

Library Space and Facilities Repair and Maintenance Platform

Case Providing Department: Library

Supported by LM

1. Background

This case leverages a no-code platform to develop an intelligent operations management system for the library. By integrating a one-stop online repair service with a visual data dashboard, it addresses key challenges including fragmented processes, underutilized data, and slow response times. The system digitalizes repair workflows, enhances operational transparency, and enables data-driven decision-making, significantly improving service efficiency and management precision.

During the digital transformation of library, the complexity and usage intensity of library spaces and facilities have continued to grow. Traditional operation-and-maintenance (O&M) models can no longer meet modern service requirements. The key pain points include:

1. Fragmented processes and low efficiency: Repair requests were scattered across channels (verbal reports, phone calls, Excel forms), with information transferred manually. A simple repair could take several days from submission to completion, severely affecting the user experience.

2. Dormant data and weak decision-making: A large volume of repair records remained unstructured and invisible in spreadsheets, preventing analysis of failure patterns and space deterioration. Decisions were based on intuition rather than data, resulting in inaccurate resource allocation and lack of preventive maintenance.

3. Slow response and poor service experience: The oversized Excel repair form could not be opened online, forcing staff to use local computers to submit reports. This inconvenience resulted in slow workflows and poor user experience.

To address these issues, we adopted a no-code application development platform, enabling a business-driven, agile, and efficient smart O&M solution.

Against this backdrop, developing an integrated platform for workflow management, data monitoring, and decision support has become essential for refined, intelligent, and user-centered library management.

2. Solutions

1. System Setup

The system was built on Jiandaoyun (No-code Platform), enabling the construction of data structures and visual interfaces without

programming. A repair management database was created, including fields such as repair ID, time, location, issue description, image upload, responsible person, and work order status.

2.Data Management and Import

Historical data were cleaned, standardized, and imported into the system. A unified field and classification system ensured data consistency.

3. Dashboard and Workflow Design

A dynamic repair status dashboard was built based on submitted forms, supporting multi-dimensional filtering by academic year, responsible member, location, category, or date.

4.Permission Control and Update Mechanism

Permission levels were set for managers and staff to ensure data security. Responsible personnel regularly updated task status, forming a continuous data stream

3. Application Overview

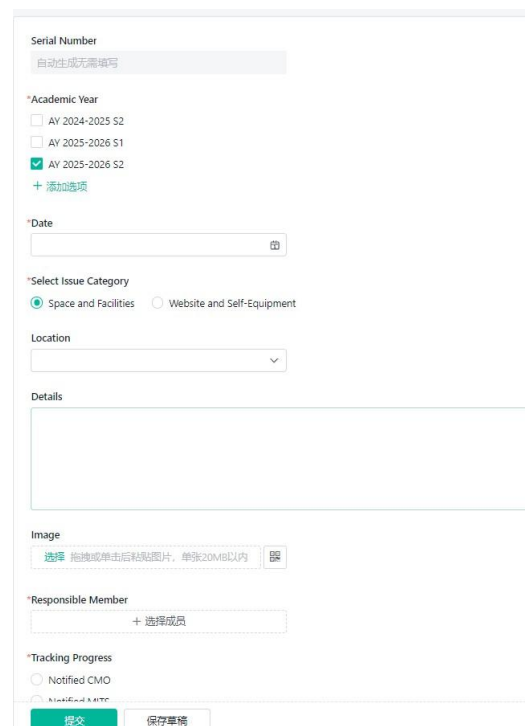
The platform consists of two major modules: an all-in-one online repair form service and a visual management dashboard, combining

visualization, workflow redesign, and failure insights.

1.Core Architecture and Functions

1.1 All-in-One Online Repair Form Service

1.1.1 A unified online repair portal enables staff to submit text-and-image reports with precise location details and clear responsibility assignment. Each submission automatically generates a unique work order, streamlining the process.



The screenshot displays a web form for submitting a repair request. The form is titled "Space and Facilities Repair Form" and includes the following fields and options:

- Serial Number:** A text input field with a placeholder "自动生成无需填写" (Automatically generated, no need to fill).
- *Academic Year:** A group of radio buttons with options: "AY 2024-2025 S2", "AY 2025-2026 S1", and "AY 2025-2026 S2" (which is selected). A "+ 添加选项" (Add options) link is also present.
- *Date:** A date selection field with a calendar icon.
- *Select Issue Category:** A group of radio buttons with options: "Space and Facilities" (selected) and "Website and Self-Equipment".
- Location:** A dropdown menu.
- Details:** A large text area for providing additional information.
- Image:** A section for uploading images, with a "选择" (Select) button and a note "拖拽或单击后粘贴图片, 单张20MB以内" (Drag or click to paste images, max 20MB per image).
- *Responsible Member:** A text input field with a "+ 选择成员" (Select member) button.
- *Tracking Progress:** A group of radio buttons with options: "Notified CMO" and "Notified LITC".

At the bottom of the form, there are two buttons: "提交" (Submit) and "保存草稿" (Save Draft).

Figure 41 Space and Facilities Repair Form

1.1.2 It provides an open and transparent progress-tracking feature, allowing staff to monitor repair status in real time—much like tracking a

Date	Select Issue Category	Location	Network/Self-Equipment	Details	Image	Responsible Member	Tracking Progress	Repair Time	Status
2025-11-07	Space and Facilities	1F		防盗检测仪一半屏幕不亮		Sunhuo.Wu	Repair in Progress		Open
2025-11-07	Space and Facilities	1F		153号一张桌子的桌面缺零件		Qi.Li	Notified CMO		Open
2025-11-06	Space and Facilities	4F		204单人座的座位灯不亮		Xiang.Deng	Notified CMO		Closed
2025-11-05	Space and Facilities	3F		中国石化加油站的电梯上行按钮不亮		Qi.Li	Notified CMO		Closed
2025-11-05	Website and Self-Eq...		3号电梯车	3号电梯车扫码枪无法扫码		Wenpei.Mao	Repair in Progress		Open
2025-11-04	Space and Facilities	10F		单人自习桌区域多次跳电		Li.Lu	Notified CMO		Closed
2025-11-03	Space and Facilities	Other		E8 地下室图书室断电		Li.Lu	Notified CMO		Open
2025-11-01	Space and Facilities	4F		207单人自习桌灯不亮		Wenpei.Mao	Notified CMO		Open
2025-10-31	Space and Facilities	10F		西面角的两排灯管不亮		Qi.Li	Notified CMO		Closed
2025-10-31	Space and Facilities	3F		南面一张桌子的两个桌面灯罩等		Qi.Li	Notified CMO		Open
2025-11-04	Space and Facilities	9F		930门口灯闪烁		Li.Lu	Notified CMO		Closed
2025-11-04	Space and Facilities	9F		灯管故障		Li.Lu	Notified CMO		Closed
2025-11-04	Space and Facilities	4F		电梯口自习桌没电		Jiao.Lu	Notified CMO	2025-11-04	Closed
2025-10-30	Space and Facilities	5F		南面灯管不亮		Qi.Li	Notified CMO		Closed
2025-10-28	Space and Facilities	4F		E-207单人自习桌灯管不亮		Qi.Li	Notified CMO	2025-10-29	Closed

Figure 42 Space and Facilities Repair Form (Data Section)

delivery—which significantly enhances user experience and trust.

1.1.3 QR code and website multi-platform reporting allow for real-time data synchronization across all devices. Whether a repair request is submitted via a mobile scan or PC login, status updates are reflected accurately and instantly on all terminals, ensuring information consistency. Employees can report issues by scanning a QR code on their mobile phones and check detailed progress or historical records on a computer, achieving a seamlessly integrated service experience across different scenarios and devices.

2.1 Overall status at a glance: Dynamically displays key metrics such as "Total Repair

Tickets," "Spaces and Facilities Repair Progress," "Website and

Self-Equipment Repair

Progress," and "Total Repair Progress Pie Chart," enabling management decision-makers



Figure 43 Space and Facility Repair Management Dashboard (Key Metrics)

2.2 Closed-loop visibility of maintenance process: The status flow diagram with "Open," "Closed," "Repair in Progress," and other stages ensures transparency and dynamic tracking of every step, guaranteeing closed-loop issue resolution.

2.3 Data insight and deep mining: Administrators can use the top filters on the dashboard to freely combine multiple dimensions—such as time range (e.g., semester, the past month), responsible member, repair category, facility location, and repair status—to quickly pinpoint target data sets. For example, we can view repair records for "lighting fixtures on the third floor of the library in the past month" with a single click.

Serial Number	Academic Year	Date	Select Issue Category	Location	Network/Self-Equipment	Details	Image	Responsible Member	Tracking Progress	Repair Time	Status
136	AV 2025-2026 S1	2025-09-23	Space and Facilities	5F		西侧自习桌椅排故障		Qi Li	Notified CMO		Closed
135	AV 2025-2026 S1	2025-09-23	Space and Facilities	5F		E-169单人自习室的灯坏了		Qi Li	Repaired	2025-09-24	Closed
134	AV 2025-2026 S1	2025-09-23	Space and Facilities	9F		书桌故障		Qi Li	Repaired	2025-09-24	Closed
133	AV 2025-2026 S1	2025-09-23	Space and Facilities	3F		北面1-155单人自习桌灯坏了		Sunruo Wu	Repaired	2025-09-24	Closed
132	AV 2025-2026 S1	2025-09-23	Space and Facilities	4F, 5F		有用户反映，4楼和5楼很多插座不能使用		Shanhan Li	Repaired	2025-09-25	Closed
131	AV 2025-2026 S1	2025-09-23	Space and Facilities	3F		北侧自习区域有灯坏了		Siyun Wang	Repaired	2025-09-23	Closed
130	AV 2025-2026 S1	2025-09-22	Space and Facilities	5F		书桌故障		Qi Li	Repaired	2025-09-23	Closed
129	AV 2025-2026 S1	2025-09-22	Space and Facilities			3楼北侧的女卫生间，洗手池旁边的隔间，冲水器的不受敏		Qi Li	Repaired	2025-09-23	Closed
128	AV 2025-2026 S1	2025-09-22	Space and Facilities	5F		西侧靠门的或下楼梯转角		Sunruo Wu	Repaired		Closed
127	AV 2025-2026 S1	2025-09-19	Space and Facilities	3F		北侧大灯灯不亮		Qi Li	Repaired		Closed
126	AV 2025-2026 S1	2025-09-19	Space and Facilities	1F, 3F, 4F, 5F, 7F		153, 3楼, 4楼, 5楼, 7楼北均有多盏灯不亮或闪烁灯不亮		Qi Li	Notified CMO	2025-10-09	Closed
125	AV 2025-2026 S1	2025-09-18	Space and Facilities	Other		南侧电梯，10楼按键失灵		Qi Li	Repaired	2025-09-22	Closed
124	AV 2025-2026 S1	2025-09-16	Space and Facilities	Other		南侧电梯故障：一直停在10楼开门关门		Lailin Lu	Repaired	2025-09-17	Closed
123	AV 2025-2026 S1	2025-09-16	Space and Facilities	3F		南侧的自助取书机		Sunruo Wu	Repaired	2025-09-16	Closed
122	AV 2025-2026 S1	2025-09-12	Space and Facilities	4F		东南单人自习桌-21盏灯不亮		Chao Teng	Repaired	2025-09-13	Closed
121	AV 2025-2026 S1	2025-09-12	Space and Facilities	Other		北侧电梯，8楼按键失灵		Siyun Wang	Repaired	2025-09-13	Closed

Figure 45 Space & Facility Repair Management Dashboard

2. Management transformation: Shifted from “people seeking tasks” to “tasks finding the right people,” enabling dynamic resource allocation.
3. Enhanced decision-making: Data-driven insights support facility upgrades and spatial planning, maximizing the value of budget expenditure.

5. Replicability and Promotion Value

1. Model innovation: Established a three-terminal collaborative system integrating user, O&M, and management perspectives.
2. No-code innovation: The no-code system allows internal staff to independently build and maintain the platform, ensuring low-cost and high-efficiency digital construction.
3. High scalability and replicability: The clear architecture and low deployment cost of this platform enable easy replication across other

university departments.

6. Next Steps

Going forward, the platform will continue to be optimized and expanded to further enhance the precision and intelligence of space and facilities operations within Library. The system will conduct periodic data analyses and summaries by academic year and semester, establishing a regular review mechanism. These insights will provide forward- looking support for future maintenance planning and budget allocation.

Furthermore, the successful implementation of this project offers a replicable model for improving other library operations. Building on this initiative as a pilot, XJTLU Library will explore applying the no-code platform to additional service scenarios—such as circulation services—to drive the digitalization and intelligent upgrading of XJTLU Library's overall management system.