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**DEVELOPMENT OF AN ONLINE EMPLOYEE PERMIT SYSTEM
APPLICATION BASED ON APPSHEET AT PT XYZ**

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Abstract:

Employee permission administration at PT XYZ was previously conducted through paper forms and face-to-face approval. This process created approval delays when managers were unavailable, increased the risk of lost documents, and made historical records difficult to retrieve. This study developed an online employee permit system using AppSheet as a no-code platform and Google Sheets as the cloud-based database. The study employed a Research and Development approach using the ADDIE model: Analysis, Design, Development, Implementation, and Evaluation. Needs were identified through observation, interviews, and a preliminary survey. The application was designed to accommodate absence permission, sick leave, and annual leave requests; manager approval or rejection; real-time status monitoring; attachment uploads; searchable records; and dashboard-based reporting. The prototype was implemented in PT XYZ with six employee users and was evaluated by a media expert, a content expert, and end users. The User Acceptance Test obtained 84.76%, while the media-expert and content-expert evaluations obtained 83.33% and 93.33%, respectively. All scores were classified as very feasible. The results indicate that the AppSheet-based application is a practical and feasible solution for replacing a manual permission workflow, improving data traceability, reducing dependence on physical manager presence, and supporting more structured employee-administration records.

Keywords:

AppSheet, employee permission system, no-code application, ADDIE, digital administration

BACKGROUND

Digital transformation has shifted routine office administration from paper-based transactions to integrated, data-driven workflows. In human resource administration, digital systems can improve process speed, data accuracy, traceability, and access to information for employees, supervisors, and administrators. Management information systems are therefore increasingly used to support planning, operational control, and decision-making by providing timely and relevant information (Khamdun et al., 2022; Mahyadi, 2023).

Employee permission administration is one recurring process that benefits from digitalization. Conventional leave and permission systems typically require employees to obtain a printed form, complete it manually, and deliver it to a supervisor for approval. Such arrangements can delay approval, particularly when supervisors are outside the office, and they expose organizations to document loss, accumulation, and inefficient record retrieval. Previous studies on web-based leave systems similarly identify approval delays, fragmented recordkeeping, and weak monitoring as recurrent problems in manual workflows (Fatoni et al., 2020; Purwati et al., 2023; Rouza et al., 2024).

The same problem was identified at PT XYZ, a tax-consulting company with 25 employees. Before the system was developed, requests for absence permission, sick leave, and annual leave



were processed with paper forms and direct signatures. Observations and informal interviews showed that the workflow depended heavily on the physical availability of managers; forms could be misplaced or delayed; and administrators needed to inspect physical archives one by one to find historical records. A preliminary survey involving six employees found that 83.3% agreed that the existing request system was ineffective, while 83.3% reported difficulty retrieving past permission records.

No-code technology offers a practical alternative for organizations that need digital solutions but do not have extensive programming resources. AppSheet is a no-code platform that can transform spreadsheet-based data into web and mobile applications while connecting with Google Workspace services. It has been used in administrative applications that require rapid development, cloud-based data access, and cross-device usability (Anggraeni & Tiorida, 2025; Niswah & Erfandi, 2024). Unlike conventional coded applications, AppSheet allows non-specialist users to prototype and adjust workflows with lower development complexity.

This study therefore aimed to develop and evaluate an AppSheet-based online employee permit system for PT XYZ. The proposed application integrates three types of requests—absence permission, sick leave, and annual leave—within one workflow. It also provides a manager approval mechanism, user status monitoring, digital attachments, searchable historical records, and a real-time dashboard. The study contributes an applied example of how a no-code platform can support the digitalization of employee administration in a small organizational setting.

THEORETICAL FRAMEWORK

Management Information Systems and Digital Employee Administration. Management information systems integrate people, data, procedures, and technology to produce information needed for organizational operations and management decisions. In employee administration, a system should enable standardized data entry, maintain accurate records, facilitate monitoring, and provide accessible information to authorized users. Digital administration can reduce repetitive clerical work, improve transparency, and support more reliable reporting (Khamdun et al., 2022; Sucinta Tri Nurhayati et al., 2023).

Online Employee Permission Systems. An online permission system formalizes the cycle of request submission, review, approval, recordkeeping, and reporting. The essential components include a digital request form, a defined approval path, status visibility for employees, centralized data storage, and a reporting interface for administrators. Such systems allow employees to submit requests remotely and enable supervisors to decide without waiting for physical documents. They are particularly relevant for handling absence permission, sick leave, and annual leave in a manner that is consistent, traceable, and administratively accountable (Sawitri et al., 2023; Ubaidillah & Fatmawati, 2021).

AppSheet as a No-Code Development Platform. AppSheet is a no-code application development platform that supports web and mobile applications connected to data sources such as Google Sheets. Its value for office administration lies in fast configuration, data integration, responsive interfaces, basic user authentication, and the ability to operate across desktops and mobile devices. AppSheet is appropriate for this study because PT XYZ required a practical system that could be developed without extensive custom programming while retaining an organized, cloud-based record of employee requests.

ADDIE Development Model. The ADDIE model provides five iterative stages for product development: Analysis, Design, Development, Implementation, and Evaluation. Analysis identifies user problems and requirements; Design translates requirements into workflows, data structures, and interface plans; Development produces the working prototype; Implementation



tests the product in the intended setting; and Evaluation assesses usability, functionality, content suitability, and user acceptance. Although frequently applied in instructional design, ADDIE is also suitable for digital product development because it supports systematic improvement at each stage (Hidayat & Nizar, 2021; Shaquille & Parga Zen, 2023).

METHOD

This study used Research and Development (R&D) with the ADDIE model. The development was conducted at PT XYZ, a tax-consulting company where employee permission requests were still processed manually. The project was designed as an applied development study: it focused on building a usable administrative product and assessing its feasibility in the organization rather than testing causal relationships among variables.

The Analysis stage used observation during the researcher's workplace practice, semi-structured interviews with employees and managers, and a preliminary questionnaire. The preliminary survey involved six respondents: five employees from the Transfer Pricing and Tax Compliance divisions and one administrative staff member. The analysis identified four priority problems: delayed approval due to manager unavailability, paper-form accumulation or loss, difficult retrieval of historical records, and the absence of automatic data recapitulation.

In the Design stage, the system workflow, use-case logic, data structure, dashboard layout, and evaluation instruments were prepared. The application was designed around three user roles: employees submit and monitor requests; managers approve or reject requests; and administrators monitor data and produce recapitulations. The Google Sheets database included a unique request number, employee name, date, day, month, permission type, number of days, reason, attachment, status, and rejection reason. The Development stage then configured these requirements in AppSheet.

The Implementation stage involved six employee users, an administrator, and a manager in the actual office environment. Employees accessed the application through a Linktree entry point and submitted requests from Android, iOS, or desktop browsers. Data were stored automatically in Google Sheets. Managers updated the request status to Approved or Reject, while administrators monitored the dashboard and historical data. The evaluation employed three sources: end-user acceptance testing (UAT), media-expert validation, and content-expert validation. The UAT assessed access, navigation, interface, information clarity, feature completeness, process acceleration, and suitability for operational needs. Media-expert assessment covered usability, functionality, and visual communication, while content-expert assessment covered system design, content suitability, and language and communication.



Table 1. Core Design of the AppSheet-Based Employee Permit System

Component	Specification	Operational Purpose
Request types	Absence permission, sick leave, annual leave	Standardizes three frequently used request categories.
Request form	Employee name, date, type, number of days, reason, attachment	Captures complete request information in one digital record.
Approval workflow	Manager updates status to Approved or Reject and records a rejection reason	Enables remote, accountable decisions and visible status updates.
Data storage	Google Sheets integrated with AppSheet	Creates a centralized, searchable cloud-based record.
Monitoring	Data Historis page and dashboard with daily, monthly, and status visualizations	Supports employee tracking and administrative recapitulation.
Access	Linktree entry point, browser, Android, and iOS access	Allows cross-device use in routine work conditions.

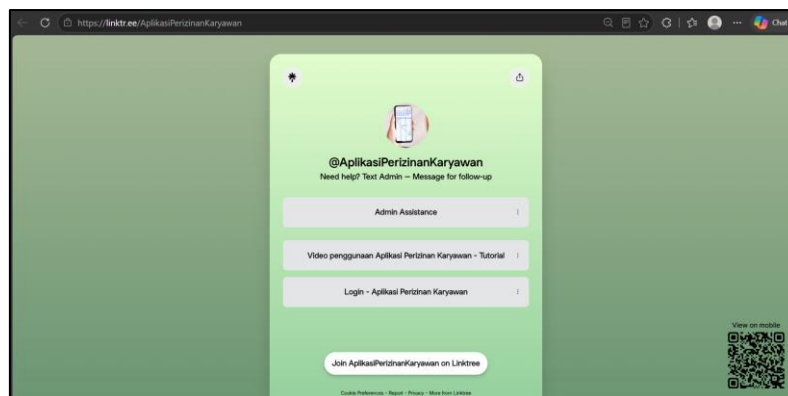
Source: Developed from the PT XYZ system requirements (2026).

RESULT

The developed application converted the manual permission process into a digital workflow. Employees entered the application, reviewed the Data Historis page, selected the Add button, completed the digital request form, and saved the request. The information was then stored in Google Sheets. Managers accessed the same workflow to review the incoming request, update the status, and record a rejection reason when necessary. Employees could then monitor the status in real time, while administrators used the dashboard and searchable records for monitoring and reporting.



Employee Permit Application Qr Code

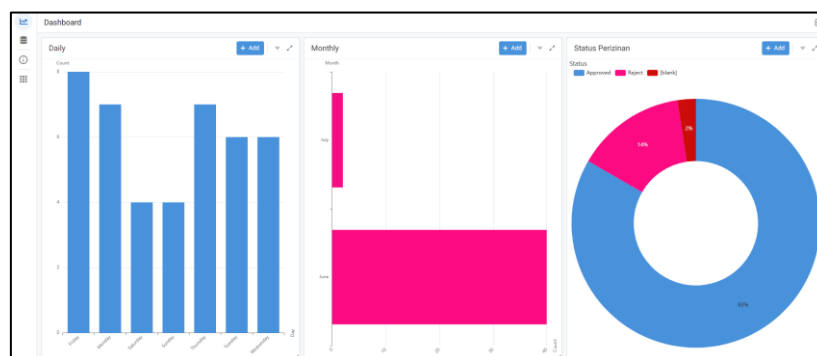


User Initial Screen



No	Nama Karyawan	Tanggal izin	Jenis izin	Alasan	Status	Alasan (jika reject)
1	adn	6/11/2026	izin	ada	Reject	ada
2	illy	6/11/2026	tidak	ada	Approved	
3	Andi Pratomo	6/11/2026	Sakit	Demonstrasi	Approved	
4	Sal Wahyuni	6/11/2026	Kepuasan keluarga	Kepuasan keluarga	Approved	
5	Budi Santoso	6/11/2026	Sakit	Penyakit	Approved	
6	Rita Wati	6/11/2026	izin pribadi	Mengunjungi keluarga	Approved	
7	Andi Kurniawan	6/11/2026	Kepuasan keluarga	Mengunjungi keluarga	Approved	
8	Wati Sari	6/11/2026	izin pribadi	Urusan rumah	Reject	Lampiran tidak lengkap
9	Papa Nugroho	6/11/2026	Sakit	Melawat	Approved	
10	Nia Rizkiyanti	6/11/2026	Kepuasan keluarga	Mengunjungi keluarga	Approved	
11	Nisa Pratiwi	6/11/2026	izin pribadi	Persewaan rumah	Reject	Dokumen tidak lengkap
12	Yana Permata	6/11/2026	Sakit	Kontrol kesehatan	Approved	
13	Andi Ridwan	6/11/2026	izin pribadi	Mengunjungi keluarga	Approved	
14	Doni Lestari	6/11/2026	Sakit	Sakit gigi	Approved	
15	Rudi Hartono	6/11/2026	Kepuasan keluarga	Kepuasan keluarga	Approved	
16	Wati Sari	6/11/2026	izin pribadi	Kepuasan keluarga	Reject	Alasan kurang jelas
17	Apa Nugroho	6/11/2026	Sakit	Demonstrasi	Approved	
18	Pati Sari	6/11/2026	Kepuasan keluarga	Mengunjungi keluarga	Approved	
19	Rita Wati	6/11/2026	izin pribadi	Mengunjungi keluarga	Approved	

Historical Data Page with Add Button



Employee Permit Monitoring Dashboard

System Features and Functional Results

Data Historis. The landing page displays historical permission records in a searchable table. The table shows the request number, employee name, date, permission type, number of days, reason, approval status, and rejection reason when relevant. This feature directly addresses the previous difficulty of retrieving paper-based archives.

Digital Request Form. The form contains required fields for employee name, permission date, permission type, number of days, and reason. Day and month fields are generated from the selected date to support filtering and recapitulation. Employees can also upload optional supporting documents, such as a medical certificate.

Approval and Status Monitoring. A manager can approve or reject requests from a connected device. Once the status is updated, the record is synchronized in the historical data view, allowing employees to see the result without asking the manager or administrator directly.

Dashboard Monitoring. The administrative dashboard organizes permission records into daily and monthly bar charts and a status distribution chart. These visualizations help management identify the volume and pattern of employee permissions and support more systematic reporting.

Table 2. Feasibility Evaluation Results

Evaluation Source	Obtained Score	Expected Score	Percentage	Category
User Acceptance Test (6 employees)	178	210	84.76%	Very Feasible
Media expert	25	30	83.33%	Very Feasible
Content expert	28	30	93.33%	Very Feasible

Source: Project evaluation data (2026).



The UAT produced a total score of 178 from an expected score of 210, yielding an average score of 4.24 and a feasibility percentage of 84.76%. This result indicates that users were able to access the application, complete requests, upload attachments, save records, and monitor their status effectively. The score also shows positive acceptance of the application's interface, navigation, information clarity, and relevance to the administrative process.

The media expert awarded 25 of 30 points (83.33%). The assessment confirmed that the application was easy to access and operate, that the request form and approval workflow functioned appropriately, and that the layout, text readability, and navigation were suitable for users. The content expert awarded 28 of 30 points (93.33%), confirming that the system design, three permission categories, approval process, instructions, and terminology were appropriate for PT XYZ's needs.

DISCUSSION

The findings demonstrate that a no-code platform can address a focused administrative problem without requiring a fully custom-built information system. By integrating AppSheet with Google Sheets, the application established a single record from submission through approval and reporting. This integration is important because the prior process separated paper submission, manager signatures, archive storage, and manual recapitulation. The digital workflow reduced those handoffs and made the status of each request visible to the employee, manager, and administrator.

The feasibility results support the practical suitability of the prototype. The UAT score of 84.76% indicates that employees accepted the application as a useful part of their daily administrative process. The high content-expert score (93.33%) is particularly relevant because the product was not only technically functional but also aligned with the actual permission procedures used by the company. Meanwhile, the media-expert result (83.33%) suggests that the interface and navigation were adequate for implementation, although continued refinement could improve the user experience further.

The application provides several operational benefits. First, managers can make approval decisions from different locations, reducing the dependency on face-to-face interaction. Second, employee records are stored centrally and can be searched by relevant information rather than retrieved from physical archives. Third, the dashboard supports more transparent monitoring by displaying daily, monthly, and approval-status patterns. These functions are consistent with earlier studies showing that digital leave systems can improve administrative efficiency, data organization, and monitoring quality (Munawir et al., 2024; Purwati et al., 2023).

The study also illustrates the value of the ADDIE model for administrative application development. The analysis phase kept the prototype grounded in actual user problems; the design phase clarified user roles, data fields, and workflow logic; and the implementation and evaluation phases ensured that the product was tested in the real work environment. This staged approach is valuable for small organizations because it reduces the risk of building an application that is technically available but operationally irrelevant.

Several limitations should be acknowledged. The product was tested with only six employee users in one company, so the results should not be generalized to all organizations. The application also depends on stable internet access and the authentication facilities available through AppSheet and Google accounts. Automatic email notifications, leave-balance integration, attendance synchronization, and more advanced access controls were not included



in the present prototype. Future development should incorporate these features and test the application with a larger, more diverse user group over a longer implementation period.

CONCLUSION

This study developed an online employee permit system application based on AppSheet at PT XYZ using the ADDIE development model. The application integrates digital requests for absence permission, sick leave, and annual leave; manager approval or rejection; automatic storage in Google Sheets; real-time status monitoring; attachment uploads; historical data search; and dashboard-based monitoring.

The prototype was considered very feasible by end users and experts. The UAT achieved 84.76%, the media-expert assessment achieved 83.33%, and the content-expert assessment achieved 93.33%. These results indicate that the application is feasible for use as a digital alternative to the manual paper-based workflow at PT XYZ. The system is expected to improve administrative efficiency, reduce the risk of missing records, and strengthen the traceability of employee-permission data. Future work should add automated notifications, stronger role-based access, integration with attendance and leave-balance data, and broader organizational testing.

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