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Abstract

COVIDSTATS application provides a graphical representation of latest statistical information about the number of Covid19 cases around the world in various countries.

CovidStats

Design Document

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# Version Details

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| --- | --- | --- | --- | --- | --- |
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# INTRODUCTION

## 1.1 Purpose and Scope

This document provides high level design information about the CovidStats project.

CovidStats application provides information about Covid-19 affected cases from top 5 worst affected nations around the world. Information such as number of active cases, critical cases, number of recovered cases, total number of cases and deaths for a given country with be provided graphically in a pie chart.

## 1.2 System Overview

CovidStats uses Requests module in Python to connect to Covid19 API hosted and provided by RapidAPI.com. The program updates the stats every 15minutes to provide the latest information to the user. The data received from the API is stored in to a JSON object file and will be used to display the stats in form of a Pie chart.

# Project Design and Features

## 2.1 Features

* The application will have both CLI and GUI interfaces.
* The user will be presented with list of top 5 most affected countries around the world to choose from. The user input is collected using the Command line interface.
* Based on the user input, stats are displayed using a pie chart. The chart will provide the pictorially representation of the information along with numeric information transposed on it.
* The stats shown to user will contain number of active cases, critical cases, number of recovered cases, total number of cases and deaths. These stats will be fetched from the API and stored in Json object file.
* For all consequent stats requested by user the data is fetched from the Json object file.
* When user requests for stats, If the data stored in the Json object file is more than 15 mins old, new stats will be fetched from the API and stored into the JSON file and later displayed to the user (data refresh interval - every 15mins).
* The user will be able to interact with the pie chart, zoom in, zoom out and save the chart as a .png file for later use.
* The application is designed to work on windows platform.

## 2.2 Modules

The application is written in python language and will use standard build in modules and few third-party modules. Listed below are few important modules used in the application.

* Matplotlib – to design and plot the graphs and for GUI interactions.
* Requests – to connect and fetch the stats from RAPIDAPI.COM
* Json – to manipulate and store json data

# Prerequisites

* Python installed with default modules and configured.
* Requests and Matplotlib third party modules installed.
* A profile needs to be created in RapidAPI.com to receive an API access key. Which will be used in the application to authenticate and connect to the API host end point.
* Need internet connection to connect to RapidAPI.com

# Potential Problems

* Connectivity issues : There can be connectivity issues to the RapidAPI.com or the API endpoint. In this case if the data is already stored in json object file it can be retrieved and displayed. If data is not already stored and we have connectivity issues a message should be displayed to user about unavailability.
* The API access key might be inactive or disabled. In this case new access key will be requested from the RapidAPI and used in the application.