**High level System Design Document for Time Off Tracker with Approval Feature**

* Introduction

This document outlines the system design for the development of a Time Off Tracker with Approval feature. The tool aims to facilitate U.S. employees in submitting their time-off requests, requiring manager or company approval. It will also provide a calendar view and comprehensive tracking of various types of time off (e.g., Sick, Vacation, Unpaid Time, Comp Time) for a given team.

* System Overview

The Time Off Tracker will be developed using Microsoft Power Platform, leveraging SharePoint for data storage and management. The system will consist of three main components:

* User Interface: A user-friendly interface accessible to employees for submitting time-off requests and managers for approving or denying them.
* Backend Logic: Logic to manage the approval workflow, handle data storage, and generate reports.
* Data Storage: Utilization of SharePoint for storing time-off requests, approvals, and related information.
* User types
* Managers.
  + View calendars with summary of time off requests
  + Approve/deny time off requests
  + Edit/delete time off requests
* Admins
  + Assign employees to report to a manager
  + Time off request workflow, should go to managers for approve/deny
  + View calendar by manager
  + View calendar by individual employee
* Employees
  + Calculate/model time off availability
  + Submit time off requests
  + View status of time off requests
* System Architecture

# Frontend:

* Power Apps Interface:
  + Provide a web-based interface for employees to submit time-off requests.
  + Display a calendar view for easy visualization of requested time off.
  + Include options to specify the type of time off (Sick, Vacation, Unpaid Time, Comp Time).
  + As an employee, the person can see month by month? drop down... choose month
  + planner. I want to taje this and this time off. choose date and time until date and time
  + sends email to manager and to ops. Asking if approved or not. Requires approval.
  + if declined, then user gets decline email
  + if approved, it shows up on the calendar for the person and then rolls up to manager
  + displays full name and time off for date and hours
  + users and managers can delete if they decide to not take the time off
* Manager Interface:
  + Separate interface for managers to review and approve/deny time-off requests.
  + Notifications for pending approvals.
  + calendar. has all the approvals so manager looks at calendar and checks to see status and if should approve or not. if too many people request, then can deny
  + if manager needs to edit just delete the request. send ops and person notice of deletion
* Admin interface
  + biblioso admin/ops map person to manager
  + enter manager names. in the display, break it down to individual managers
* Time off calculation interface
  + algorithm should go like this for salaried people.
    1. starting with count of hours in ADP
    2. enter the time off from amount in ADP until today. Because it is time off that is not reflected in ADP total.
    3. Divide year into 24 pay periods
    4. Each pay period has 86.66 hours, and for any holidays or time off, deduct from the 86.66 hours for that pay period
    5. then add the hours from last end of pay cycle to today's date
    6. person enters the start date and end date for the time off
    7. selects if time off is vacation or sick
    8. system needs to split out the time off per pay period, because the accrual needs to be based on 86.66 hours
    9. calculation is basically this:
* ADP hours, plus hours for last pay period, plus hours from end of that pay period to right now, plus hours from now until the date of the time off (accrue based on pay periods with 86.66 hours)
* Subtract the time off they select for sick and vacation. no accrual during that time off
* that gives new amount at the end of the time off
* then begin accruing again after the end of the time off and add that accrual to the new total

what is displayed to the person

* + display balance after each time off.
  + then at the end display total time at end of the year

# Backend:

- Power Automate:

- Workflow automation for managing the approval process.

- Notifications to employees and managers at various stages of the approval process.

- SharePoint Lists:

- Utilize SharePoint Lists for storing employee data, time-off requests, approvals, and team information.

- Customized lists for different types of time off (Sick, Vacation, etc.).

- Power BI (Optional):

- Integration with Power BI for generating insightful reports on time-off trends, usage, and team analytics.

* Functional Requirements

- User Authentication:

* Secure authentication mechanism for employees and managers accessing the system.

- Time-Off Submission:

* Employees should be able to submit time-off requests specifying type (Sick, Vacation, etc.) and duration.

- Approval Workflow:

* Managers should receive notifications for pending time-off requests.
* Option to approve or deny requests with comments.

- Calendar View:

* Visual representation of approved time off for better planning.

- Data Tracking:

* Comprehensive tracking of all types of time off for individual employees and teams.

- Reporting (Optional):

* Generate reports on time-off trends, usage, and team analytics.
* Non-Functional Requirements

- Scalability:

* The system should handle a growing number of users and data efficiently.

- Security:

* Implement robust security measures to protect sensitive employee data.

- Performance:

* Ensure responsive performance even during peak usage times.

- Usability:

* Intuitive user interfaces for easy adoption by employees and managers.

- Reliability:

* Minimize system downtime and ensure data integrity.
* Integration Points

- SharePoint Integration:

* Utilize SharePoint for data storage and management.

- Power BI Integration (Optional):

* Integration with Power BI for advanced reporting capabilities.

- Email Notifications:

* Integration with email services for sending notifications to employees and managers.
* Risks and Mitigation

- Data Security:

* Implement role-based access controls and encryption mechanisms to protect sensitive data.

- User Adoption:

* Provide adequate training and support to ensure smooth adoption by employees and managers.

- Technical Challenges:

* Regular testing and iterative development to address any technical challenges encountered during implementation.
* Conclusion

The Time Off Tracker with Approval feature, built on Microsoft Power Platform and SharePoint, will provide a robust solution for managing time-off requests and approvals for U.S. employees. By leveraging existing Microsoft technologies, the system aims to streamline the process, improve transparency, and enhance overall efficiency in time-off management.