Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Functional Requirements:

FR No.	Non-Functional Requirement	Description

| NFR-1 | **Usability** | The dashboard provides an easily understandable and usable operational report which facilitates easy-to-grasp business insights and trends for the customers. Using an interactive dashboard helps to drill down and filter operational information so data |

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIn
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	Collection of Data	Usage of the NYC Citi Bike helps generate data regarding the different trips taken by different people using Citi Bike. These data were then categorized and provided as datasets, on which further analysis and visualization are to be carried out.
FR-4	Analysis of Data	Analysis of the given data includes carrying out preprocessing & filtering the data as per the requirement posed by the sub-task. The usage of Machine Learning techniques to gain further insights into the data also contributes to the analysis, and as a result visualization of data.
FR-5	Display (Visualization) of Data	Different visualizations are carried out depending on the sub-task dealt with. These visualizations are then pooled and displayed on a dashboard - which serves as a tool to provide business insights to customers. Some of the different sub-tasks involved in this requirement include finding the top 10 Start station names with respect to customer age group, displaying the top bikes used with respect to trip duration etc.

Non-functional Requirements:

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

		can be viewed from different perspectives & in more detail.
NFR-2	**Security**	Several crucial business decisions will be made based on the Citi Bike usage data and its analysis, which will be secured appropriately. Data and visualization reports are restricted to a limited number of customers/users.

NFR-3	**Reliability**	This analysis provides a reliable and efficient way to grasp on the performance of this bike-sharing system in the year 2018. Usage of the IBM Cognos Platform offers standard reliability to the creation, maintenance, and access of the operational report (dashboard).
NFR-4	**Performance**	A bike-sharing system's performance is determined by its operational efficiency and spatial effectiveness. It is important to evaluate the conditions of bike lanes from the perspective of public bike users in order to improve the operational efficiency of the bike-sharing system. The bike-sharing system dashboard analyzes the characteristics of bike stations and the accessibility between bike stations and other facilities. It is possible to improve the public bike-sharing program using the evaluation results.
NFR-5	**Availability**	The bicycle-sharing system is a shared transport service where bicycles are available for short-term sharing by individuals at a low cost. There are two types of docking systems offered by CitiBike: docking systems, where users can borrow a bike from a dock and return it at another dock within the system; and dockless systems, which are node-free and rely on smart technology. Both formats can use smartphone web mapping to locate available bikes and docks.
NFR-6	**Scalability**	Bike-sharing systems can provide alternative transport options to urban residents quickly, which may contribute to a more resilient transport system. The application becomes more scalable as more data is fetched involving areas that are currently inaccessible through this transport methodology, as well as expanding it to other cities apart from New York City provided the required data is available and obtained. Eventually, as more data becomes available, especially in other areas with similar comprehensive bike-sharing systems, this analysis will be able to provide a more detailed picture of the role of bike-sharing in emergency situations.