Project Design Phase-II
Technology Stack (Architecture & Stack)

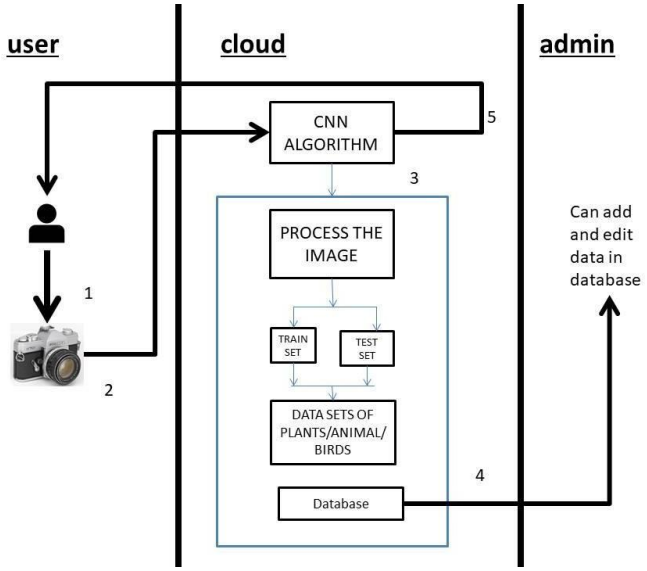
Date	21 October 2022
Team ID	PNT2022TMID23849
Project Name	**Project -** Digital Naturalist – AI Enabled tool for Biodiversity Researchers
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/



Guidelines:

1. Include every process (as part of the application logic or technology block).
2. Establish infrastructure boundaries (local or cloud)
3. Identify external interfaces (such as third-party APIs).
4. List the components and services for data storage.
5. Describe the machine learning model interface (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Camera	Capture photos for processing	Normal phone camera
3.	CNN algorithm	For processing the photos	-
4.	Database	Data Type, Configurations etc.	MySQL, etc.
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
7.	External API-1	Location service	Location or google api

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Datasets,api etc	Sql or csv
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Python, Mysql
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Python, Mysql
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc.	-

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d