Mastercard D&S Platforms Team India

COVID-19 Project Test Plan

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POINT OF CONTACTS

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INTRODUCTION

The scope of this project is to create an interactive dashboard which can enable users to perform the following tasks:

1. Study the spread of the COVID-19 Pandemic over time and across 5 countries (India, Italy, Germany, Singapore, USA)
2. Perform detailed analysis by further stratification of the spread based on demographic indicators (age, income, population density)
3. Study recoveries and deaths in addition to the positive cases over time and across the selected geographies
4. Analyse the impact of the spread on 3 Industries (Airlines, Travel & Entertainment, Food)
5. Study and Compare the Government Policy actions and interventions on the 5 countries, as well as their impact on various indicators

The final deliverables of the project are:

1. Working link of the final web dashboard
2. All the code scripts on the Github repository of the project
3. Proper Documentation of each code snippet for the entire project
4. Presentation of the project with individual experience and learning

The task of the SQE during the course of this project would be to ensure the following:

1. Prepare the test plans for the features and components of the project
2. Write automated tests for the working of all Front-End features of the dashboard and ensure they are working properly across browsers and locations
3. Write Front-End Testing to verify graphs and all statistical information is being displayed properly
4. Write and execute analytic testing to verify data on graphs
5. Perform API testing for all APIs to ensure that the entire code pipeline is running smoothly and all use cases and edge cases have been handled.

FEATURE SUMMARY

Requirements

1. Time Series Graphs for the entire country on the Timeline Page

On clicking a country name on the Timeline page, all the plots get updated with the selected country. The following plots are displayed

I. Total Cases (Confirmed, Active, Recovered, Deceased)

Ii. Daily Cases (Confirmed, Recovered, Deceased)

Iii. Newly Infected Vs Newly Recovered

Iv. Daily Recovered Vs Daily Deaths

V. Daily Active Vs Daily Recovered

Vi. Total Cases for top 10 states

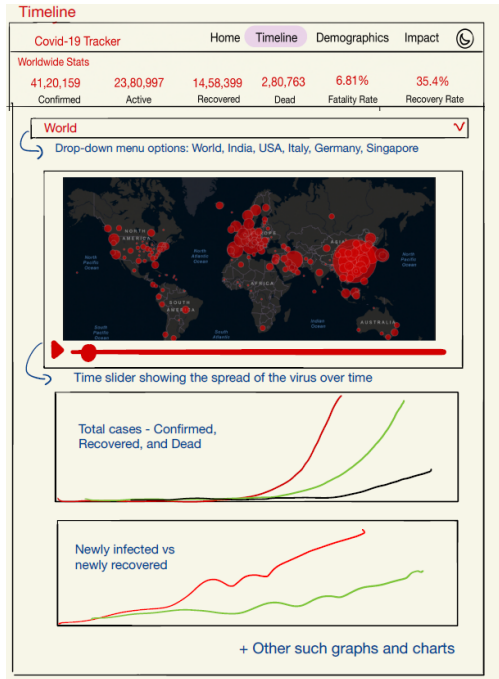### 2. Country-name cards for 5 countries

The Country name cards for each of the 5 countries are provided on the left section of the Timeline page to display the graphs for the selected country.

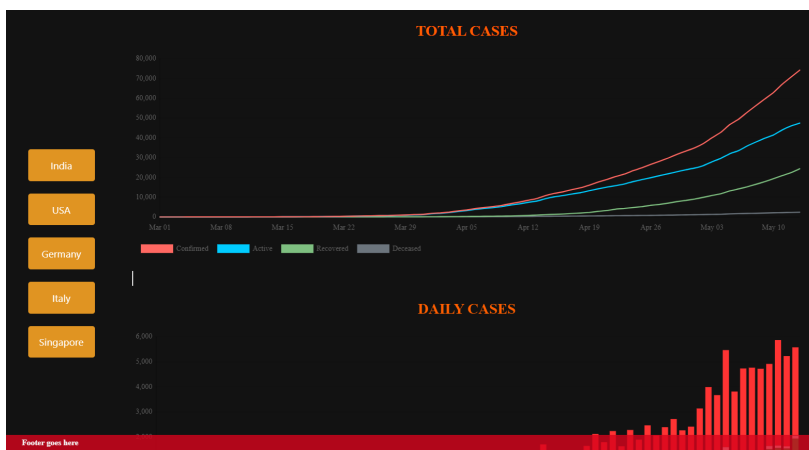### 3. Menu to select state in the Total Cases Graph

The last graph for each country displaying 'Total Cases' for the top 10 states of that country will feature a button to select the states for display. This has been provided to enable the user to select the states he/she wishes to study, and compare their plots with the other selected States.
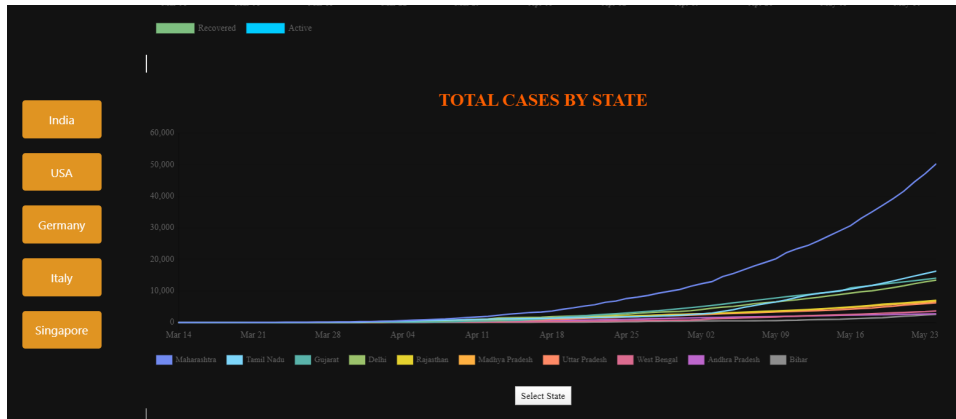
Mockups

1. Timeline Page

2. Time Series Graphs with the Country card buttons

3. Menu to select State

Github Project Task Link

The task status for this feature can be accessed at this link .

DO NOT FORGET LIST

	Feature	Status
Check scaling of graphs during Zoom In/Out	Country Graphs	
Check Select State button is working	Menu to select State	
Check if the selected country's card changes color to indicate selection	Country card	

FRONT END TESTING

Requirement	Case #	Test Steps	Expected Results	Screenshot	Status	Bugs/ Notes
Timeline Page	1	Click on 'Timeline' page button in the Header bar at the top	❏ All 6 plots for India should be displayed at the top ❏ 5 Country Cards should be displayed at the left ❏ Worldwide Stats bar should be displayed at the top ❏ Title of the page ('Timeline') should be legible (Font, Spelling, Color, Size should be correct) ❏ Title of the website ('COVID-19 TRACKER') should be legible (Font, Spelling, Color, Size should be correct)			
Country-wise plots	1	Click on country card at the left	❏ All country names should fit within the boundary of the card ❏ Spelling, font size and colour for all countries should			

			be clearly legible and consistent ❏ Only the 5 country names visible, without any repetitions or extraneous names ❏ The selected country's card should indicate selection by changing colour ❏ The plots should be updated with the selected country's data ❏ All 6 plots for the selected country should be clearly visible ❏ The Title, axes labels and legend should be present with legible font size and colour ❏ Data on the graph is updated as per the latest day ❏ Scale of the graph is appropriate as per the range of the data ❏ Colour for the plot of each dataset should be different and distinguishable ❏ Range of values on the Y and X axes should suit the data			
	2	Hover cursor over the	❏ Cursor icon of the mouse should convert to hand			

		country card	icon to enable select option for each country ❏ The country name should be highlighted when the cursor hovers over it			
	3	Hover cursor over graph	❏ Cursor should change into a tool-tip to enable detailed inspection of the graph ❏ Information about that data point should be visible			
	4	Zoom In/Out on the webpage	❏ The shape of the graph should adjust itself accordingly			
Chrome Browser Tab Display (Favicon)	1	Visit 'Timeline Page' using Chrome browser/driver	❏ Title on the Chrome tab should read COVID19 Visualiser ❏ The icon on the tab should be MC logo			

Graph Test Cases for each Country:

Country	Test Case	Graph Category	Expected Results	Screenshot	Notes/Bugs
India	1.11	Total Cases Plot	❏ Title of the plot is legible (Font size, colour, spelling is correct) ❏ Axes labels for both Y and X		
	1.12	Daily Cases Plot			
	1.13	Newly Infected Vs Newly Recovered			
	1.14	Daily Recovered Vs Daily			

		Deaths	axis are legible (Font size, colour, spelling is correct)		
	1.15	Daily Active Vs Daily Recovered			
	1.16	Total Cases Plot (Top 10 States)	❏ Legend is clearly visible ❏ Labels in the Legend are legible (Font size, colour, spelling is correct) ❏ Data on the graph is updated ❏ Scale of the graph is appropriate as per the range of the data ❏ Colour for the plot of each dataset should be different and distinguishable ❏ Cursor should change into a tool-tip to enable detailed inspection of the graph		
Italy	1.21	Total Cases Plot	❏ Title of the plot is legible (Font size, colour, spelling is correct) ❏ Axes labels for both Y and X axis are legible (Font size, colour, spelling is correct) ❏ Legend is clearly visible ❏ Labels in the Legend are legible (Font		
	1.22	Daily Cases Plot			
	1.23	Newly Infected Vs Newly Recovered			
	1.24	Daily Recovered Vs Daily Deaths			
	1.25	Daily Active Vs Daily Recovered			
	1.26	Total Cases Plot (Top 10 States)			

			size, colour, spelling is correct) ❏ Data on the graph is updated ❏ Scale of the graph is appropriate as per the range of the data ❏ Colour for the plot of each dataset should be different and distinguishable ❏ Cursor should change into a tool-tip to enable detailed inspection of the graph		
Germany	1.31	Total Cases Plot	❏ Title of the plot is legible (Font size, colour, spelling is correct) ❏ Axes labels for both Y and X axis are legible (Font size, colour, spelling is correct) ❏ Legend is clearly visible ❏ Labels in the Legend are legible (Font size, colour, spelling is correct) ❏ Data on the graph is updated ❏ Scale of the graph is appropriate as		
	1.32	Daily Cases Plot			
	1.33	Newly Infected Vs Newly Recovered			
	1.34	Daily Recovered Vs Daily Deaths			
	1.35	Daily Active Vs Daily Recovered			
	1.36	Total Cases Plot (Top 10 States)			

			per the range of the data ❏ Colour for the plot of each dataset should be different and distinguishable ❏ Cursor should change into a tool-tip to enable detailed inspection of the graph		
Singapore	1.41	Total Cases Plot	❏ Title of the plot is legible (Font size, colour, spelling is correct) ❏ Axes labels for both Y and X axis are legible (Font size, colour, spelling is correct) ❏ Legend is clearly visible ❏ Labels in the Legend are legible (Font size, colour, spelling is correct) ❏ Data on the graph is updated ❏ Scale of the graph is appropriate as per the range of the data ❏ Colour for the plot of each dataset should be different and distinguishable ❏ Cursor should change into a		
	1.42	Daily Cases Plot			
	1.43	Newly Infected Vs Newly Recovered			
	1.44	Daily Recovered Vs Daily Deaths			
	1.45	Daily Active Vs Daily Recovered			
	1.46	Total Cases Plot (Top 10 States)			

			tool-tip to enable detailed inspection of the graph		
USA	1.51	Total Cases Plot	❏ Title of the plot is legible (Font size, colour, spelling is correct) ❏ Axes labels for both Y and X axis are legible (Font size, colour, spelling is correct) ❏ Legend is clearly visible ❏ Labels in the Legend are legible (Font size, colour, spelling is correct) ❏ Data on the graph is updated ❏ Scale of the graph is appropriate as per the range of the data ❏ Colour for the plot of each dataset should be different and distinguishable ❏ Cursor should change into a tool-tip to enable detailed inspection of the graph		
	1.52	Daily Cases Plot			
	1.53	Newly Infected Vs Newly Recovered			
	1.54	Daily Recovered Vs Daily Deaths			
	1.55	Daily Active Vs Daily Recovered			
	1.56	Total Cases Plot (Top 10 States)			

PERFORMANCE TESTING

Requirement	Case #	Test Steps	Time Consumed	Status	Notes/Bugs
Timeline Page	1	Access Timeline page			
Graphs	1	Wait for each graph to load			
	2	Click on country card and wait for the selected country's graph to load			

AUTOMATION TESTING

Requirement	Scenario#	Operation	Pull Request Link
Access Timeline page	1	Open Timeline page by clicking on the Timeline button in the header bar at the top	
Access Country graph	2	Click on each of the country cards on the left	
	3	Hover cursor over the graph	

ANALYTIC TESTING

Scenario	DB	Description	Value	Expected	Actual	Status
1	CovidViz	Test Plot	Data is NUll	'No Data available' should be displayed		
2			Data is 0	0 should be displayed		
3			Data input is Negative	'Invalid Data' should be displayed		
4			$Value\ is\ 10^9$	Complete value should be displayed without any overlap		

Testing Approach:

I will manually compare the values on the plots in the dashboard with the data tables at the Backend Database. In case of a mismatch , the error will be reported to the SDEs for debugging