

# Planning logic

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2nd BCA ( 4th sem)

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Transfer learning based classification of poultry diseases for enhanced Health management

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**A Sprint** fixed period or duration in which a team works to complete a set of tasks

An **Epic** is a **big task or project** that is too large to complete in one sprint. It is broken down into **smaller tasks (stories)** that can be completed over multiple sprints.

A **Story** is a small task . It is part of an **Epic**.

A **Story Point** is a number that represents how much effort a story takes to complete. (usually in form of Fibonacci series)

- 1- Very Easy task
- 2- Normal task
- 3- Moderate task
- 5- Difficult task

**Sprint 1 – Data Collection & Preparation (12 Story Points)**

**Epic 1: Data Collection**

## USN1: Gather poultry disease images – 2



## USN2: Load & organize data – 1

/dataset/

├─ Coccidiosis/

├─ Salmonella/

├─ Newcastle/

├─ Healthy/

## Epic 2: Data Preparation

This epic includes multiple stories necessary for cleaning, transforming, and structuring the dataset for use in a transfer learning model

## USN3: Handle missing labels – 3

Handle Missing Values

### Description:

- Identify and resolve any missing labels or corrupt files that would affect training accuracy.

### Tasks:

- Scan dataset for missing image files or labels.
- Remove or impute incomplete records.
- Validate cleaned data.

**Acceptance Criteria:**

- Dataset contains no nulls or unusable images.
- Log of removed or modified records is maintained.

**USN4 – Create Derived Fields**

Story Point: 3 (Moderate)

**Description:**

Extract metadata (e.g., image size, resolution, aspect ratio) to support exploratory analysis and filtering.

**Tasks:**

- Script to read and store dimensions for each image.
- Generate a .csv or .json metadata file

USN5: Standardize and clean data – 3USN5 – Handle Label Inconsistencies

Story Point: 3 (Moderate)

**Description:**

Ensure uniform class labeling (e.g., fix case sensitivity, remove typos).

**Tasks:**

- Map inconsistent labels to canonical form.
- Rename folders/files accordingly
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**USN6: Bar Chart – 2USN6 – Bar Chart**

Story Point: 2 (Normal)

**Description:**

Visualize the number of images per disease class using a bar chart.

**Tasks:**

- Count image instances for each class.
- Plot using Matplotlib or Seaborn.

**Acceptance Criteria:**

- Clear bar chart with labeled axes and titles.
- Included in dashboard and EDA notebook.

### **USN7: Pie Chart – 2**

Story Point: 2 (Normal)

#### **Description:**

Show the proportion of each disease in the dataset.

#### **Tasks:**

- Calculate class percentage distribution.
- Generate pie chart with legends

#### **Acceptance Criteria:**

- Readable pie chart showing accurate proportions.
- Displayed in model summary or report.

### **USN8: Line Chart – 2**

Story Point: 2 (Normal)

#### **Description:**

Track model accuracy or loss over epochs during training.

#### **Tasks:**

- Extract accuracy/loss logs from training history.
- Plot using Matplotlib.

#### **Acceptance Criteria:**

- Line chart showing clear trends across epochs.
- Used to analyze model convergence

### **USN9: Map – 4**

Story Point: 4 (Difficult)

#### **Description:**

Map disease outbreak locations using geospatial tools (if geotagged data available).

#### **Tasks:**

- Link dataset with location metadata.
- Use libraries like folium or plotly.

#### **Acceptance Criteria:**

- Interactive or static map showing disease hotspots.
- Validated using sample coordinates

Epic 4: Dashboard

### **USN10: Develop Dashboard – 5**

Story Point: 5 (Difficult)

Objective: Create an interactive dashboard for image upload, prediction, and visualization display.

#### **Epic 4: Dashboard**

### **USN10 – Develop Dashboard**

Story Point: 5 (Difficult)

Objective: Create an interactive dashboard for image upload, prediction, and visualization display.

#### **Tasks:**

- Build UI using Streamlit.
- Integrate trained transfer learning model.
- Add upload button & display prediction with confidence.
- Show performance metrics and charts from Epic 3.

#### **Acceptance Criteria :**

- Upload image → See predicted class + confidence.
- Dashboard displays charts & metrics.
- Easy to use & responsive layout.

Image: sick\_chicken.jpg

Prediction: Coccidiosis

Confidence: 94.6%

[Bar chart] [Line chart] [Pie chart]

## **Epic 5: Project Story**

### **USN11 – Develop Project Story**

Story Point: 5 (Difficult)

Objective: Create a compelling summary that narrates the entire project journey, approach, implementation, and outcomes.

#### **Tasks:**

- Document the problem statement, motivation, and objective.
- Summarize all sprints, epics, and key tasks.
- Highlight challenges, model performance, and outcomes.
- Add visuals: charts, screenshots, model results.
- Format the story for report, slide deck, or poster.

#### **Acceptance Criteria:**

- Complete project journey is clearly narrated.
- Includes visuals and concise text.
- Suitable for submission, presentation, or review.

#### **Expected Sections:**

- Introduction & Objective
- Data & Preparation

#### **Model & Training**

- Dashboard Overview
- Results & Insights
- Conclusion & Next Steps



#### **Velocity Summary**

Total Story Points: 32

Sprints: 2

Velocity: 16 Story Points / Sprint

