Design Metrics

- **Team Members:** Chaitanya Katore , Mohammed Basith
- **Problem Statement:** Design teams in creative agencies or organizations find it difficult to track the performance of their designs. They lack the ability to gather data on how their designs are perceived by users or clients and have no clear insights into what aspects of a design work well or need improvement. A tool is required to analyze design feedback, track performance metrics, and provide actionable insights, helping teams refine their design process based on data-driven decisions.

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1. Understanding of the Problem statement

Explanation of the Problem Context

Design teams struggle to track the effectiveness of their work due to limited tools for gathering structured feedback and performance metrics. This leads to subjective design decisions and missed opportunities for data-driven improvements.

Intended Users and Beneficiaries

The primary users are design teams, project managers, and clients who need actionable insights to optimize designs. Marketing and product teams also benefit from understanding design impact on engagement and conversions.

Business Case

This tool empowers design teams to refine their process based on real data, improving design quality, client satisfaction, and team efficiency. By providing objective insights, it strengthens decision-making and supports more effective, targeted designs.

Key Requirements Identified :

- **Feedback Collection Module**: Enable teams to gather structured feedback from users and clients through surveys or forms.
- **Performance Metrics Tracking**: Track essential design metrics like engagement rates, approval scores, and interaction levels.
- **Basic Analytics** : Provide analysis on feedback and simple data insights to identify common themes.

- **Customizable Dashboard**: Display key metrics and insights in a centralized, user-friendly dashboard.
- **Report Generation**: Generate summary reports on design performance with actionable insights for quick reviews.

2. Solution Overview

a. **Solution Summary**: The proposed solution is a Design Performance Tracking and Analysis Tool that enables creative teams to collect structured feedback, monitor design performance metrics, and generate insights for improvement. By gathering real-time data and providing actionable recommendations, the tool addresses the challenge of subjective design evaluation, offering a data-driven approach to enhance design effectiveness and client satisfaction.

b. **Objective:** The solution aims to empower design teams with clear, objective insights into how their designs perform and are perceived by users and clients. Expected benefits include improved design quality, increased client satisfaction, and enhanced efficiency in the design process. This tool supports data-informed decision-making, enabling teams to create designs that align with user preferences and project goals.

3. Features and Functionalities

a. Core Features:

1. **Feedback Collection**: Gather structured feedback from users and clients through customizable surveys and forms.
2. **Performance Metrics Tracking**: Track key metrics such as engagement rates, approval scores, and interaction data for each design.
3. **Customizable Dashboard**: A central dashboard displaying real-time metrics and feedback insights for easy access and analysis.
4. **Report Generation**: Generate summary reports on design performance, highlighting key insights and actionable recommendations.

b. Additional Features:

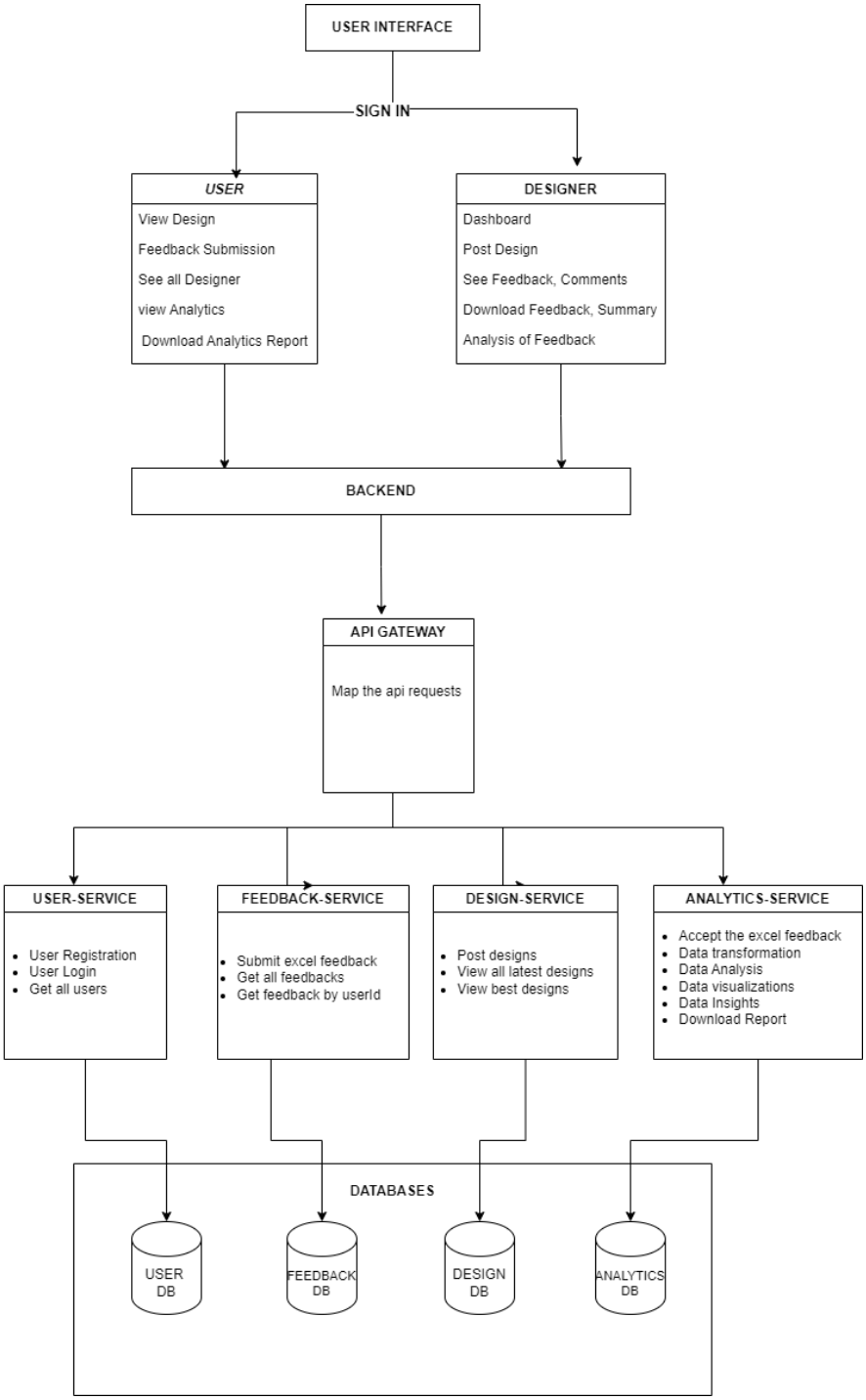
1. **User Feedback History**: Track and view past feedback for each design to monitor trends and changes in user perceptions over time.
2. **View Best Designers**: Allow users and designers to view all the designers and their designs.

3. **Client-Specific Feedback Portals**: Create personalized feedback portals for each client, allowing them to provide structured feedback and view design performance tailored to their needs.

c. User Flows :

1. **Feedback Collection Flow**
    a. The user (designer or project manager) logs in and uploads or links a design project.
    b. They create a feedback survey or feedback form and display it to clients or end-users.
    c. Clients and users submit feedback through the survey, providing ratings, comments, or suggestions.
2. **Metrics and Analytics Viewing Flow**
    a. The user navigates to the dashboard to view performance metrics for each design.
    b. They see engagement rates, approval scores, sentiment analysis, and any design-specific insights.
    c. Users can filter or sort metrics by date, feedback type, or design version for deeper analysis.
3. **Analysis Generation Flow**
    a. The user selects designs and columns and generate the dashboard as per his needs
    b. Engagement metrics, approval scores, and user sentiment are displayed side-by-side, highlighting performance differences.
    c. The user can view insights to understand which design elements were more effective.
4. **Report Generation Flow**
    a. The user selects a design project and chooses to generate a performance report.
    b. They specify parameters like the date range, feedback types, and key metrics to include.
    c. A report is generated with summaries, performance trends, and recommendations, which can be downloaded or shared.

4. Architecture Diagram



Key Components

- **Feedback User Interface:**
  - **Role**: Provides an accessible platform for Feedback Users (clients or end-users) to view designs and submit feedback.

    - **Functionality**: Displays design previews and includes feedback forms where users can rate, comment, and provide suggestions on each design.
- **Designer Interface:**
    - **Role**: Allows Designers to view feedback, track performance metrics, and compare different design versions.
    - **Functionality**: Provides a dashboard to review design performance, analyze feedback, access reports, and collaborate with team members on improving design quality.
- **Feedback Service:**
    - **Role**: Collects, validates, and stores feedback from Feedback Users.
    - **Functionality**: Processes feedback submissions, ensures data accuracy, and stores them in the database for further analysis.
- **Analysis Service**
    - **Role**: Analyzes feedback data to produce metrics and insights on design performance.
    - **Functionality**: Calculates metrics like engagement scores, sentiment analysis, and highlights actionable insights to help Designers understand user preferences and improve designs.
- **User Service**
    - **Role**: Manages user authentication, authorization, and profile data.
    - **Functionality**: Ensures secure access to features for both Feedback Users and Designers, controlling permissions and user role management.
- **Design Service**
    - **Role**: Manages design assets, version control, and access to design information.
    - **Functionality**: Stores design files, handles version tracking, and provides a structured way for Designers to access and compare different design iterations.

5. Technical Stack

a. Front End:

React with TypeScript: Delivers a responsive, component-based UI for feedback forms, dashboards, and reports. Also used rechart, chartjs, tailwindcss and shadcn for UI design

b. Backend

Node.js with TypeScript: Supports RESTful APIs within a microservices architecture, ensuring modularity and scalability.

c. Database

MongoDB Compass: Handles non-relational data for feedback and design details, providing flexible and scalable storage.

d. Other Technologies and Tools:

- Gemini for data transformation and data insights
- Docker for containerization
- JWT for secure user authentication

6. Prerequisites and Requirements

6.1 Technical Requirements

- Node.js environment for backend development.
- React with TypeScript for frontend development.
- Access to a MongoDB instance for storing design feedback and user data.

6.2 Data Requirements

- Sample design data in excel form for testing feedback features.
- User and project data for validating access control and design versioning.

6.3 Access Permissions

- Access to a Git repository for code versioning and collaboration.
- CI/CD pipeline setup to streamline deployment processes.

6.4 Other Dependencies

- Libraries for JWT (jsonwebtoken) for secure authentication.
- Docker for containerization, and shadcn for consistent UI styling.

7. Future Improvements

- **AI-Based Sentiment Analysis:** Automatically analyze feedback sentiment to provide deeper insights.
- **Real-Time Collaboration Tools:** Enable designers to work on feedback in real-time with clients.
- **Enhanced Analytics Dashboards:** Include more advanced visualizations and trend analysis for feedback data.

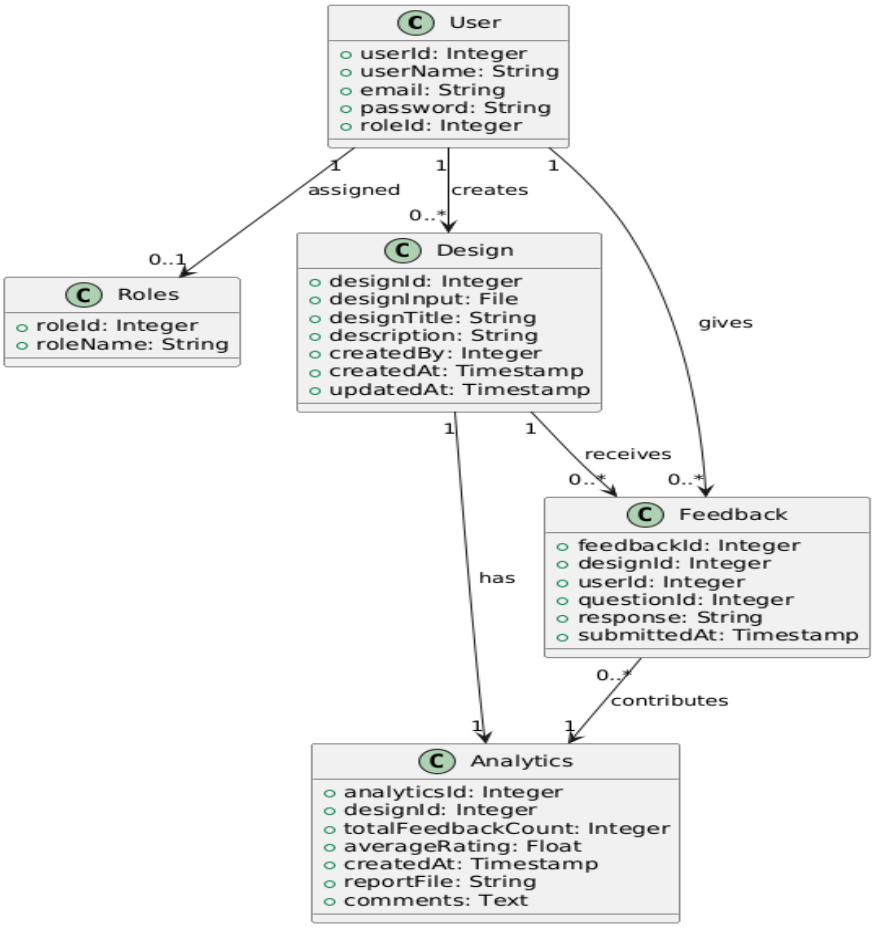
8. Conclusion

a. Summary of Achievements:
The solution provides an intuitive way for design teams to collect and analyze user feedback, track performance metrics, and make data-driven improvements, effectively addressing the initial problem.

b. Value Provided:
By facilitating actionable insights into design performance and user perceptions, the solution empowers teams to refine their design process, improve user satisfaction, and drive iterative enhancement.

9. Attachments:

UML Diagram



Database Schema