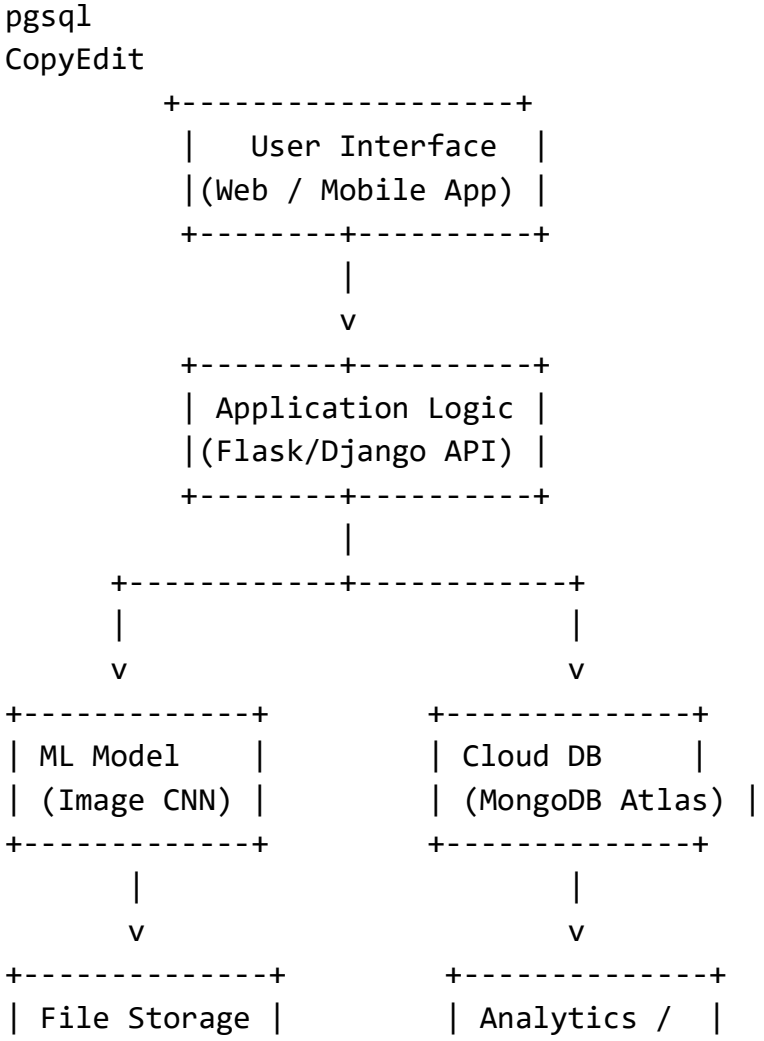
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	25 FEB 2025
Team ID	LTVIP2025TMID34941
Project Name	**Disease Recognition in Chickens:**
Maximum Marks	4 Marks

Technical Architecture:

Technical Architecture:

[You can draw and attach a system architecture diagram like the following idea:]



```
| (Cloudinary) |          | Logging      |
+--------------+          +--------------+
```

Table-1: Components & Technologies

S.No	Component	Description	Technology
1	User Interface	Web app interface for farmers to upload chicken images	HTML, CSS, JavaScript, React JS
2	Application Logic-1	Backend logic to handle image uploads, processing	Python (Flask / Django)
3	Application Logic-2	Disease prediction using image classification model	TensorFlow / PyTorch
4	Application Logic-3	Suggesting remedies, storing past diagnoses	Python logic + API integration
5	Database	Store user data, past reports	MongoDB
6	Cloud Database	Scalable and available database service	MongoDB Atlas
7	File Storage	Storing uploaded chicken images	Cloudinary / Firebase Storage
8	External API-1	For location-based disease alerts	Google Maps API
9	External API-2	For email notifications and OTP	Twilio API / SendGrid API
10	Machine Learning Model	Image classification for disease recognition	CNN Model (ResNet / EfficientNet)
11	Infrastructure	Deployed via cloud instance	Render / Vercel / AWS EC2 / Heroku

Table-2: Application Characteristics

S.No	Characteristics	Description	Technology
1	Open-Source Frameworks	Frameworks for ML, backend, and frontend	TensorFlow, Flask, React, Node.js
2	Security Implementations	JWT Authentication, Image validation, HTTPS, Cloud IAM	JWT, HTTPS, SHA-256, OAuth 2.0
3	Scalable Architecture	Microservices & RESTful APIs with separate ML and DB services	3-tier + Cloud Function scaling

4	Availability	Cloud-based hosting with fallback servers and CDN	Load Balancer, Cloudflare CDN
5	Performance	Model optimized, CDN for static content, caching API responses	Redis Cache, Cloudflare CDN, Uvicorn