
Software Requirements Specification

for

Project VISTA

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version
Diego Green, Ricardo Blanco, Jason Gutiérrez, Alexander Rodríguez	9/15/2025	First Draft	1.0

1. Introduction

1.1 Purpose

This Software Requirements Specification (SRS) defines the functional and non-functional requirements for **Project VISTA**, a centralized web dashboard. Integrated on a local Windows Server, ingests environmental (temperature/humidity) logs of laboratory, integrates Jira for project tracking, and provides alerts of environmental conditions in the laboratory and role-based views for Managers, Engineers, and Visitors. It covers the full product (no subsystems excluded) for Version 1.0.

Project VISTA is designed to address the challenges faced by the Military Avionics Center (MAC) Department at Honeywell in monitoring laboratory environmental conditions and managing project information all in a centralized platform. The current system uses an unstable SharePoint webpage display project information for visitors that crashes frequently and requires manual reset. Also, the process of tracking temperature and humidity data is fragmented across disconnected systems, while project management information is dispersed in Jira without integration. These inefficiencies create delays in decision-making, reduce situational awareness, and increase the workload for engineers and managers.

The VISTA web application will provide a centralized solution for data integration and visualization, ensuring that stakeholders including managers, engineers, and visitors can efficiently access laboratory conditions and project status in a unified interface. Key features include role-based view, automated alerts when environmental thresholds are exceeded, integration with Jira for project tracking, and interactive visualizations of both environmental and project data.

By streamlining laboratory monitoring and project reporting, the dashboard will improve time efficiency, collaboration, enhance decision-making, and support the long-term operational efficiency of Honeywell's MAC Department.

1.2 Document Conventions

- “REQ-X” identifiers denote testable requirements with X acting as a place holder for the tag name of the specific requirement section.
- Priorities: High (H), Medium (M), Low (L).
- “TBD” marks items to be determined in Appendix C.
- This SRS follows the Karl Wiegers SRS outline included in the template.

1.3 Intended Audience and Reading Suggestions

- Stakeholders/Managers: read Sections 1-5 for scope, requirements, and quality goals.
- Developers/Architects: read Sections 2,4, and 5; Appendix B for design/testing references.
- Test/QA: read Sections 3-5.
- IT/Operations: read Sections 2.4–2.6, 3.4, and 5.

1.4 Product Scope

Project VISTA is a web-based dashboard designed to integrate environmental monitoring with project management for Honeywell's Military Avionics Center Department. The system will run on a local Windows Server and provide secure, role-based views to three primary user classes: Managers, Engineers, and Visitors.

The scope of the product includes:

- **Environmental Data Ingestion and Visualization:** Automatic extraction and storage of temperature and humidity logs, with current and historical data visualized through charts and summaries.
- **Project Management Integration:** Connection to Jira to display project status, progress metrics, and backlog items relevant to each user role.
- **Role-Based Views:** Customized dashboards for Managers (strategic overview, resource allocation, current laboratory environmental conditions), Engineers (detailed tasks, sprint progress, and laboratory environmental conditions with weekly statistics), and Visitors (high-level project and laboratory current environmental conditions).
- **Alerts and Notifications:** Automated alerts when temperature or humidity exceed defined thresholds, notifying managers and air conditioning technicians to ensure laboratory safety and compliance.
- **Scalability and Maintainability:** Designed to handle up to 100 projects with efficient query performance (CRUD operations in ≤ 1 s, dashboard rendering in ≤ 10 s at P95).
- **Deployment and Operations:** Hosted on Honeywell's Windows Server infrastructure.
- **Authentication and Access Control:** Implementation of Microsoft Single Sign-On (SSO) for secure user validation and role assignment. University-provided SSO will be used for testing purposes.
- **Database Management:** Centralized SQL-based database to store environmental logs and process Jira data designed for efficient querying and long-term maintainability.

Out of scope:

- **Hardware Development:** The project will not design, build, or modify physical temperature or humidity sensors, air conditioning equipment, or other environmental control hardware.

- **Direct Hardware Control:** The system is for monitoring only. It will not send commands to or control any laboratory equipment, such as the Heating, Ventilation, and Air Conditioning (HVAC) systems.
- **Non-Honeywell Project Management Platforms:** Integration is limited to Jira. Other platforms (e.g., Trello, Asana, Microsoft Project) are not supported.
- **Native Mobile Application:** Project VISTA will be delivered as a web-based application accessible via desktop browsers. A dedicated mobile app for iOS or Android is not in scope.
- **External Network Deployment:** The system will only be hosted on Honeywell's internal Windows Server infrastructure and will not provide public internet access.
- **Advanced Predictive Analytics/AI:** The solution will focus on ingestion, visualization, and alerts, not advanced machine learning or predictive failure modeling.
- **Jira Write Capabilities:** The integration is read-only. Users cannot create, update, or delete Jira projects, issues, or sprints from within the VISTA interface. All project management work must still be done directly in Jira.
- **Long-term Maintenance and Support Beyond Handover:** The team will deliver documentation and a maintainable system but will not provide ongoing support services after project completion.
- **Cloud Deployment:** The solution is designed exclusively for on-premises deployment within Honeywell's infrastructure. Cloud-based hosting (e.g., Azure, AWS) is not supported.
- **Alternative Data Sources:** Data ingestion is limited to CSV files for environmental logs and the Jira API for project management.

By centralizing environmental monitoring and project tracking into one unified system, Project VISTA will enhance operational efficiency, support informed decision-making, and provide a foundation for broader adoption across Honeywell divisions.

1.5 References

- [1] G. Krüger, "How to Write a Software Requirements Specification (SRS) Document," *Perforce Blog*, Jul. 11, 2025. [Online]. Available: <https://www.perforce.com/blog/alm/how-write-software-requirements-specification-srs-document> (perforce.com)
- [2] U.S. Department of State, Directorate of Defense Trade Controls, "The International Traffic in Arms Regulations (ITAR)," [Online]. Available: https://www.pmddtc.state.gov/ddtc_public?id=ddtc_kb_article_page&sys_id=24d528fddbfc930044f9ff621f961987
- [3] K. E. Wiegers, "Software Requirements Specification (SRS) Template," IEEE 830-1998 based, 1999. [Online]. Available: <https://ecourses.uprm.edu/mod/resource/view.php?id=171911>

2. Overall Description

2.1 Product Perspective

Project VISTA is a replacement system for the MAC laboratory current display workflow, which uses a SharePoint web page where engineers upload an MP4 converted from PowerPoint. The page relies on a JavaScript auto-refresh loop to replay the video, but it crashes frequently, forcing engineers to manually reset the display. Beyond the instability, the current approach suffers from data fragmentation: environmental logs live in spreadsheets/shared folders, project status is located separately in Jira, and the display content lives as standalone PPT/MP4 files with no single, authoritative dashboard tying them together.

Current state (legacy workflow)

- Static MP4 videos hosted on a SharePoint page with a JavaScript refresh loop.
- Frequent crashes that require manual resets.
- Environmental data stored as CSV files in shared locations.
- Project information is accessed directly in Jira; the manager currently has 6 different projects that he needs to overlook and because of these 6 different Jira boards.

VISTA in the larger system (Refer to Appendix B)

- Self-contained web application hosted on a local Windows Server.
- Role based view for Managers, Engineers, and Visitors.
- Integration with Jira via REST APIs for projects, sprints, and issues.
- ETL pipeline that ingests environmental temperature and humidity logs and stores them in SQL for historical and current views.
- Interactive, role-based dashboards that unify environmental and project data in one place.

Primary external interfaces

- Environmental Logs Interface: CSV file ingestion processed by the ETL pipeline into SQL storage.
- Jira Interface: read-only REST API integration for project metrics and sprint data.
- Authentication and Authorization: Microsoft Single Sign-On (SSO) for secure user validation and role assignment.
- User Interface: web application accessed via Edge or Chrome on the Honeywell intranet.

2.2 Product Functions

Project VISTA will provide the following major functions:

- **Environmental Data Ingestion & Processing**
 - Automatically extract temperature and humidity logs from CSV.
 - Store and organize historical environmental data.
 - Generate daily, weekly, and historical summaries.
- **Environmental Monitoring & Alerts**
 - Continuously monitor laboratory temperature and humidity conditions.
 - Trigger automated alerts when thresholds are exceeded.
 - Notify managers and engineers via email notifications.
- **Project Data Integration**
 - Connect to Jira APIs for retrieving project, sprint, and backlog information.
 - Display project progress, burndown/burnup charts, velocity reports, and task status.
- **Dashboard Visualization**
 - Provide Managers with a strategic overview.
 - Provide Engineers with detailed project/task status and laboratory environmental conditions data.
 - Provide Visitors with simplified summaries of projects and environmental status.
 - Support charts, graphs, and reports.

2.3 User Classes and Characteristics

Project VISTA is designed to support three primary user classes: Managers, Engineers, and Visitors. These classes differ in their frequency of use, level of system access, and depth of information required.

1. Managers

- **Role & Responsibilities:** Oversee multiple projects, allocate resources, and ensure laboratory conditions align with project and compliance requirements.
- **Frequency of Use:** Daily.
- **Functions Accessed:** Status overview, Epic progress, resource usage, burndown/burnup charts, velocity reports, threshold alerts, team workload and temperature and humidity daily/weekly summaries.
- **Technical Expertise:** Moderate familiarity with project management tools (Jira). Limited awareness with ongoing projects sprints.
- **Privileges:** Include configuration of projects, viewing detailed data, and generating reports.
- **Importance:** Critical, managers are primary decision-makers and key stakeholders.

2. Engineers

- **Role & Responsibilities:** Execute project tasks, monitor laboratory conditions, and respond to environmental alerts that may impact operations.
- **Frequency of Use:** Daily.
- **Functions Accessed:** Detailed project task views, sprint progress, mentions in other tasks, current temperature and humidity data daily/weekly summaries.
- **Technical Expertise:** High, comfortable working with Jira and laboratory procedures.
- **Privileges:** Access to all technical data, but no authority to modify managerial configurations.

- **Importance:** Critical, engineers rely on the dashboard for operational continuity.

3. Visitors (Executives, Auditors, Clients)

- **Role & Responsibilities:** Observe project progress and verify laboratory conditions during site visits, reviews, or inspections.
- **Frequency of Use:** Occasional, typically for reviews, audits, or status checks.
- **Functions Accessed:** High-level summaries, current temperature and humidity data with daily/weekly summaries, and non-technical visualizations.
- **Technical Expertise:** Low, expect a simplified, intuitive interface without technical complexity.
- **Privileges:** Read-only access; cannot configure system settings or interact with detailed project data.
- **Importance:** Secondary, less frequent users but must be satisfied to ensure organizational transparency and compliance.

Priority of User Classes

- **Most Important to Satisfy:** Managers and Engineers, their daily use and reliance on the dashboard make them critical for project success.
- **Secondary Importance:** Visitors, while essential for external validation and transparency, their needs are less complex and less frequent.

2.4 Operating Environment

Project VISTA will operate in a controlled enterprise IT environment within Honeywell's Military Avionics Center (MAC) Department. The operating environment includes:

Hardware Platform

- **Server:** Local **Windows Server 2019** instance with enterprise-grade specifications (8 GB RAM, Intel Xeon 2.8 GHz, 64-bit OS).
- **Client Devices:** Standard Honeywell workstations and laptops running Windows 10 or Windows 11.

Operating System and Software

- **Server OS:** Microsoft Windows Server (2019).
- **Client OS:** Microsoft Windows 10/11.
- **Database:** Microsoft SQL Server for data storage and management.

- **Web Server:** Internet Information Services (IIS) or equivalent for hosting the dashboard application.
- **Browser Support:** Latest versions of Microsoft Edge and Google Chrome (primary).
- **Authentication:** Microsoft SSO.

External Software Dependencies

- **Atlassian Jira:** Integration through Jira REST APIs to retrieve project, backlog, and sprint data.
- **Environmental Sensors/Logs:** CSV files generated from Honeywell laboratory monitoring equipment.
- **Visualization Libraries:** Standard web-based visualization frameworks for graphical dashboards.

Coexistence and Compatibility

- Must operate without disrupting existing Honeywell applications hosted on the same Windows Server environment.
- Must comply with Honeywell's IT infrastructure standards, including display.

2.5 Design and Implementation Constraints

The development and deployment of Project VISTA must adhere to the following constraints:

Corporate and Regulatory Policies

- Must respect ITAR (International Traffic in Arms Regulations) requirements for data handling, as Honeywell's MAC Department operates in a defense-related environment [3].
- Must comply with corporate software procurement policies, restricting the use of unapproved open-source libraries or cloud services.

Hardware and Performance Limitations

- The dashboard must operate within the limits of the designated Windows Server hardware (8 GB RAM, Intel Xeon 2.8 GHz, 64-bit OS).
- Must support up to 100 projects in the database while meeting performance requirements (CRUD operations $\leq 1s$ at P95, dashboard render $\leq 10s$ at P95).
- Must process environmental data updates every 5 minutes, without exceeding system memory or processing thresholds.

Interfaces to Other Applications

- Integration is limited to Jira REST APIs for project data retrieval.
- Environmental data must be ingested from CSV exports or approved Honeywell lab monitoring equipment only.

Technology and Tool Constraints

- Backend must be implemented in a Honeywell-approved enterprise stack.
- Dashboard must be web-based, hosted via IIS (Internet Information Services) on the Windows Server.
- Only browsers officially supported by Honeywell IT (Microsoft Edge and Google Chrome) are guaranteed full compatibility.

Deployment

- Deployment is limited to on-premises Windows Server infrastructure; external cloud deployment is prohibited.
- The web application will be tested in a local environment.

Security Considerations

- The system must not expose Jira credentials, project information or environmental sensor data outside Honeywell's secure network.

Design Conventions and Standards

- Development must follow Honeywell software development guidelines (version control in Git and code review standards).
- Documentation must follow IEEE SRS standards and Honeywell's internal documentation format.
- Source code must be maintainable by Honeywell IT staff post-deployment, requiring clear inline comments and technical documentation.

2.6 User Documentation

The following documentation will be delivered with Project VISTA at hand-off:

- **User Guide**
 - Audience: Managers and Engineers
 - Content: Step-by-step instructions for logging in, navigating dashboards, interpreting environmental data and project status, and responding to system alerts.
 - Format: Delivered in PDF and embedded in the web application's Help section.
- **Installation & Configuration Guide**
 - Audience: Honeywell IT staff and system administrators.
 - Content: System prerequisites, software dependencies, Windows Server setup, SQL Server configuration and Jira API connection.
 - Format: Delivered in PDF.

All documentation will follow Honeywell corporate documentation standards for formatting, style, and branding. Updated versions will be provided alongside future system releases.

2.7 Assumptions and Dependencies

The requirements and scope of Project VISTA are based on the following assumptions and dependencies. Any changes to these factors may impact system design, implementation, or deployment.

Assumptions

- Users will access the dashboard through Honeywell's secure intranet using approved browsers (Microsoft Edge, Google Chrome).
- Environmental monitoring devices will continue to generate logs in CSV format every day.
- Jira will remain the primary project management platform for the MAC Department, with stable API endpoints for integration.
- Honeywell IT will provide and maintain the Windows Server environment for hosting the application and database.
- The system will be used by no more than 100 concurrent projects in Version 1.0, as defined in performance requirements.
- All users (Managers, Engineers, Visitors) will have existing Active Directory accounts to support role-based authentication.
- Data security policies (ITAR compliance) will not change in a way that prohibits the planned system architecture.

Dependencies

- **Windows Server and SQL Server:** Project VISTA depends on the availability and configuration of Honeywell's on-premises Windows Server and Microsoft SQL Server infrastructure.
- **Atlassian Jira APIs:** Continued availability and stability of Jira REST APIs are required for project tracking features.
- **Environmental Monitoring Systems:** The system depends on Honeywell laboratory hardware and sensors to provide accurate temperature and humidity logs.

- **Active Directory:** Authentication and role-based access control depend on Windows Active Directory being operational and properly configured.
- **Honeywell IT Policies:** The project depends on compliance with Honeywell's internal IT standards, which may affect deployment, updates, or third-party library use.

3. External Interface Requirements

3.1 User Interfaces

The system will provide a responsive web-based User Interface (UI) accessible via modern browsers. The UI design will be clean and intuitive, ensuring ease of use for all user classes. Key characteristics and requirements include:

- **REQ-UI-01 (H):** The system SHALL provide role-aware navigation such that the main menu and dashboard widgets automatically adapt based on the logged-in user's role (Manager, Engineer, Visitor), ensuring access only to relevant information and controls.
- **REQ-UI-02 (H):** The system SHALL provide primary data views including bar charts, rolling average charts for environmental data, Jira project boards, an alerts panel, and support full project CRUD operations.
- **REQ-UI-03 (M):** The system SHALL adhere to a subset of Web Content Accessibility Guidelines (WCAG) to ensure usability for all users, including support for keyboard navigation.
- **REQ-UI-04 (M):** The system user interface SHALL be based on the Microsoft Fluent 2 design system to ensure consistency, usability, and alignment with modern UI/UX standards.

3.2 Hardware Interfaces

- **REQ-HI-01 (H):** The system SHALL be hosted on Honeywell's Windows Server infrastructure, which will provide the physical computing environment required to run the web application, database, and authentication services.
- **REQ-HI-02 (H):** The Windows Server SHALL include sufficient CPU, memory, storage, and network capacity to support up to 100 concurrent projects while meeting performance requirements of CRUD operations in ≤ 1 second and dashboard rendering in ≤ 10 seconds at the 95th percentile (P95).
- **REQ-HI-03 (M):** The Windows Server SHALL act as the central hosting environment, providing client access through standard web browsers on user workstations connected to the Honeywell corporate network.

3.3 Software Interfaces

- **REQ-SI-01 (H):** The system SHALL interface with Honeywell's Jira instance through the Jira REST API in a read-only manner to pull project data, including sprints, issues, and status updates, for display on the dashboards. All communication SHALL occur in JSON format.
- **REQ-SI-02 (H):** The system SHALL use a relational SQL database (Microsoft SQL Server) for data persistence. The ETL pipeline SHALL write validated environmental logs into the database, and the main application SHALL use the same database to store and retrieve historical data and user configurations.
- **REQ-SI-03 (M):** The system SHALL send automated email notifications for critical environmental alerts using an SMTP interface connected to a pre-configured Honeywell mail relay service.

3.4 Communications Interfaces

- **REQ-COMM-01 (H):** All communication between the user's web browser and the VISTA server SHALL occur over HTTPS using TLS 1.2 or higher to ensure confidentiality and integrity of data transmissions.
- **REQ-COMM-02 (H):** All communication between the user's web browser and the VISTA server SHALL occur over HTTPS using TLS 1.2 or higher to ensure confidentiality and integrity of data transmissions.
- **REQ-COMM-03 (H):** The system SHALL send alert notifications via email using the SMTP protocol, connecting to Honeywell's pre-configured mail relay service for reliable message delivery.

4. System Features

4.1 Environmental Data Ingestion & Visualization (H)

4.1.1 Description and Priority

Ingest, validate, store, and visualize environmental logs to provide real-time and historical insight into laboratory conditions.

4.1.2 Stimulus/Response Sequences

The ETL pipeline detects a new log file then the system parses the file, stores valid records in the database, and the dashboard's environmental charts are automatically updated.

4.1.3 Functional Requirements

- **REQ-ENV-01 (H):** The system SHALL ingest temperature and humidity records and display at least 100% of valid records received from CSV files located on Honeywell network.
- **REQ-ENV-02 (H):** The system SHALL compute and display daily and weekly summaries of environmental data including bar and rolling average charts.
- **REQ-ENV-03 (M):** The system SHALL refresh environmental data on the dashboard at least every 5 minutes.
- **REQ-ENV-04 (M):** The system SHALL handle invalid rows (e.g., missing fields, bad timestamp, non-numeric values) within log files with error logging and partial-batch acceptance.

4.2 Jira Integration & Role-Based Dashboards (H)

4.2.1 Description and Priority

Display tailored views of Jira project information for each user role via a secure, centralized API gateway.

4.2.2 Stimulus/Response Sequences

An engineer opens the Jira tab on their dashboard then the system queries the gateway and renders up-to-date metrics, and task lists relevant to their assigned sprints.

4.2.3 Functional Requirements

- **REQ-JIRA-01 (H):** The system SHALL present role-specific Jira views including Manager, Engineer and Visitor views as specified in **Section 2.3**.
- **REQ-JIRA-02 (H):** Jira data SHALL refresh at least every 10 minutes.
- **REQ-JIRA-03 (H):** The client SHALL NOT communicate directly with Jira. All Jira-related requests SHALL be routed through the VISTA backend gateway and return only the necessary data to the client.

4.3 Alerts & Notifications (H)

4.3.1 Description and Priority

Generate alerts based on configurable environmental thresholds and deliver notifications via email.

4.3.2 Stimulus/Response Sequences

An incoming temperature or humidity reading crosses a configured threshold then the alert engine emits an event, the UI highlights the alert status, and an email is dispatched to registered personnel.

4.3.3 Functional Requirements

- **REQ-ALR-01 (H):** The system SHALL support two configurable alert levels (warning, critical). Warning when the temperature or humidity is approaching the threshold and Critical when it exceeds the temperature or humidity threshold.
- **REQ-ALR-02 (H):** The system SHALL send email notifications upon creation of a critical-level alert and display in the web application using color signs (red and green) if the temperature exceeded.
- **REQ-ALR-03 (M):** The laboratory condition alerts manager SHALL be deployable independently of the data ingestion pipeline, meaning it will run as its own alert application.

4.4 Project CRUD Operations & Historical Data (H)

4.4.1 Description and Priority

Allow authorized administrators to manage the list of projects monitored by the dashboard and ensure all data is archived for historical analysis. We won't allow the delete operation because is not necessary to delete projects.

4.4.2 Stimulus/Response Sequences

A Manager uses the admin panel to add a new project's Jira key then the system validates the key and adds the project to the set of monitored projects.

4.4.3 Functional Requirements

- **REQ-CRUD-01 (H):** The system SHALL allow users with the Manager role to create, read, and update the list of projects tracked by the dashboard; projects won't be deleted, instead they be marked as inactive.
- **REQ-CRUD-02 (M):** The system SHALL maintain a historical database of all ingested environmental data and project status snapshots.

4.5 Authentication & RBAC (H)

4.5.1 Description and Priority

Secure the application by authenticating users against Active Directory and enforcing Role-Based Access Control (RBAC).

4.5.2 Stimulus/Response Sequences

A user assigned the engineer role will view the engineer view exclusively and the main home dashboard, same applies to other roles.

4.5.3 Functional Requirements

- **REQ-SEC-01 (H):** The system SHALL authenticate users and enforce role-based access to all views and actions.
- **REQ-SEC-02 (M):** The system SHALL have Microsoft Single Sign-On (SSO) for secure user validation and role assignment. University-provided SSO will be used for testing purposes.

4.6 Observability & Logging (M)

4.6.1 Description and Priority

Ensure system maintainability and facilitate troubleshooting through structured logging of application events and errors. (M)

4.6.2 Stimulus/Response Sequences

The connection to the Jira API fails due to a network issue then the system logs a detailed error message with a timestamp and connection details to its log file without interrupting the user experience.

4.6.3 Functional Requirements

- **REQ-LOG-01 (M):** The system SHALL log all critical application errors and exceptions to a designated log file.
- **REQ-LOG-02 (M):** The system SHALL log all user authentication events, including successful logins and failed attempts

4.7 Documentation (M)

4.7.1 Description and Priority

Deliver user and administrator guides necessary for the operation and maintenance of the system.
(M)

4.7.2 Stimulus/Response Sequences

A new engineer needs to understand the dashboard features, so they access the embedded User Guide from the application's help menu or the delivered written guide.

4.7.3 Functional Requirements

- **REQ-DOC-01 (M):** A User Guide and an Installation/Configuration Guide SHALL be delivered with the final release.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

- Dashboard environmental data refresh ≤ 5 minutes; Jira ≤ 10 minutes.
- System should sustain typical user loads without timeouts; stress and reliability tests required.

5.2 Safety Requirements

The system is informational; no direct control of physical equipment in v1. Any future control features must undergo hazard analysis.

5.3 Security Requirements

Authentication:

- **REQ-AUTH-01 (H):** The system shall use Microsoft Single Sign-On for all user authentications.
- **REQ-AUTH-02 (H):** Only users with accounts from an approved Microsoft tenant shall be permitted access.

Authorization (RBAC):

- **REQ-AUTHZ-01 (H):** The application shall enforce RBAC with roles: Manager, Engineer, Visitor.
- **REQ-AUTHZ-02 (H):** Roles shall be resolved from IdP-provided attributes (e.g., roles, groups) and mapped into VISTA's internal DB Role Mapping table.
- **REQ-AUTHZ-03 (H):** Deny-by-default: if no valid role is resolved, access shall be rejected.
- **REQ-AUTHZ-04 (H):** Role mappings shall be editable only by Admin.

Secrets, Data, and Environment:

- **REQ-SECRET-01 (H):** Jira tokens and app secrets encrypted at rest (Data Protection API (DPAPI) / SQL Always Encrypted or equivalent); never exposed to clients.
- **REQ-DATA-01 (H):** All data (env logs, project snapshots, configs, logs, credentials) remain on-prem; no public cloud.

Audit & Monitoring:

- **REQ-LOG-01 (H):** The system shall log authentication events, role resolutions, and all administrative actions.
- **REQ-LOG-02 (M):** Audit logs shall be retained locally for ≥ 30 days.
- **REQ-BACKUP-01 (M):** Database and configuration backups shall be stored on-premises with periodic restore testing.

5.4 Software Quality Attributes

- **REQ-QUAL-01 (H):** The system SHALL be designed for high reliability, achieving a target availability of 99.5% uptime during business hours. It SHALL demonstrate fault tolerance by handling transient failures (e.g., Jira API downtime, temporary network file share unavailability) gracefully without system crashes.
- **REQ-QUAL-02 (H):** The system user interface SHALL be intuitive and require minimal training to operate. Dashboards for Visitors and Managers SHALL present data in a clear and easily digestible format, while the Engineer's dashboard SHALL provide detailed information in an uncluttered and efficient layout for daily operational tasks.

- **REQ-QUAL-03 (M):** The system source code SHALL be clean, well-documented, and conform to Honeywell's established coding standards. The architecture SHALL be modular to allow future enhancements or bug fixes without extensive system-wide changes.
- **REQ-QUAL-04 (H):** The system SHALL implement robust security controls, including strong authentication, strict role-based authorization, data encryption, and comprehensive audit logging, as defined in Section 5.3, to protect sensitive project and operational data.
- **REQ-QUAL-05 (M):** The system SHALL operate seamlessly and reliably with the specified enterprise systems: Windows Server, Active Directory, Microsoft SQL Server, and the Atlassian Jira REST API.

5.5 Business Rules

The following rules define the operational policies and constraints that Project VISTA must enforce.

- **REQ-BR-1 (Access Control):** System access is strictly governed by the user's role, which is non-transferable.
 - Only users in the **Manager** role can configure system settings, including alert thresholds, notification recipients, and the list of projects being monitored.
 - Users in the **Engineer** role can view all detailed technical and project data and can acknowledge alerts, but they are prohibited from changing any system configurations.
 - Users in the **Visitor** role are restricted to a read-only, high-level summary view of project and environmental data. Access to detailed task information or any system configuration is prohibited.
- **REQ-BR-2 (Alerting Policy):** An environmental alert is triggered only when a data point crosses a threshold explicitly defined by a Manager. Automated notifications are sent exclusively to a distribution list maintained by Managers.
- **REQ-BR-3 (Data Residency):** All data processed or generated by Project VISTA, including environmental logs, project data snapshots, user credentials, and audit logs, must remain within Honeywell's on-premise network infrastructure at all times, in compliance with SR-DATA-01.

6. Other Requirements

- **6.1 Database Management:**
 - **REQ-DB-01:** The system shall use a Microsoft SQL Server database. All schemas, tables, and relationships must be documented in the final technical design document.

- **REQ-DB-02:** Database backup and recovery procedures must be implemented in accordance with Honeywell IT's standard operating procedures and the requirements of **SR-BACKUP-01**.
- **REQ-DB-03:** Database data for projects SHALL NOT be deleted instead a flag called “active” will be set to true or false depending on project deletion or creation.
- **6.2 Internationalization:**
 - **REQ-INT-01:** For Version 1.0, the system's user interface, all generated notifications, and all user documentation shall be provided exclusively in U.S. English (en-US).
- **6.3 Legal and Compliance:**
 - **REQ-COMP-01:** The system must be developed and operated in full compliance with ITAR. All developers must be aware that data handled by the system is subject to ITAR controls.

Appendix A: Glossary

1. **MAC:** Military Avions Center of Excellence
2. **CRUD:** Create/Read/Update/Delete.
3. **ETL:** Extract/Transform/Load.
4. **RBAC:** Role-Based Access Control.
5. **SSE:** Server-Sent Events (one-way server→browser stream).
6. **VISTA:** Project codename for this dashboard.
7. **SSO:** Single-Sign-On
8. **DPAPI:** Data Protection API
9. **API:** Application Programming Interface
10. **ITAR:** International Traffic in Arms Regulations
11. **HVAC:** Heating, Ventilation, and Air Conditioning
12. **SQL:** Stuctured Query Language
13. **ISS:** Internet Informaiton Services

Appendix B: Analysis Models

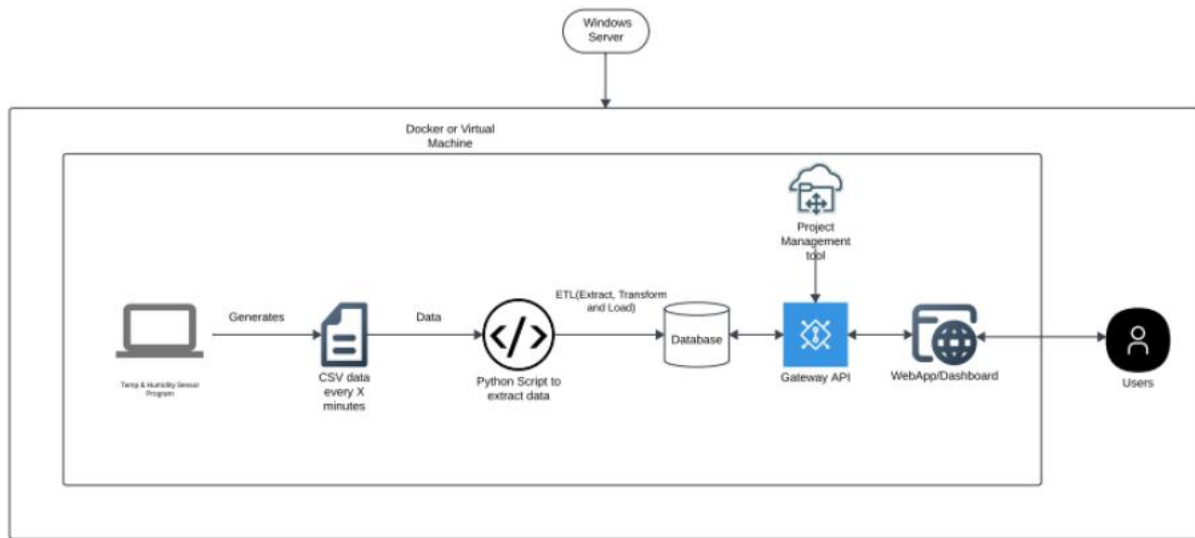


Figure 1. VISTA in the larger system

Appendix C: To Be Determined List

This section outlines pending items and features to be implemented in the system. These items are not critical for the system's core functionality and user experience, but they ensure seamless authentication, enhanced reporting, and automated documentation that could be released in future updates. The following requirements detail the specific expectations and functionalities for each item.

- **REQ-TBD-1:** The system shall implement Single Sign-On (SSO) for secure user authentication. The specific method of integration (e.g., Microsoft SSO, custom security solution, or Active Directory) remains to be determined.
- **REQ-TBD-2:** The system shall include functionality to automatically generate a PowerPoint presentation from Jira project data. The scope of the exported information (e.g., project summaries, sprint progress, or backlog statistics) and the technical method of implementation are still under evaluation.