Project Final Report

Team - 06

a) Project Description

Overview:

Super Admin Module

The Super Admin Module is a management interface designed to empower administrators to control modular functionality, client and user management, and capabilities to generate reports with streamlined and secure core system operations. The project includes some of the most crucial functionalities, including:

- **Password Reset Management:**
  A user-friendly, secure interface is being introduced to enable password reset. This feature includes robust front-end validations, secure API endpoints, and back-end encryption with audit logging to ensure password changes are handled securely and efficiently.
- **Module and Feature Management:**
  There is also a current creation of a specific dashboard to visualize and manage system modules. This involves incorporating CRUD operations to enable administrators to create, edit, delete, and view various modules. The dashboard also provides real-time analytics to assist in decision-making.
- **Report Generation:**
  The system can generate detailed reports automatically from gathered data. Reports will include system performance information, module use, and user activities. The reporting functionality is complemented by the support of filters based on different admin needs.

This module addresses the challenges and difficulties administrators experience while administering complex systems, such as securely processing user credentials, efficiently managing various system modules, strong password validations, real-time analytics, and simple functions that enable informed decision-making and efficient system administration.

A sprint-driven development process ensures each functionality is implemented in a very structured way, well-tested, and incorporated into the overall system with minimal trouble. The linked execution plan is a detailed decomposition of each unit's jobs, schedules, and accountabilities.

Chatbot Module

The Chatbot Module delivers intelligent conversational assistance integrated with the Aligned Rewards platform. It is designed to streamline Agile workflows and enhance project engagement through real-time interaction and personalized guidance. Key features include:

- **Agile Workflow Support:**

  The chatbot assists users in standups, sprint planning, retrospectives, and task tracking, offering smart responses aligned with the context of the user's role and project status.

- **Context-Aware Personalization:**

  Integrated tightly with the Aligned Rewards system, the chatbot adapts to user goals, project milestones, and performance data to deliver relevant, goal-oriented responses.

- **Persistent Session History:**

  Each conversation is automatically titled and stored, allowing users to revisit previous guidance, track progress, and maintain continuity across sessions.

- **Modular and Scalable Architecture:**

  Developed using a modular approach with distinct components for the LLM engine, reward system integration, and session memory, the chatbot ensures ease of maintenance and extensibility.

Future development will focus on dynamic model customization and tighter integration with evolving Aligned Rewards features, enabling the chatbot to intuitively adapt to new user workflows and enhance platform-wide engagement.

P5-Graphics Client Project

It is a client-specific graphic design application. It involves creating a user-friendly environment where users may design, modify, and host their graphics. Some of its significant features include:

- **APIs Integration:**
  The project maintains the "Contact Us" functionality for user support and feedback. In addition, the "Upload Designs" functionality enables users to upload their designs securely to the database.
- **Integrated Third-Party API for Upload Designs:**
  The upload-design API is augmented with integrated third-party API support. This functionality allows users to download and upload files from external services like Google Drive and Dropbox. By combining file downloading and uploading into one efficient process, the application optimizes user workflows and ensures secure, effective data management.

Key Requirements (CO-5):

This section outlines the specific functional and technical requirements that each project must meet to address the client's needs.

Super Admin Module

- **Secure Password Reset:**
  - Provide a distinct interface for users to initiate password reset requests.
  - Sanitize client-side input fields (user identification, new password requirements).
  - Implement back-end API functionality to update passwords using hashing techniques securely.
  - Log password reset attempts for audit and security purposes
- **Module and Feature Management:**
  - Enable front-end visualization of module usage and performance.
  - Support APIs to handle and analyze data for multiple modules.
  - CRUD operations allow creating, reading, updating, and deleting modules.
- **Report Generation:**
  - Develop functionality for generating various types of reports based on stored data.
  - Ensure reports can be filtered and modified according to administrative needs.
  - Key reports included: Performance Management Reports, Rewards & Recognition Reports, Workforce Analytics Reports, and Goal Achievement Report.
  - Reporting includes insights into employee performance, team activities, and organizational goals.
  - Features export functionalities in CSV format, allowing administrators to leverage data effectively.
- **Access Control and Role Management:**
  - Offer user roles and permissions to control access within the system.
  - Provide administrative features for client and user access management.

Chatbot Module

- **Conversational Assistance for Agile Workflows**
  - Support standups, sprint planning, retrospectives, and task tracking via natural language interactions.
  - Provide intelligent, context-sensitive responses aligned with user roles and project status.
  - Adaptively guide users through Agile processes to boost engagement and clarity.
  - Integrate with project data to enhance response relevance.
- **Context-Aware Personalization Across Aligned Rewards**
  - Integrate seamlessly with multiple modules (e.g., performance, goals, feedback) to provide relevant assistance.
  - Tailor responses based on user activity, project stage, and historical data.
  - Adjust conversation flow dynamically to reflect individual roles and team dynamics.

- Maintain consistency by aligning responses with ongoing module-specific workflows.
- **Conversational Assistance for Agile Workflows**
  - Auto-title and store conversations for continuity and reference.
  - Retrieve session history for ongoing context and user reflection.
  - Separate concerns with modular components (LLM core, reward system hook, session store).
  - Ensure future extensibility with a scalable design that is ready for feature growth.

P5-Graphics Client Project

- **Graphic Designing Interface:**
  - Put in place an interactive and user-friendly design application for graphics designing and editing.
  - Make the interface simple to use for users with varying skill levels.
- **Upload Designs Functionality:**
  - Put in place an API endpoint to enable users to upload and save designs.
  - Securely store the design data in the database.
  - Implement third-party integration by enabling users to upload designs from other external sources such as Google Drive and Dropbox.
  - Display progress indicators and manage errors upon upload.
- **Contact Us Integration:**
  - Implement a "Contact Us" feature enabling users to easily send questions or comments.
  - Validate front-end and back-end submissions.
- **Security and Data Integrity:**
  - Ensure safe data exchanges for every function.
  - Use standard practices and best procedures for API calls and data storage.

DELIVERABLES :

Super Admin Module Deliverables

- **Password Reset Management**
  - **Scope:**
    - Develop a front-end interface for initiating password reset requests.
    - Implement back-end API logic for secure password updates with proper hashing.
    - Integrate validation, error handling, and logging mechanisms.
  - **Value:**
    - Ensures secure and user-friendly password management.
  - **Interdependencies:**
    - Foundation for secure user management and integration with subsequent modules.
- **Module and Feature Management**
  - **Scope:**
    - Create a dashboard to visualize module usage.

        - Develop APIs for collecting and analyzing module-specific data.
        - Support CRUD operations for managing system features.
    - **Value:**
        - Empowers administrators with real-time insights and control over system features.
    - **Interdependencies:**
        - Builds on the authentication and data integrity established in the password reset module.
- **Report Generation**
    - **Scope:**
        - Design and develop a reports section capable of generating various report types based on current data.
        - Enable filtering and customization of reports.
    - **Value:**
        - Provides actionable insights and performance metrics for system management.
    - **Interdependencies:**
        - Requires data collection from module management and user activity tracking.
- **Access Control and Role Management**
    - **Scope:**
        - Implement functionalities for managing user roles and permissions.
        - Develop a user interface for creating, updating, and deleting user roles.
    - **Value:**
        - Enhances system security by enforcing appropriate access controls.
    - **Interdependencies:**
        - Integrates with both the authentication mechanism from the password reset module and the user tracking system.

User Story	**Tasks Completed**	**Current Status**
User Story 1: Password Reset	Frontend integration, backend API endpoint creation, Klaviyo email template and trigger setup completed.	Fully implemented and tested
User Story 2: Resend Invite	Frontend integration, backend API endpoint creation, Klaviyo trigger setup are completed.	Fully implemented and tested
User Story 3: Password Validation	Generic validation schema for passwords implemented.	Fully implemented and tested
User Story 4: Reports Setting API	Backend API endpoint creation, new DB table implemented.	Fully implemented and tested

User Story 5: Performance Reports	Backend endpoints for employee accomplishment details and team performance have been implemented.	Fully implemented and tested
User Story 6: Workforce Analytics	Backend endpoints for headcount and leave summaries implemented.	Fully implemented and tested
User Story 7: Rewards Report	Backend endpoint implemented for rewards metrics retrieval.	Fully implemented and tested
User Story 8: Reports Export	Frontend export button with loading while processing data, toast message updates and CSV file export backend API endpoint created.	Fully implemented and tested

Chatbot Module Deliverables

- **Conversational Workflow Assistant**
  - **Scope:**
    - Design a real-time chatbot UI for standups, sprint planning, retrospectives, and task updates.
    - Integrate with project metadata to dynamically tailor prompts and suggestions.
    - Enable feedback loops to adjust conversation flow based on user input.
  - **Value:**
    - Streamlines Agile practices and encourages consistent project engagement.
  - **Interdependencies:**
    - Depends on accurate project data from other Aligned Rewards modules (e.g., task management, performance tracking).
- **Persistent Session History and Smart Session Titling**
  - **Scope:**
    - Store each user session with auto-generated titles and timestamped message history.
    - Enable users to revisit, resume, or delete sessions via an intuitive history interface.
  - **Value:**
    - Enhances continuity and long-term guidance retention for users.
  - **Interdependencies:**
    - Works alongside LLM interaction logs and goal-tracking data to ensure context-aware continuity.
- **Module-Aware Contextual Personalization**
  - **Scope:**

        - Integrate with various Aligned Rewards modules to adapt chatbot tone and content.
        - Retrieve and utilize project-specific information to provide meaningful, module-relevant responses.
    - **Value:**
        - Delivers personalized and context-sensitive interaction, improving relevance and user experience.
    - **Interdependencies:**
        - Requires backend APIs from modules like Goal Management, Feedback, and Performance to function effectively.

P5-Graphics Client Project Deliverables

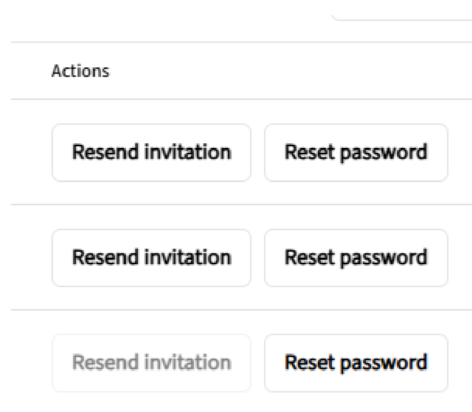
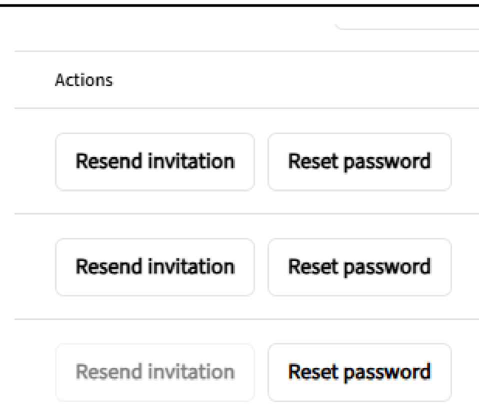
1. **Graphic Designing Interface**
    - **Scope:**
        - Develop a responsive and intuitive user interface for designing graphics.
        - Implement essential design tools and features tailored to different user skill levels.
    - **Value:**
        - Delivers a core product that meets the client's requirements for a graphic design application.
    - **Interdependencies:**
        - Serves as the foundation for additional functionalities like design uploads and contact integration.
2. **Upload Designs Functionality with Third-Party Integration**
    - **Scope:**
        - Develop an API endpoint for users to upload and store their designs.
        - Integrate secure storage mechanisms and validate uploaded content.
        - Enable users to import designs directly from third-party platforms (e.g., Google Drive, Dropbox).
        - Include progress indicators, error handling, and confirmation messages.
    - **Value:**
        - Enhances user convenience by supporting multiple sources for file uploads.
    - **Interdependencies:**
        - Relies on the graphic designing interface to generate and prepare design files for upload.
3. **Contact Us Integration**
    - **Scope:**
        - Create a "Contact Us" feature allowing users to send inquiries or feedback.
        - Develop both front-end forms and back-end processing logic with validations.
    - **Value:**
        - Improves user engagement and support by providing an accessible communication channel.

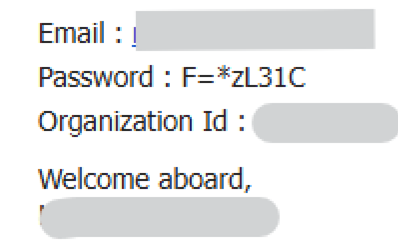
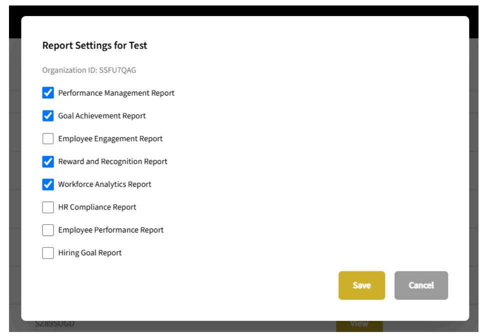
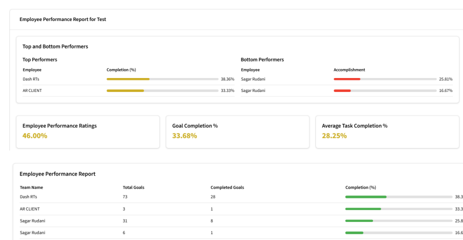
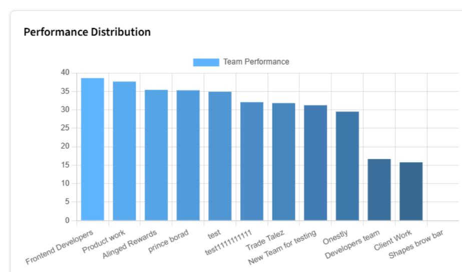
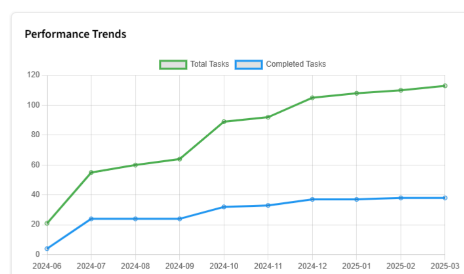
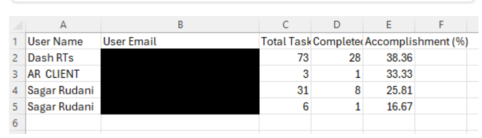
- **Interdependencies:**
    - Complements the main application interface and facilitates user feedback for continuous improvement.

4. **Security and Data Integrity Measures**
    - **Scope:**
        - Implement robust security protocols across all functionalities.
        - Ensure secure data storage, transaction handling, and API interactions.
    - **Value:**
        - Maintains trust and reliability of the application by safeguarding user data.
    - **Interdependencies:**
        - Affects all components of both projects and underpins the overall functionality.

b) User Manual

Super Admin Module User Manual:

Feature	**Description**	**How to Use**	**Screenshots**
Password Reset	Securely reset user passwords.	Log in to the super admin module. Actions -> View Details -> Password Reset Check email for the new temporary password.	
Resend Invite	Resend missed invitation emails.	Log in to the super admin module. Actions -> View Details -> Resend Invitation Check email for a new invitation.	

Password Validation Schema	Enforces password complexity standards.	Backend logic: Automatic upon new password generation. Validates automatically.	
Reports Setting	Manage report generation settings.	Log in to the super admin module. Navigate to Reports Tab -> Click on the button under the Report Settings column.	
Performance Management Report	Employee and team performance details.	Log in to the super admin module. Navigate to Reports Tab -> View -> Performance Management Report -> View Click on Export Employee Accomplishment Report to export employee performance. Click on Export Team Performance Report to export team performance. Check the Downloads folder for the exported file.	 User Name | User Email | Total Task | Complete | Accomplishment (%) Dash RTs | [redacted] | 73 | 28 | 38.36 AR CLIENT | | 3 | 1 | 33.33 Sagar Rudani | | 31 | 8 | 25.81 Sagar Rudani | | 6 | 1 | 16.67

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	A	B	C	D	E
1	Team Name	Total Tasks	Complete	Pending T	Team Accomplishment (%)
2	Frontend Developers	57	22	35	38.6
3	Product work	85	32	53	37.65
4	Alinged Rewards	96	34	62	35.42
5	prince borad	102	36	66	35.29
6	test	106	37	69	34.91
7	test1111111111	53	17	36	32.08
8	Trade Talez	22	7	15	31.82
9	New Team for testing	64	20	44	31.25
10	Onestly	61	18	43	29.51
11	Developers team	12	2	10	16.67
12	Client Work	19	3	16	15.79
13	Shapes brow bar	0	0	0	0

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<tr>
<td>Workforce Analytics Report</td>
<td>Headcount and leave summaries for employees.</td>
<td>Log in to the super admin module. Navigate to Reports Tab -> View -> Workforce Analytics Report -> View

Click on Export Headcount Report to export employee performance.

Click on Export Leave Summary Report to export team performance.

Check the Downloads folder for the exported file.</td>
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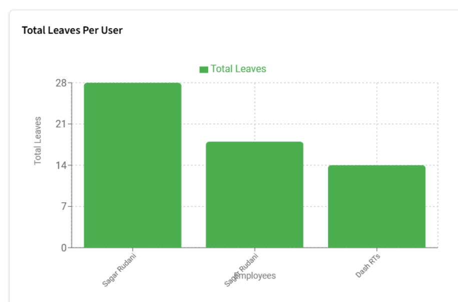

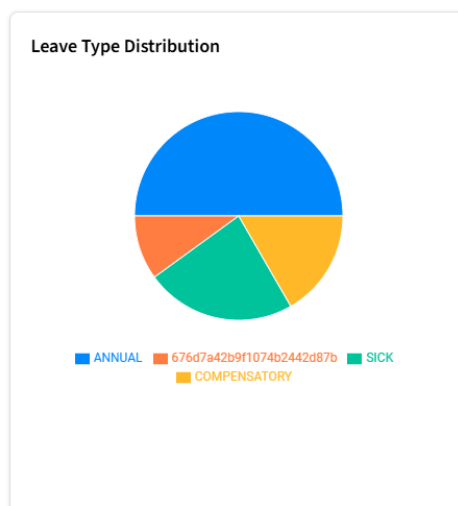

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2	2025	3	4	6	7	7	7	7	7	7	7	7	7
3	2024	1	1	1	1	1	1	1	1	1	1	1	1
4	2023	1	1	1	1	1	1	1	1	1	1	1	1
5	2022	1	1	1	1	1	1	1	1	1	1	1	1
6	2021	1	1	1	1	1	1	1	1	1	1	1	1
7	2020	0	0	0	0	0	0	0	0	0	0	1	1

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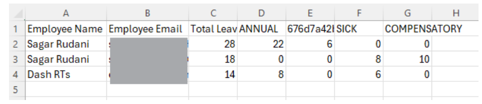
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<tr><td>Dash RTs</td><td></td><td>14</td><td>8</td><td>0</td><td>6</td><td>0</td></tr>
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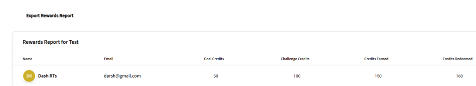
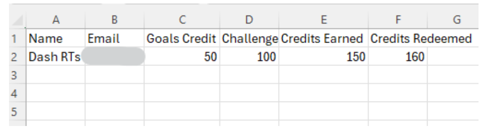
<tr><td>Rewards and Recognition Report</td><td>Employee rewards points report.</td><td>Log in to the super admin module. Navigate to Reports Tab -> View -> Rewards and Recognition Report -> View

Click on Export Rewards Report to export employee performance.

Check the Downloads folder for the exported file.</td><td>
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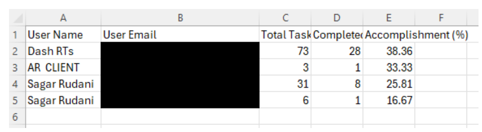
<tr><td>Reports Export Functionality</td><td>Export detailed reports as CSV files.</td><td>All export features mentioned above are available when navigating the respective reports section.

The admin user can download the respective reports' CSV file to process the data further in their business pipelines.</td><td>

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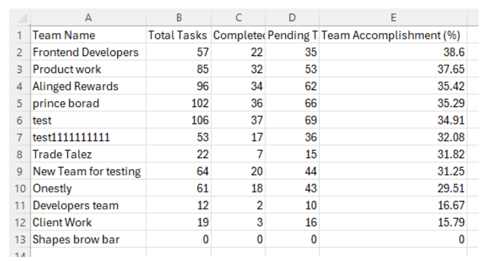
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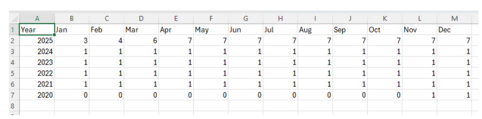
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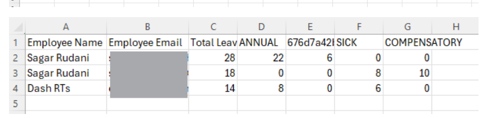
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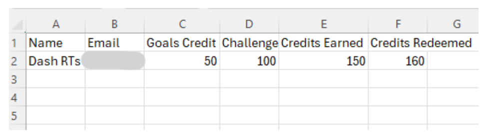
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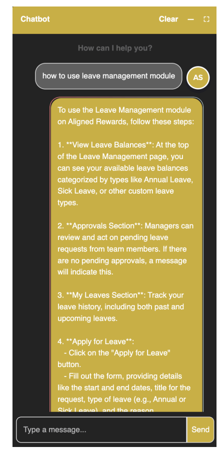
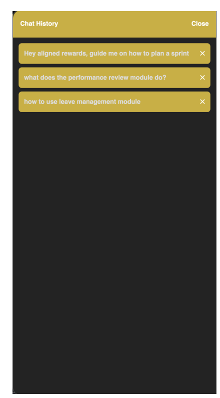
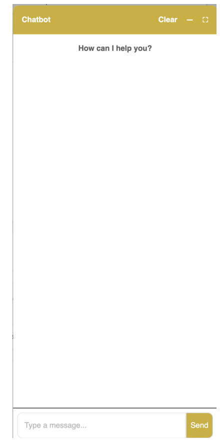
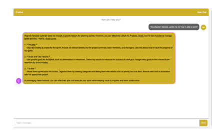
Available Reports CSV Export Types:

- Employee Accomplishments
- Team Performance

- Head Count
- Leave Summary
- Rewards and Recognition

Chatbot Module User Manual:

Feature	**Description**	**How to Use**	**Screenshots**
Conversational Agile Assistant	Provides intelligent, context-aware guidance for Agile workflows like standups, retrospectives, sprint planning, and goals across all modules.	Open the chatbot → Type your query related to a workflow (e.g., “Start my standup”) → Click Send or press Enter (Shift+Enter for new lines).	
Persistent Multi-Session Memory	Automatically saves chat sessions with auto-generated titles; allows users to revisit, reload, or delete past sessions.	Click the ≡ icon to open chat history → Select a session to load it → Use the ✕ button (with confirmation) to delete unwanted sessions.	

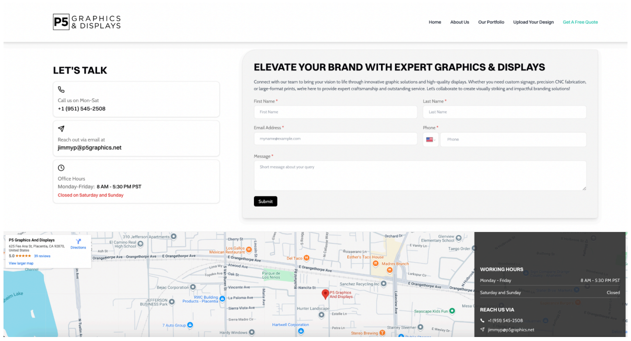
Flexible Chat Interface Controls	Users can clear the current chat, minimize the widget, or expand it into a full-page interface for better visibility and context switching.	Use New Chat to start over → ⛶ to open full-screen → — to minimize → Resumes last session if reopened from widget.	
Robust Error Handling & Input Validation	Prevents sending empty messages, handles backend failures gracefully, and provides user-friendly error messages to guide proper usage.	Try sending an empty message → Error shown. If backend fails, bot replies with a fallback error message automatically.	

Feature	Description	How to Use (User Perspective)	Sponsor Requirement
1. Contact Us Form Submission	Allows users to submit queries or feedback through a contact form. Stores data in the database for admin access.	Navigate to the "Contact Us" page, fill out all required fields (name, email, message), and click Submit. You'll see a success popup if the form is submitted correctly.	Yes

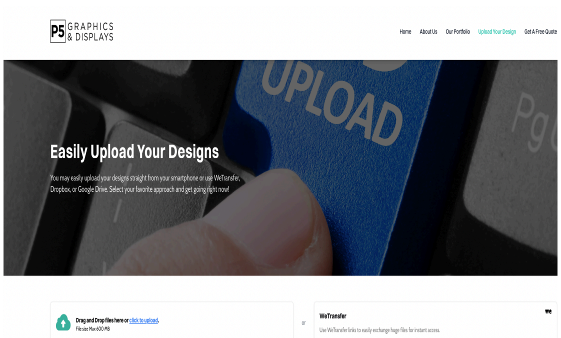
2. Third-Party Design Upload Integration	Enables upload of designs via URLs from Google Drive, Dropbox, or WeTransfer. The backend downloads the files and stores them in the correct GCS bucket (per client).	In the design upload section, paste the URL from supported services. The backend will process the link, fetch the file, store it, and notify the admin.	Yes
3. Email Notification System	Automatically sends email alerts when new design uploads are received.	After a successful upload, the admin receives an email summarizing the file received, client name, and timestamp. No user interaction needed.	Yes
7. Admin Dashboard for Viewing Contact Form Entries	Admins can view submitted queries and sort or filter them by date, urgency, or status.	Admin navigates to Dashboard → Messages. They can filter by unresolved messages or mark queries as addressed.	Optional (added for completeness)
8. GCS Upload Log Viewer (Internal Tool)	Admin-facing tool that logs and visualizes all third-party file uploads for debugging or auditing.	Admins open Upload Logs in the dashboard. Each row shows client, source URL, time, and GCS path.	Optional (added internally)

Screenshots for the p5-graphics:

1. **Contact us form to enter details**



2. **Design upload form**



c) Installation Guide:

Prerequisites:

- Git - https://git-scm.com/downloads
- Node.js - https://nodejs.org/en/download
- React - https://www.npmjs.com/package/react
- NestJs - https://www.npmjs.com/package/@nestjs/cli
- Flask (Python backend) – https://flask.palletsprojects.com/en/2.3.x/installation
- Python 3.10+ – https://www.python.org/downloads/
- MongoDB Compass (Optional) - https://www.mongodb.com/try/download/compass

Super Admin Module Installation Steps:

Step 1: Clone the Repository

- **Frontend:**

  git clone https://github.com/RoundTechSquare/Aligned-Rewards-Tool-Admin.git cd Aligned-Rewards-Tool-Admin

git pull

git checkout intern

npm i –force

npm start

- **Backend:**

  git clone https://github.com/RoundTechSquare/R2EEE-Backend-NestJs.git

  cd R2EEE-Backend-NestJs

  git pull

  git checkout intern

  npm i –force

  nest start

Chatbot Module Installation Steps:

- **Frontend:**

  git clone https://github.com/RoundTechSquare/Aligned-Rewards-Tool-Admin.git

  cd Aligned-Rewards-Tool-Admin

  git pull

  git checkout intern

  npm install

  npm start

- **Backend:** No need to install or run backend, it has been already hosted

d) Issues:

1. Update APIs for permission handling during additional module updates: Users are unable to access modules even after admins assign them, likely due to missing linkage

between permissions and access control checks. A possible solution is to ensure that the assigned module permissions are stored and validated during user login or module access checks.

2. Continuous Maintenance with Platform Changes (Chatbot): The chatbot relies heavily on the workflows and data from Aligned Rewards modules. As new features are added or modified, the chatbot logic must be updated to reflect these changes and maintain contextual accuracy.
3. Limited Natural Language Understanding for Complex Queries (Chatbot): While the chatbot handles structured Agile tasks well, it may misinterpret ambiguous or multi-intent user inputs. Improvements in prompt engineering or fine-tuning may be required for better flexibility.
4. Upload Failures from Dropbox Links: Dropbox links sometimes return an HTML preview or a redirect instead of a direct file, causing upload failures.
   Suggested Solution: Integrate Dropbox's API to resolve shared links into downloadable file URLs. Add fallback logic to handle redirects gracefully.
5. No Retry Mechanism for Third-Party Uploads:If uploads from services like Google Drive or WeTransfer fail due to temporary network issues, they are not retried.
   Suggested Solution: Use a job queue (e.g., RabbitMQ, BullMQ) to manage uploads with retry and backoff strategies.

e) Outlook

1. **Leaderboard for Top Recognized Employees:** Introduce a dynamic leaderboard highlighting the most recognized employees monthly. This feature can be filtered by department or recognition type, encouraging healthy competition and consistent participation in peer recognition.
2. **Recognition Feed:** Add a real-time recognition feed where all recognitions are publicly visible within the organization. Employees can react, comment, and celebrate peer achievements, creating a culture of appreciation and transparency.
3. **Slack & Teams Integration:** Allow users to send recognitions directly from Slack or Microsoft Teams. This reduces friction and brings recognition into employees' daily tools, improving engagement and ease of use.
4. **Budget Management for Admins:** Develop a module where admins can allocate reward budgets to team leads or departments. It should include usage tracking and alerts when budgets are close to exhaustion, ensuring better financial control and planning.
5. **Custom Reward Rules Engine:** Create a rules engine where HR can define automated reward triggers such as work anniversaries, birthdays, or performance milestones without developer involvement. This makes the system more scalable and self-serve
6. **Multimodal Communication Support:** Extend the chatbot's capabilities to include voice input and output, enabling hands-free interaction and broader accessibility for users across diverse roles and settings.
7. **Slack & Microsoft Teams Integration:** Allow users to interact with the chatbot directly from Slack or Teams for daily standups, sprint updates, and retrospective summaries—bringing Agile automation into existing workflows.

8. **Personalized Summaries and Notifications:** Introduce daily or weekly digest emails summarizing project progress, unresolved issues, or missed updates, personalized per user to reinforce engagement and accountability.
9. **Adaptive Learning for Workflow Evolution:** Enable the chatbotto learn from new features dynamicallys rolled out across the Aligned Rewards platform and adjust its guidance accordingly, reducing manual reconfiguration and improving long-term scalability.
10. **Retry Mechanism for Third-Party Uploads*:*** Many third-party uploads (especially from Google Drive or Dropbox) can fail due to network errors or rate limits. Introducing a job queue with retry logic would greatly improve reliability and reduce manual intervention.
11. **Role-Based Report Access & Sharing *:***Enhance the reporting module to allow users with different roles (e.g., Manager, Team Lead) to access only relevant data, and enable exporting sharable report links with permission controls.
12. **File Format and Size Validation for Uploads *:***Currently, any file type and size can be submitted. To ensure security and maintain storage hygiene, I would implement strict MIME type checks and file size limits on the backend.
13. **Frontend Enhancements: Pagination and Loading States:**Add pagination to all long lists (e.g., contact submissions, logs) and implement visible loading indicators for actions like report generation or upload processing.

f) Video Presentation

YouTube Link: https://youtu.be/M-tZcodBulY