PROJECT DESIGN PHASE-II

SOLUTION REQUIREMENTS (FUNCTIONAL & NON-FUNCTIONAL)

Date	18/10/2022
Team ID	PNT2022TMID23006
Project Name	Project – *NYC bike share system*
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	**Functional Requirement (Epic)**	**Sub Requirement (Story / Sub-Task)**
FR-1	Collection of user data	Citi bike's official website provides the data to help with analysis , development, visualization etc. Data is collected from these published files.
FR-2	Analysing the user data	This data is used as input for creating various types of visualizations and analysis is done and a dashboard is created.
FR-3	Display the data	The dashboard is used to display the top bike used with respect to trip duration ,top 10 Start Station Names with respect to customer age group, to find the customer and subscriber with gender, to find total number of trips & calculating the number of

		bikes used by respective age groups.

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	This dashboard provides an easily understandable report which facilitates many people and tourists who use bicycles to complete their work and enjoy themselves. It provides many benefits such as measures data like distance, and help with tasks such as route planning, expansion of the bicycle sharing system, manufacturing of desired bikes etc . The benefits of Bicycle sharing systems could be reduced vehicle emissions, reduces energy consumption, improve health benefits, financial savings for individuals, reduced congestion and fuel consumption.
NFR-2	**Security**	The citi bike usage data is secured with appropriate caution as crucial decisions will be made based on this data. We can restrict access to this data and the visualization reports.

NFR-3	**Reliability**	This analysis provides a reliable and an efficient way to grasp on the performance of the citi bike sharing system in the year 2018. It makes use of the available dataset precisely and gives accurate data visualizations that can be used to improve the citi bike sharing system.
NFR-4	**Performance**	Performance of bike sharing system is defined as operational efficiency and spatial effectiveness of bike sharing system. The operational efficiency of bike sharing system aims at understanding the characteristics of public bike users, and evaluating the conditions of bike lanes from the perspective of public bike users .The effectiveness of bike sharing system dashboard aims at analyzing the characteristics of bike stations, and accessibility between bike stations and other facilities. The evaluation results can be used to improve the public bicycle sharing program.
NFR-5	**Availability**	A bicycle-sharing system is a shared transport service where bicycles are available for shared use by individuals for a short-term at low or zero Cost .The programs themselves include both docking and dockless systems,

		where docking systems allow users to borrow a bike from a dock and return at another node or dock within the system — and dockless systems, which offer a node-free system relying on smart technology. In either format, systems may incorporate smartphone web mapping to locate available bikes and docks.
NFR-6	**Scalability**	This analysis presents evidence of the possible contribution of bike sharing systems to a more resilient transport system,as it can quickly provide alternative transport options to urban residents.As more data becomes available, particularly in other areas with identically comprehensive bike sharing systems, a clearer picture of the role of this transport mode in these emergency situations can be better evaluated by this analysis and provide results with an increased accuracy.