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

Date	21 May 2023
Team ID	NM2023TMID15643
Project Name	Intelligent people and vehicle counting system for secretariat

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**Counting Accuracy**	1) Accurately count the number of people entering and exiting the secretariat premises. 2)Accurately count the number of vehicles entering and exiting the secretariat premises. 3)Maintain counting accuracy within an acceptable margin of error.
FR-2	**Real-time Counting**	1) Provide real-time updates of the current count of people and vehicles within the secretariat premises. 2) Make real-time updates accessible to authorized personnel through a user-friendly interface.
FR-3	**Multiple Entry/Exit Points**	1) Support counting people and vehicles at multiple entry and exit points of the secretariat premises. 2) Handle simultaneous counting at different points without compromising accuracy.
FR-4	**Intelligent Detection**	1)Employ intelligent detection techniques, such as computer vision or sensor-based technologies, to identify and track individuals and vehicles. 2)Differentiate accurately between people and vehicles.
FR-5	**Integration with Access Control Systems**	1)Integrate with existing access control systems, such as ID card readers or vehicle identification systems 2)Associate counted individuals and vehicles with their respective credentials. 3)Synchronize entry and exit data with the counting system.
FR-6	**Data Logging and Reporting**	1)Maintain a log of all entry and exit events, including timestamps, for audit and reporting purposes. 2)Generate periodic reports summarizing the total count of people and vehicles over specific time intervals.
FR-7	**Scalability and Flexibility**	1)Scale the system to accommodate future expansion or changes in the secretariat premises, including additional entry/exit points. 2)Adapt to different counting requirements based on specific events or time periods.

FR-8	**Security and Privacy**	1)Ensure the security and privacy of collected data, adhering to relevant data protection regulations. 2)Restrict access to the counting system and its data to authorized personnel using authentication and authorization mechanisms.
FR-9	**Maintenance and Support**	1)Provide ease of maintenance, including regular maintenance, updates, and bug fixes. 2)Offer timely technical support and assistance to address any issues or concerns.
FR-10	**Cost-effectiveness**	1)Be cost-effective, considering both initial implementation costs and long-term operational expenses. 2)Provide a reasonable return on investment by improving security, efficiency, and resource allocation within the secretariat premises.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	1) Provide a user-friendly interface that is easy to understand and navigate for authorized personnel accessing real-time updates and reports. 2)Ensure system controls and interactions are intuitive and well-designed.
NFR-2	**Security**	1)Implement robust security measures to prevent unauthorized access to the counting system and protect the integrity and confidentiality of collected data.
NFR-3	**Reliability**	1)Ensure the system operates reliably without frequent failures or disruptions in counting functionality.
NFR-4	**Performance**	1)Ensure the system can handle high traffic and accurately count people and vehicles in real-time without significant delays or performance degradation.
NFR-5	**Availability**	1)Ensure the system is available and accessible to authorized personnel at all times, with minimal downtime or scheduled maintenance windows.
NFR-6	**Scalability**	1)Design the system to handle increasing numbers of people and vehicles as the secretariat premises and traffic grow over time.