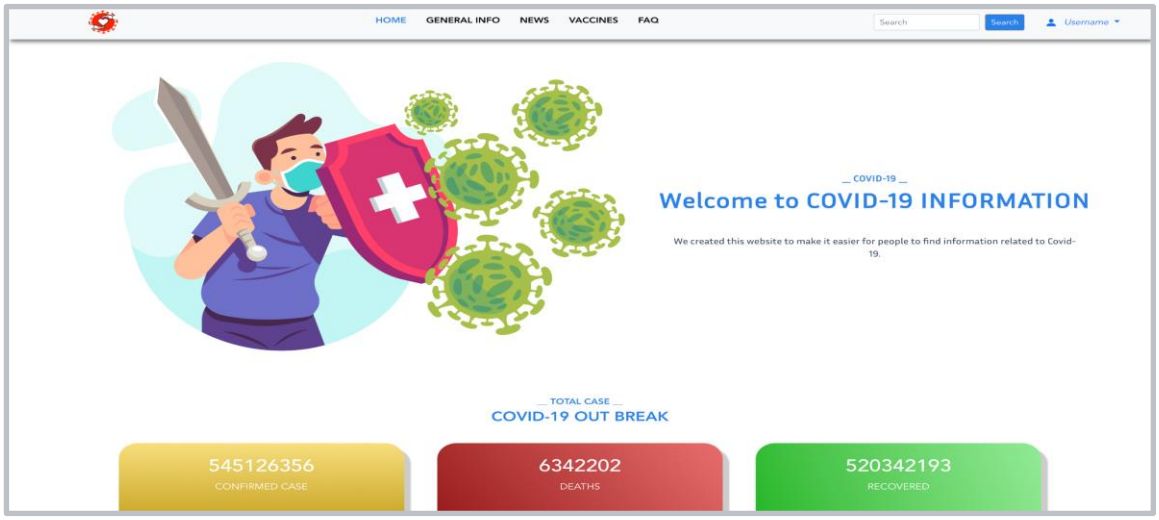
CHAPTER V: History of Meeting

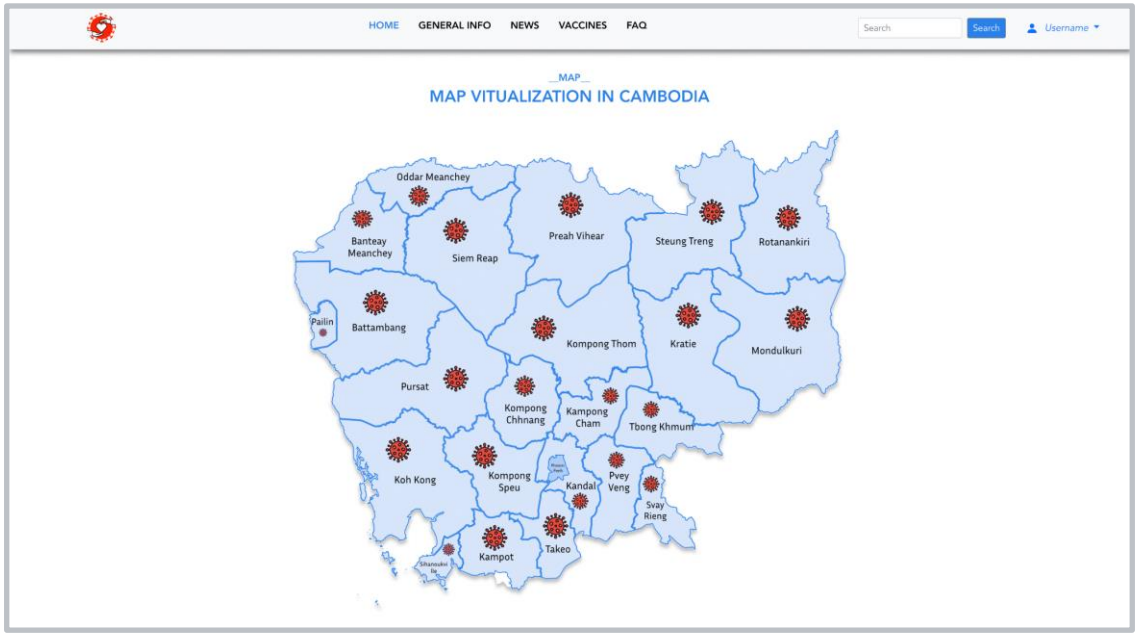
No.	Date	Meeting Location	Attendance	Task
1	15/03/2022	MS Team	Absent 1	- Divide work to team project

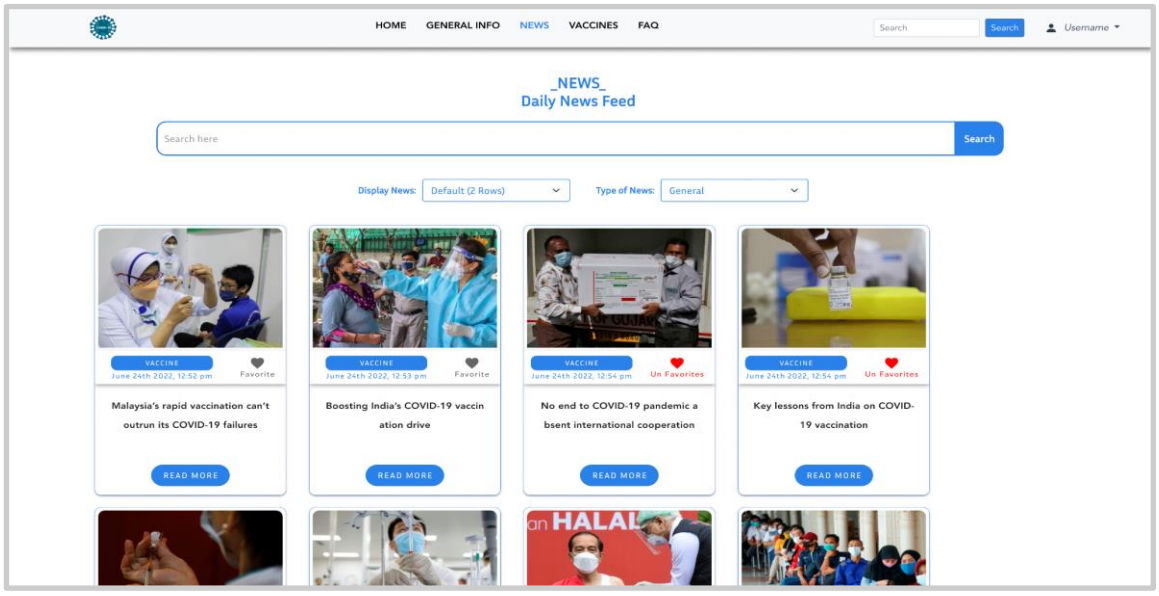
				- Design UI about Login and Register
2	17/03/2022	MS Team	Absent 1	- Create Repository - Start Login and Register - Continue design - Give tas to do
3	21/03/2022	MS Team	All members are joined	Meeting and Upload into git
4	23/03/2022	MS Team	All members are joined	- Meeting and talk more about our project - Divide work to team project for research more information
5	24/03/2022	MS Team	All members are joined	Meeting and doing on front-end with their own part
6	28/03/2022	MS Team	Absent 4	Meeting and checking the front-end for each member.
7	04/04/2022	MS Team	All members are joined	Meeting and research more resource and information
8	06/04/2022	MS Team	All members are joined	Meeting and design more UI for more attractive
9	25/04/2022	MS Team	All members are joined	Meeting and talking about Veu-JS and back-end
10	26/05/2022	MS Team	All members are joined	Meeting and prepare for presentation

ANNEX: CAPTURE SCREEN

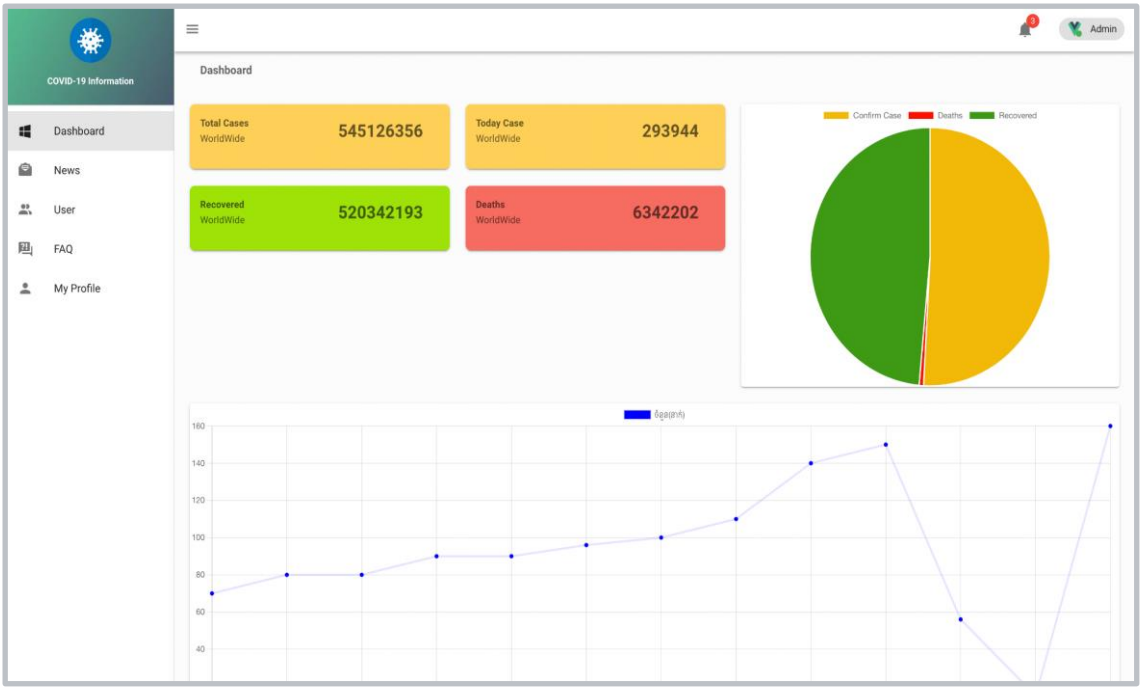
User Panel


HOME
GENERAL INFO
NEWS
VACCINES
FAQ
Search
Search
Username
__COVID-19__
Welcome to COVID-19 INFORMATION
We created this website to make it easier for people to find information related to Covid-19.
__TOTAL CASE__
COVID-19 OUT BREAK
545126356
CONFIRMED CASE
6342202
DEATHS
520342193
RECOVERED


HOME
GENERAL INFO
NEWS
VACCINES
FAQ
Search
Search
Username
__MAP__
MAP VITUALIZATION IN CAMBODIA
Oddar Meanchey
Banteay Meanchey
Siem Reap
Preah Vihear
Steung Treng
Rotanankiri
Pailin
Battambang
Kompong Thom
Kratie
Mondulkuri
Pursat
Kompong Chhnang
Kampong Cham
Tbong Khmum
Koh Kong
Kompong Speu
Kandal
Pvey Veng
Svay Rieng
Takeo
Kampot


HOME
GENERAL INFO
NEWS
VACCINES
FAQ
Search
Search
Username
NEWS
Daily News Feed
Search here
Search
Display News:
Default (2 Rows)
Type of News:
General
VACCINE
June 24th 2022, 12:52 pm
Favorite
Malaysia's rapid vaccination can't outrun its COVID-19 failures
READ MORE
VACCINE
June 24th 2022, 12:53 pm
Favorite
Boosting India's COVID-19 vaccination drive
READ MORE
VACCINE
June 24th 2022, 12:54 pm
Un Favorites
No end to COVID-19 pandemic absent international cooperation
READ MORE
VACCINE
June 24th 2022, 12:54 pm
Un Favorites
Key lessons from India on COVID-19 vaccination
READ MORE

Admin Panel


COVID-19 Information
Dashboard
News
User
FAQ
My Profile
Admin
Dashboard
Total Cases
WorldWide
545126356
Today Case
WorldWide
293944
Recovered
WorldWide
520342193
Deaths
WorldWide
6342202
Confirm Case
Deaths
Recovered