Project Design Phase-I
Proposed Solution

Date	October 2023
Team ID	Team-592617
Project Name	Jungle Detectives: AI-Powered Image Classification of Wild Big Cats
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Big cats play an important role in their ecosystems as apex predators. They help to control populations of prey animals, which can prevent overgrazing and other ecological problems. However, big cats are facing a number of ecological problems, including habitat loss and fragmentation, poaching, prey depletion and climate change. These ecological problems are having a significant impact on big cat populations. The project can help to address these ecological problems by providing conservationists and wildlife researchers with a powerful tool to track and monitor big cat populations. The model can be used to identify these magnificent creatures.
2.	Idea / Solution description	Developing a tool employing transfer learning approaches, that can accurately identify and classify ten big cat species from their images, despite the challenges of natural variation in appearance, pose, and lighting conditions.
3.	Novelty / Uniqueness	The novelty of the project lies in its use of transfer learning to develop an accurate and efficient model for classifying big cat species from their images. Transfer learning is a relatively new technique in machine learning. The project is also unique in its focus on big cats. Big cats are a challenging group of animals to classify, due to their natural variation in appearance, pose, and lighting conditions. The project is addressing this challenge by using a large dataset of big cat images and a state-of-the-art deep learning model.
4.	Social Impact / Customer Satisfaction	The project has the potential to make a significant social impact by raising awareness of big cats, improving the effectiveness of big cat conservation efforts, and promoting education and understanding about big cats. Conservationists could use the model to track big cat populations in real time, which would help them to identify and protect endangered species. Educators could use the model to teach

		students about big cats and their importance to the environment. Nature enthusiasts could use the model to learn more about big cats and to identify big cats that they see in the wild. The project has the potential to make a real difference in the world by helping to protect these endangered creatures.
5.	Business Model (Revenue Model)	There are multiple possible business models for the project. The model could be offered as a subscription service to conservationists, wildlife researchers, and other organizations that need to accurately identify and classify big cats. The model could also be offered as a per-image charge service. Given its social impact the best approach is releasing it as open source software. This would allow anyone to use the model for free, and it would also encourage contributions to the model's development.
6.	Scalability of the Solution	The solution can be scaled by using various approaches like usage of cloud for processing and storage.