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

Date	03 October 2022
Team ID	PNT2022TMID38067
Project Name	Project - Digital naturalist AI enabled tool for biodiversity researchers
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	**Classification:**	It identifies the "class," i.e., the category to which the image belongs. Note that an image can have only one class.
FR-2	**Tagging:**	It is a classification task with a higher degree of precision. It helps to identify several objects within an image.
FR-3	**Localization:**	It helps in placing the image in the given class and creates a bounding box around the object to show its location in the image
FR-4	**Detection:**	It helps to categorize the multiple objects in the image and create a bounding box around it to locate each of them. It is a variation of the classification with localization tasks for numerous objects.
FR-5	**Semantic Segmentation:**	Segmentation helps to locate an element on an image to the nearest pixel.
FR-6	**Instance Segmentation:**	It helps in differentiating multiple objects belonging to the same class.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	This tool verifies that usability is a special and important perspective to analyze user requirements, which can further improve the tool quality. In the model process with user experience as the core, the analysis of users' usability can indeed help designers better understand users' potential needs, behavior and experience.
NFR-2	**Security**	By identifying the danger and poisoning flora and fauna. which the human become more secure from the attack by animals.

NFR-3	**Reliability**	Training the model using deep learning makes the tools more efficient in order the recognition the image by this it become reliability.

NFR-4	**Performance**	ľhe conventional computeí vision appíoach of image íecognition is a sequence of image filteíing, segmentation, featuíe extíaction, and íule-based classification. ľhe images fíom the cíeated dataset aíe fed into a neuíal netwoík algoíithm. ľhis is the deep oí machine leaíning aspect of cíeating an image íecognition model. ľhe tíaining of an image íecognition algoíithm makes it possible foí convolutional neuíal netwoíks image íecognition to identify specific classes.
NFR-5	**Availability**	By developing & deploying resilient tool we empower the user knowledge by knowing all kind of flora and fauna.
NFR-6	**Scalability**	By using this tool user understand about the particular thing when they don't have the knowledge in that thing, Which this software available 24/7 through online