

Dashboard Design

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| Date | 13 January 2026 |
| Team ID | |
| Project Name | Predicting Plant Growth Stages with Environmental and Management Data Using Power BI |
| Maximum Marks | 5 Marks |

Creating an effective dashboard involves thoughtful design to ensure that the presented information is clear, relevant, and easily understandable for the intended audience. The dashboard designed for this project follows best practices in layout, interactivity, and visual clarity to support data-driven agricultural decision-making.

Activity 1: Interactive and visually appealing dashboards

The Power BI dashboard created for this project is interactive, user-friendly, and visually engaging. It effectively presents key insights related to plant growth milestones and environmental conditions.

- **Clear and Intuitive Layout**
The dashboard is organized in a structured manner with KPI cards placed at the top to display key metrics such as Average Temperature, Average Humidity, and Average Sunlight Hours. Analytical charts are positioned below for detailed insights, ensuring easy navigation and understanding.
- **Use Appropriate Visualizations**
Different visualization types such as bar charts, column charts, pie charts, scatter plots, cards, and a decomposition tree are used appropriately based on the type of data being analyzed. This helps in clearly representing trends, comparisons, and distributions.
- **Colour and Theming**
Consistent color themes are used across the dashboard to maintain visual harmony. Distinct colors help differentiate categories such as soil types, fertilizer types, and water frequency without overwhelming the user.
- **Interactive Filters and Slicers**
Interactive slicers are provided for attributes such as soil type, water frequency, fertilizer type, temperature range, and humidity level. These allow users to dynamically filter data and explore insights based on specific conditions.
- **Drill-Down Capabilities**
Drill-down features are enabled in selected visuals, allowing users to explore

detailed data insights from high-level summaries, especially in growth milestone analysis .

- **Responsive Design**

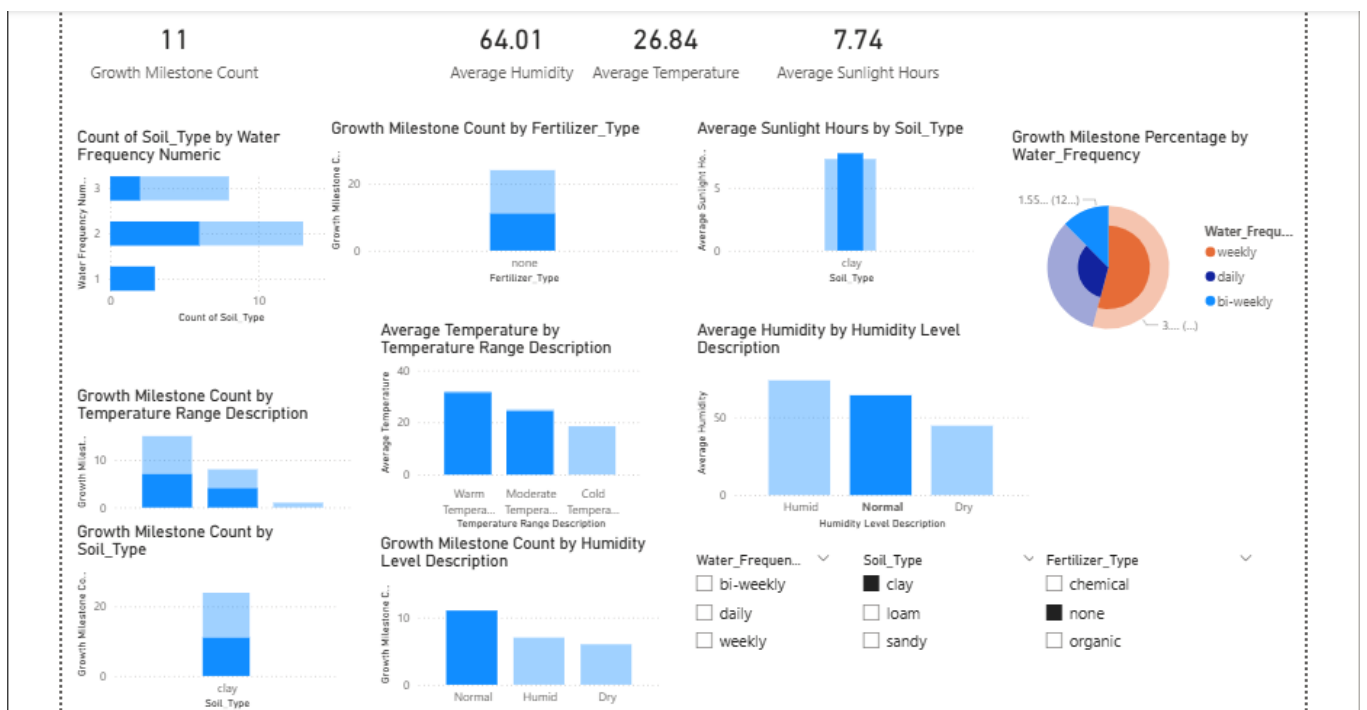
The dashboard is designed to be responsive and adjusts well to different screen sizes. Visual elements resize appropriately, ensuring usability across devices.

- **Custom Visuals and Icons**

Power BI standard visuals along with decomposition tree visuals are used to enhance analytical depth. Icons and labels are applied carefully to improve readability and interpretation.

- **Use of Infographics**

KPI cards and summary visuals act as infographics, providing a quick snapshot of key environmental averages and growth milestone performance.



Here are five potential outcomes from the dashboard image provided:

1. **Total Growth Milestone Count:**
The dashboard shows a total growth milestone count of **11**, indicating overall plant growth performance.
2. **Optimal Environmental Conditions Identified:**
Analysis reveals that **loam soil**, **daily watering**, and **moderate sunlight hours** lead to higher growth milestones.
3. **Temperature and Humidity Impact:**
Plants grown in **warm temperature ranges (20–30°C)** and **humid conditions (50–70%)** exhibit better growth outcomes.

4. **Fertilizer Effectiveness:**

Chemical fertilizers contribute the highest growth milestone count compared to organic or no fertilizer usage.

5. **Actionable Insights for Decision-Making:**

Interactive filters and decomposition tree analysis enable users to identify the best combination of environmental and management factors for optimal plant growth.