

Human Resources Event Calendar System Requirements Gathering

SWE 6623 - Group 6

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1. Introduction

1.1. Purpose

This document outlines the system requirements for the Human Resource Event Calendar for Company XYZ. These requirements have been derived from the project objective and instructions with clarifications from the product owner where needed

1.2. Scope

The following functionalities are included in the scope for development:

- Login functionality to access the intranet application
- Authorization functionality to distinguish between HR and other users' access levels
- Event management functionality
- Reporting functionality to give HR the ability to generate reports on employee vacation and sick days

1.3. Business Context

Company XYZ is looking to implement an intranet-based Human Resources Event Calendar that will display all scheduled events for a given month in a calendar layout. Only members of the HR department will have permission to add events to the calendar, while non-HR employees, who have access to the intranet, will be able to view the calendar and see event details but won't be able to make any changes.

1.4. Overview

This document, in section 3, covers both functional requirements including user login, events viewing, management, and reporting, as well as non-functional requirements including performance, security, scalability, reliability, and usability. It also provides screens for the potential interfaces the user will see.

2. General Description

2.1. Product Perspective

The calendar system will serve as an intranet-based Human Resources Event Calendar for Company XYZ, where employees can view upcoming events for the current month, including birthdays, holidays, and company meetings. HR personnel will manage the events while non-HR employees can only view them.

2.2. Product Functions

- 2.2.1. Event Management: Create, update, delete events, recurring events
- 2.2.2. Reporting: Generate reports and summaries of events
- 2.2.3. User Roles: Admins, HR users, and non-HR users, each with different permissions
- 2.2.4. Access Control: Role-based access control with the ability to grant specific permissions

2.3. User characteristics

2.3.1 The primary users of the **Human Resources Event Calendar** system will fall into two main categories:

HR Professionals:

Profile: HR managers, assistants, and other HR personnel who are responsible for managing employee schedules, events, and leave requests.

Technical Background: HR professionals generally have a moderate level of technical experience, familiar with HR management tools and office productivity software like Google Workspace, Trello, or Slack. They typically have formal training in human resources or business administration.

Motivation to Use the System: HR users will use the system to simplify and automate event management processes, reducing the time spent on manual tracking of employee schedules and leave requests. They want a system that improves team productivity and provides a streamlined experience.

Potential Obstacles: These users may encounter challenges with systems that are overly complex or not intuitive. They need easy access to reports, quick event management and integration with existing tools to avoid duplicating work.

Design Considerations: The system should feature an easy-to-navigate interface with color-coded events, notifications, and event management options that allow HR professionals to quickly add, edit, and manage events. Integration with popular tools such as Google Workspace will be essential to ensure smooth workflow transitions.

Non-HR Employees (Technical and Non-Technical):

Profile: This category includes technical employees like software developers, engineers, and project managers, as well as non-technical staff such as sales representatives or customer support personnel.

Technical Background: Technical employees (e.g., software developers) are familiar with advanced tools and prefer efficient, automated systems that integrate with their existing project management software. Non-technical employees may have only basic familiarity with digital tools but need easy access to event information.

Motivation to Use the System: Users in this group are primarily motivated by the need to stay informed about team availability, event schedules, and personal leave. Their focus is on using the system to track availability without needing to contact HR directly for information.

Potential Obstacles: For technical users, the challenge lies in systems that are not integrated with other project management tools or that require manual input. Non-technical users may struggle with complex interfaces that are not straightforward to navigate.

Design Considerations: The system should offer real-time updates and easy access to view events. Technical users will benefit from automation features, such as syncing events with personal calendars (Google, Outlook). Non-technical users require a simplified interface with clear instructions and easy event viewing options. Mobile-friendly design is important for all users, especially for employees on the go.

2.3.2 User Stories

User Stories

HR employee logs into the HR Events Calendar. Creates an event for all employees to attend for next week to discuss company policy changes creating a link with further details of the meeting. HR employee also adds in any new employee birthdays and upcoming holidays.

Non-HR employee logs into the HR Events Calendar. Clicks on the link for next week’s company meeting. The link shows the following details of the meeting: date, time, and location. The user also views the rest of the upcoming events for the next 2 weeks before logging off.

2.3.3 Use Cases

User Creates a department meeting for all department leads.
HR employee logs into the calendar. The website navigates to the page with the most current month displaying all events. The user clicks on the date box to pull up an event dialog box. The user enters the details of the meetings (i.e. title of the event, start date/time and end date/time, description, and location). The user then clicks into the search box to add appropriate attendees. Once finished User clicks the create button to finalize event creation. The user logs out of the calendar.

The user views the calendar for approved vacation days.

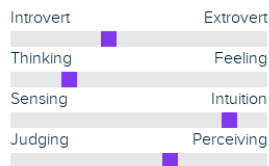
Non-HR user logs into the calendar. Website navigates to page with the most current month displaying company events and upcoming holidays. The user locates the requested vacation days. The calendar displays a green color bar from November 22 – 26 with the user's name followed by vacation (i.e. Frank Vacation). The user logs out of the calendar.

2.3.4 User Personas

Emily Johnson



Age: **24**
Work: **Senior HR Manager**
Family: **Married, 2 kids ages 3 and 3 months.**
Location: **Atlanta, GA**
Character: **Archetype**



Trait 1 Trait 2 Trait 3 Trait 4

Goals

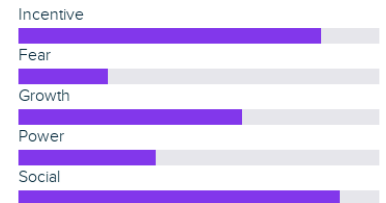
- Efficiently manage employee schedules, events, and time off to ensure smooth HR operations.
- Reduce time spent on manual processes for event tracking and increase overall team productivity.
- Foster a positive work environment where employees feel acknowledged and engaged.

Frustrations

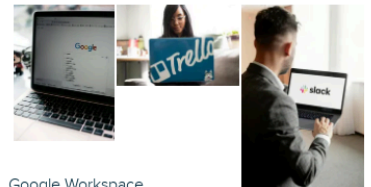
- Struggles with the slow, manual tracking of employee events and time off, leading to delays in reports.
- Balancing the demands of her HR role with her family life and personal responsibilities.
- Difficulty ensuring all employees are informed of events without a streamlined system.

Bio

Emily has over 3 years of experience in Human Resources and takes pride in creating an organized and supportive workplace. As a mother of two, she is skilled at multitasking and managing time efficiently. Emily prefers tools that simplify her workflow, allowing her to spend more time focusing on employee well-being and less on administrative tasks.



Brands &



Clark Andrews - Software Developer

Friendly Clever
Go-Getter

Age: 32
Work: Junior Software Developer
Family: Single
Location: San Jose, CA
Character: The Computer



"I feel like there's a smarter way for me to transition into a healthier lifestyle."



Goals

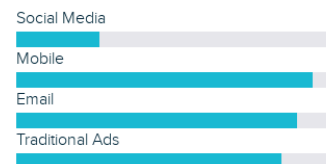
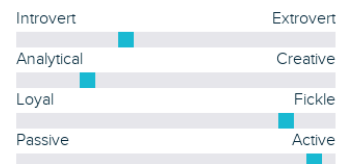
- Stay informed about team member availability and company-wide events to better manage his project deadlines.
- Minimize the time spent reaching out to HR or colleagues for event details.
- Improve personal time management by integrating work events with his project tasks.

Frustrations

- Dislikes contacting HR for schedule-related information; prefers quick access through a centralized system
- Difficulty adjusting workload when unexpected absences or events occur without notice
- Manual tracking is too time-consuming

Bio

James is a highly motivated software developer who loves learning new technologies. He enjoys working in fast-paced environments where he can see the direct impact of his contributions. As someone who values efficiency, he prefers systems that allow him to quickly access the information he needs without getting bogged down by unnecessary details.



2.4. General Constraints

- **Intranet Environment:** The Human Resources Event Calendar system will only be accessible via the company's intranet. External access will not be allowed for security reasons.
- **Role-based Access:** The system must differentiate between HR and non-HR users to ensure that only HR personnel can modify or create events, while non-HR employees can only view event details.
- **Compatibility:** The system must be compatible with desktop, mobile, and tablet devices to ensure accessibility for all employees, but it must remain consistent with the company's IT infrastructure.
- **Data Storage Limitations:** Firebase Firestore (or Airtable) will be used to store event and user data, and the system must work within the storage and performance limitations of these platforms.
- **Security Policies:** The system must comply with the company's data protection and privacy policies, including encryption of sensitive information during storage and transfer.
- **System Availability:** The calendar system should maintain high availability, but any required maintenance must be scheduled during off-peak hours to avoid disrupting users.

2.5. Assumptions and Dependencies

- **Assumptions:**
 - All users (HR and non-HR employees) will have valid credentials to access the system.
 - Users will have access to necessary devices (desktop, mobile, or tablet) with a stable internet connection to access the intranet.
 - The company's intranet and IT infrastructure will support the required web hosting and user authentication services.

- HR users will have adequate training to manage events using the system effectively.
- Non-HR users will only need to view the events and will not require detailed system training.
- **Dependencies:**
 - The system relies on Firebase Authentication for secure login and role management.
 - Firebase Firestore or Airtable will be used for event data storage and retrieval, ensuring real-time updates and syncing.
 - The project's success depends on the company's IT department providing the necessary support for deploying and integrating the system with the intranet.
 - External calendar integration (Google Calendar or Outlook) is required to ensure that employees can sync their personal and work events.
 - The scalability and reliability of the Firebase or Airtable infrastructure will directly affect the performance and availability of the system.

3. Functional Requirements

3.1. Calendar display and navigation

- 3.1.1. Present events in a monthly calendar format
- 3.1.2. Include the following information on the calendar
 - 3.1.2.1. Date
 - 3.1.2.2. Employee anniversary
 - 3.1.2.3. Employee birthday
 - 3.1.2.4. Company events
 - 3.1.2.5. Company holidays
 - 3.1.2.6. Out of the Office
 - 3.1.2.7. Personal vacation time
 - 3.1.2.8. Training
 - 3.1.2.9. Visitor
 - 3.1.2.10. Sick day

3.2. Event Management (HR users only)

- 3.2.1. Provide an event creation interface when HR users select a date on the calendar
- 3.2.2. Allow HR users to:
 - Enter event description
 - Select an employee from the company directory
 - Set event start and end date
 - Chose event category
 - Input event details and description
 - Specify event duration when applicable
- 3.2.3. Allow HR users to edit existing events by clicking on the event link
- 3.2.4. Allow HR users to create recurring events

3.3. Event Viewing (All intranet users)

- 3.3.1. Display event details when the user clicks on the event
- 3.3.2. Ensure non-HR users can view but not modify event information.

3.4. Reporting and Analytics (HR users only)

- 3.4.1. Provide a reporting feature for HR users on employee vacation, sick days, events, etc.

3.5. User Access and Permission

- 3.5.1. Distinguish between HR and non-HR users based on intranet credentials

- 3.5.2. Grant event management permissions exclusively to HR users
- 3.5.3. Allow view-only access for non-HR employees with intranet access.

4. Non-Functional Requirements

- Mobile Responsiveness: Responsive design for mobile, tablet, and desktop users
- Performance requirements: The system must handle basic performance needs for 100 concurrent users via Firebase/Airtable with minimal response delays
- Security requirements: The system will authorize and authenticate user access to various functionalities of the system
- Usability: The interface must be intuitive, with a simple design for all employees
- Scalability: The system should easily accommodate additional users and events by leveraging
- Reliability: Ensure an uptime of 99%

5. Software Architecture

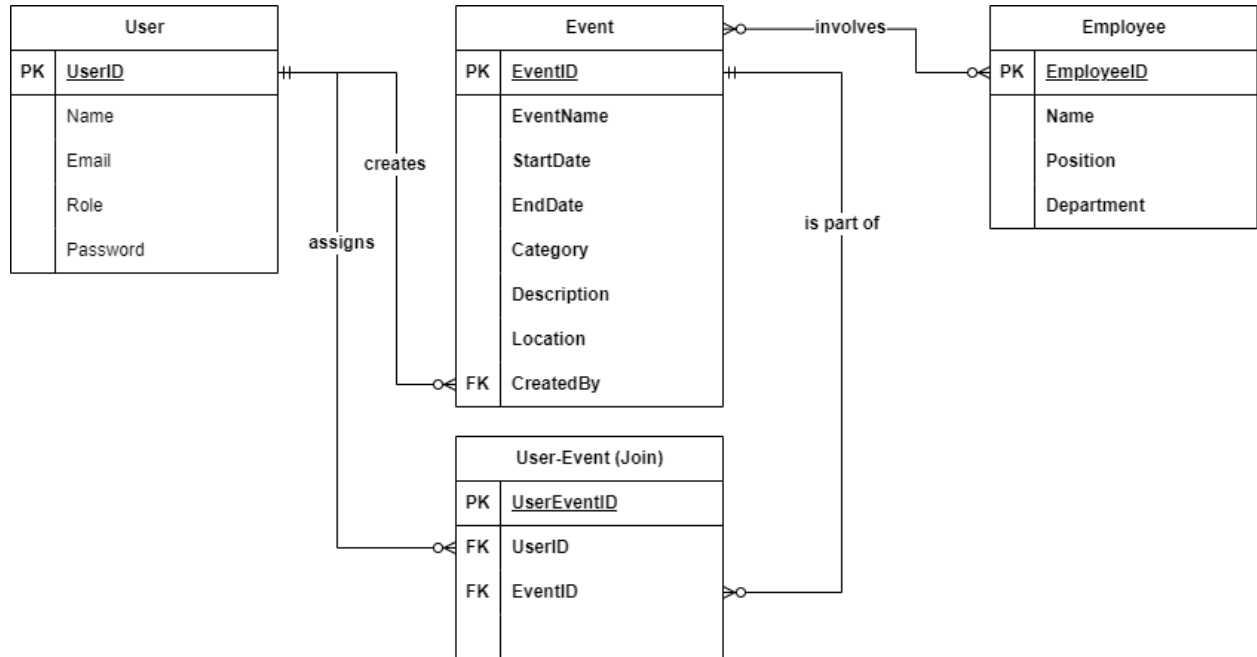
- The software architecture describes the components of the application and how the components interact with each other.
- **Front-end**
 - The front-end components are the UI, calendar, and forms. The UI will be built with HTML5, CSS3, and Javascript. The UI will be responsive (desktop and mobile devices) using Bootstrap Library. The calendar will display the current month, date with events will be highlighted and clickable to view more details. HR users will have access to forms to create, edit, or delete events.
- **Back-end**
 - The backup components are Authentication and authorization which will log in users and check whether a user is HR or not HR. The web server handles all the requests and data but also serves the frontend information.
- **Database**
 - The Database will store the user's and events information and will be accessed through a database system. The database will have a user table that will store user ID, name, email, encrypted password, and role. Then an event table to store the event details, ID, date, time, description, and location. And a join table for user event relationships.
- **Security**
 - All data transfers will be encrypted. The user authentication and session should be secure. And the access between user roles should be controlled.

6. Interface Requirements

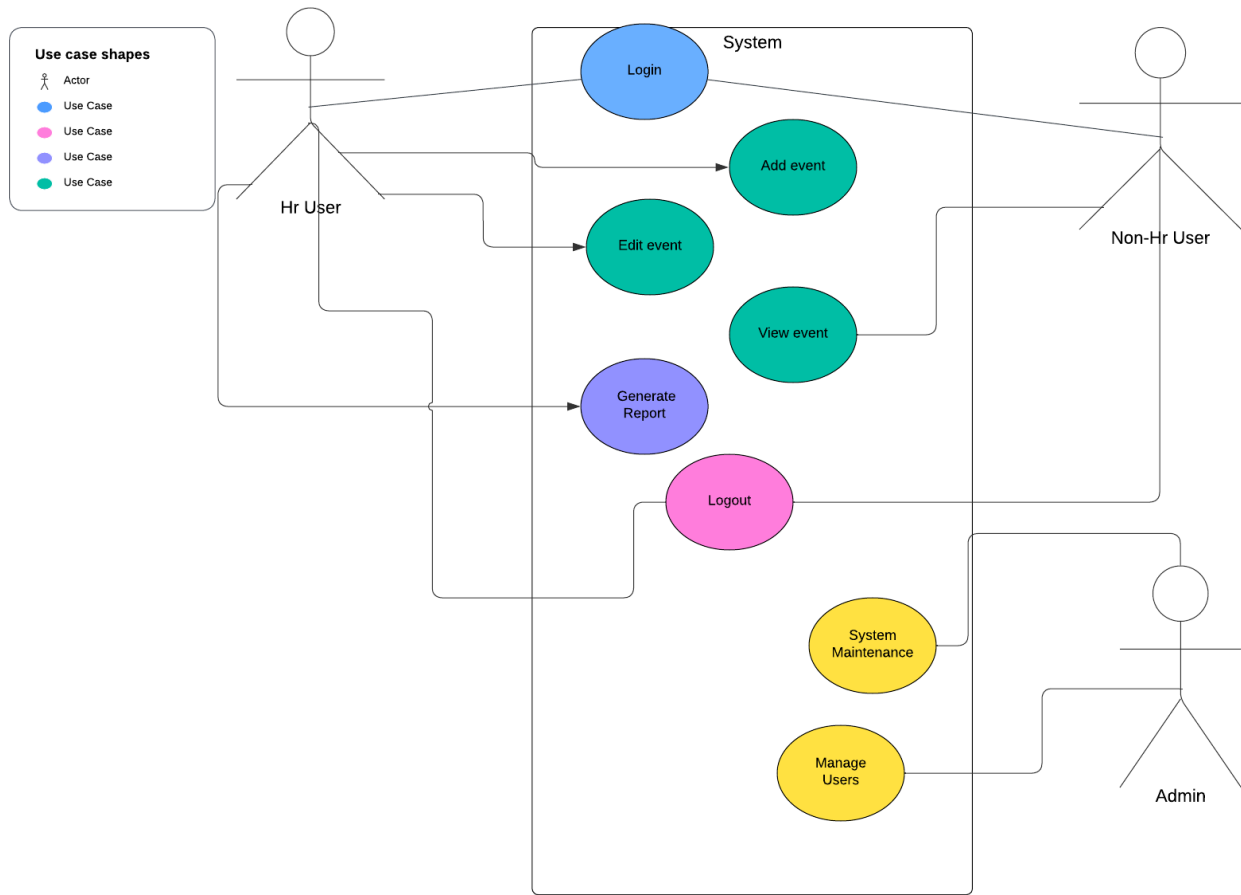
- User Interface
 - The user interface is the view from which users interact directly with the system. The view varies between users depending on their roles.
- **The Calendar view**
 - The calendar will display the current month with clickable dates. The user will be able to change the view. The calendar will have:
 - Monthly calendar grid: view the whole month with events highlighted.
 - Weekly view grid: view the whole week with events highlighted.
 - Event popup: a popup that appears when a user clicks on an event to view more details.
 - Also, Different components will be displayed based on the user's role:
 - HR users: can see options to add, edit, or delete events.
 - Non-HR users: can only view events.
-
- **The event form**
 - A form that HR users will use to create, edit, and delete events. The form will include:
 - Input field; Event name, date, time, description, location, category, invitees.
 - Buttons: for submitting or canceling the event creation/editing.
 - Confirmation pop-up: This is for canceling or deleting the event.
 - External interfaces
 - The system will integrate external services to handle user authentication and events management.
-
- **Authentication service**
 - The calendar will use Firebase for authentication. When the user logs in their credential will be sent to the Firebase backend that will verify the user's identity and role. Firebase will also support authentication with other providers like Google.
- **Database**
 - The backend will interact with the database Firebase Firestore or Airtable to store, delete, and retrieve events and user information. The system will use SQL queries to process those operations.

7. Appendices

Entity-Relationship Diagram



Use Case Diagram:



8. Glossary

- SRS: Software Requirements Specification
- API: Application Programming Interface
- CRUD: Create, Read, Update, Delete
- XYZ: Company XYZ, the client organization
- HR: Human Resources

9. References

- **Firebase Documentation:** Official documentation for Firebase Authentication and Firestore.
- **Airtable API Documentation:** Documentation for using Airtable as a backend database.
- **GitHub Documentation:** For source control and collaboration on the project codebase.
- **Bootstrap Documentation:** For front-end styling and responsive design guidelines.
- **Google Calendar API Documentation:** For integrating calendar syncing functionality with Google Calendar.
- **IEEE Software Engineering Standards:** If you followed specific software development standards for your SRS.

Please sign your name here:

Jordan Toney

Noria Soumbou

Elliott Wideman

Mason Prather

Steve Seukap