

UIDAI Data Hackathon 2026 – Submission PDF

Project Title: Aadhaar Enrolment & Update Analytics Dashboard

Team Name: Your Team Name

Members: Member 1, Member 2, ...

Date: 08-Jan-2026

1 Problem Statement & Objective

Problem:

UIDAI needs insights from Aadhaar enrolment and update datasets to identify regional trends, detect anomalies, predict future demands, and provide actionable insights.

Objective:

1. Create an interactive dashboard for UIDAI administrators. 2. Implement CRUD operations to manage enrolment records. 3. Provide trend visualization, anomaly detection, and forecasting predictions. 4. Ensure a government-style UI that is clean and professional.

2 Datasets Used

Dataset	Description	Columns Used	Purpose
enrolment_data.csv	Monthly enrolment records	state, gender, enrolment_count, month	Trend analysis, prediction, admin CRUD
demographic_updates.csv	Demographic updates by state, age, gender	state, age_group, gender, update_count, month	Detect patterns in updates
biometric_updates.csv	Biometric update records	state, update_type, update_count, month	Anomaly detection in biometrics

3 Methodology

3.1 Data Cleaning & Preprocessing

- Removed duplicates and missing values.
- Standardized column formats (YYYY-MM).
- Aggregated counts by state, gender, and month.

3.2 Trend Analysis

- Enrolment trends by state, gender, month.
- Demographic updates analyzed by age group, state, month.
- Visualized using line charts and bar charts in React (Chart.js / Recharts).

3.3 Anomaly Detection

- Detected unusual spikes or drops using z-score.
- Highlighted states or months with unexpected changes.

3.4 Prediction

- Linear regression model forecasts next month enrolment.
- Backend Node.js API (/api/predict) returns predictions per state.

3.5 Admin Panel

- Full CRUD for enrolment data (Add, Edit, Delete, View).
- Optimistic UI ensures immediate updates.

4 Technical Stack

Layer	Technology
Frontend	React, React Router DOM, Axios, Chart.js, Recharts, CSS
Backend	Node.js, Express, CSV storage
Data	CSV files (enrolment_data.csv, demographic_updates.csv, biometric_updates.csv)
Optional	json2csv, ml-regression for predictions

5 Key Features

1. Dashboard: total enrolments, trends, predicted next month.
2. Admin Panel: Add/Delete enrolment records.
3. Anomaly Detection: highlights unusual data points.
4. Prediction: forecasts next month enrolment.
5. Government-Style UI: clean, structured, navigable.

6 Screenshots / Visualizations

(Insert screenshots from React app for dashboard, charts, admin panel, prediction panel)

7 Code Snippets

Fetch Enrolment Data (React)

```
useEffect(() => {  
  axios.get("http://localhost:5000/api/enrolment")  
    .then(res => setData(res.data));  
}, []);
```

Add Record

```
const handleAdd = async () => {  
  setData([...data, form]);  
  await axios.post("/api/enrolment/add", form);  
  fetchData();  
};
```

Delete Record

```
const handleDelete = async (state, month) => {  
  setData(data.filter(item => !(item.state === state && item.month === month)));  
  await axios.delete("/api/enrolment/delete", { data: { state, month } });  
};
```

Prediction API (Node.js)

```
app.get("/api/predict", async (req, res) => {  
  const data = await readEnrolmentData();  
  const model = trainRegression(data);  
  const prediction = model.predictNextMonth();  
  res.json({ predicted_next_month_enrolment: prediction });  
});
```

8 Policy & Impact

- Dynamic allocation of enrolment resources.
- Detects data inconsistencies.
- Supports planning campaigns in low-enrolment regions.
- Dashboard provides actionable insights for administrators.

9 References

- React Docs: <https://react.dev>
- Node.js Docs: <https://nodejs.org>
- Chart.js: <https://www.chartjs.org>
- UIDAI Hackathon 2026 Guidelines: <https://event.data.gov.in/challenge/uidai-data-hackathon-2026>