**Project Design Phase**

**Solution Architecture**

|  |  |
| --- | --- |
| Date | 15 February 2025 |
| Team ID | LTVIP2025TMID59571 |
| Project Name | Transfer Learning-Based Classification of Poultry Diseases for Enhanced Health Management |
| Maximum Marks | 4 Marks |

**Solution Architecture:**

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

* Find the best tech solution to solve existing business problems.
* Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
* Define features, development phases, and solution requirements.
* Provide specifications according to which the solution is defined, managed, and delivered.

**Example - Solution Architecture Diagram:**

**+-----------------------------+**

**| User Interface |**

**| (Mobile App / Web Browser) |**

**+-------------+--------------+**

**|**

**v**

**+-----------------------------+**

**| Flask Backend API |**

**+-------------+--------------+**

**|**

**v**

**+-----------------------------+**

**| Preprocessing Module |**

**| - Resize Image |**

**| - Normalize |**

**+-------------+--------------+**

**|**

**v**

**+-----------------------------+**

**| Trained ResNet18 Model |**

**| (Transfer Learning) |**

**+-------------+--------------+**

**|**

**v**

**+-----------------------------+**

**| Prediction Output |**

**| - Salmonella |**

**| - Newcastle Disease |**

**| - Coccidiosis |**

**| - Healthy |**

**+-------------+--------------+**

**|**

**v**

**+-----------------------------+**

**| Display Result to User |**

**+-----------------------------+**

**(Optional) ---> +-------------------------+**

**| Database (MySQL) |**

**| Save logs/predictions |**

**+-------------------------+**

*Figure 1: Architecture and data flow of the voice patient diary sample application*

**Reference:** [**https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-research-powered-by-ai-on-aws-part-1-architecture-and-design-considerations/**](https://aws.amazon.com/blogs/industries/voice-applications-in-clinical-research-powered-by-ai-on-aws-part-1-architecture-and-design-considerations/)