**Project Design Phase-II**

**Technology Stack (Architecture & Stack)**

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| --- | --- |
| Date | Date: 26 June 2025 |
| Team ID | Team ID: LTVIP2025TMID44725 |
| Project Name | Poultry Disease Detection Using Transfer Learning |
| Maximum Marks | 4 Marks |

**Technical Architecture**

The Deliverable shall include the architectural diagram and the information as per the following tables.

Example: Transfer Learning-based Poultry Disease Classification System

Reference: <https://www.ibm.com/cloud/architecture>

**Table-1: Components & Technologies**

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Component | Description | Technology |
| 1 | User Interface | Interface for user to upload images and view predictions | HTML, CSS, Bootstrap |
| 2 | Application Logic-1 | Image preprocessing and loading model | Python |
| 3 | Application Logic-2 | Transfer learning-based classification | TensorFlow / Keras |
| 4 | Database | User inputs or session storage | SQLite / MySQL |
| 5 | Cloud Database | For storing poultry disease dataset (optional) | Firebase / Cloud SQL |
| 6 | File Storage | Stores uploaded images | Local File System / Google Cloud Storage |
| 7 | External API-1 | Disease information retrieval (optional) | Google Knowledge Graph API |
| 8 | Machine Learning Model | Classifies poultry diseases using pretrained CNNs | VGG16 / ResNet50 |
| 9 | Infrastructure | Application deployment | Localhost / Render / AWS EC2 |

**Table-2: Application Characteristics**

|  |  |  |  |
| --- | --- | --- | --- |
| S.No | Characteristics | Description | Technology |
| 1 | Open-Source Frameworks | Frameworks and libraries used for ML and web interface | TensorFlow, Flask |
| 2 | Security Implementations | Basic form validations and firewall support | HTTPS, SHA-256 hashing |
| 3 | Scalable Architecture | Separation of concerns, modular design | 3-tier architecture |
| 4 | Availability | Deployed on reliable platforms | Render / AWS |