# WorkOrder System (ClickPaaS Low-Code Platform IT Service Ticket System)

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## 1. Background

The previously used work order system at the university had been in operation for over 10 years. As the scale of campus IT services expanded (with an annual average exceeding 20,000 tickets), the system gradually revealed multiple critical issues. First, it lacked official support. Initially developed on an open-source framework, it was later closed-source for various reasons. While the open-source version remained usable, its core code was no longer iterated, and there was no dedicated team for maintenance. Second, performance bottlenecks became prominent. The massive accumulated historical ticket data led to increasingly slow page loading and data query times. Third, risks were uncontrollable. The old system once failed to receive tickets for 3 hours due to a server outage, directly impacting the progress of resolving IT issues for staff and

students. To ensure the continuity of IT services, improve management efficiency, and balance development costs with delivery timelines, the project team, after research and comparison, ultimately chose to build a customized work order system based on the ClickPaaS low-code platform.

## 2. Solutions

Leveraging the visual development capabilities of the ClickPaaS low-code platform, a full-cycle work order management system was constructed. Key implementation aspects include:

- **System Architecture Design:** Adopted a "low-code backend + existing frontend integration" model. Core backend modules (ticket generation, assignment, processing, archiving) were rapidly built using ClickPaaS's form engine, process engine, and data engine. The frontend page reused the ticket module of the existing E-Support integrated service platform. Real-time data synchronization between frontend and backend was achieved through API interfaces, avoiding the need for staff and students to relearn a new system.

- **Multi-Channel Ticket Submission:** Established a dual-channel ticket intake via "web form submission + email synchronization." Staff and students can submit requests through the ticket form on the E-Support platform (supporting text/image descriptions and file attachments). Emails sent to the designated address (IT@xjtlu.edu.cn) are automatically parsed by a mail listener component, which synchronizes the subject, content, and attachments to generate standardized tickets.

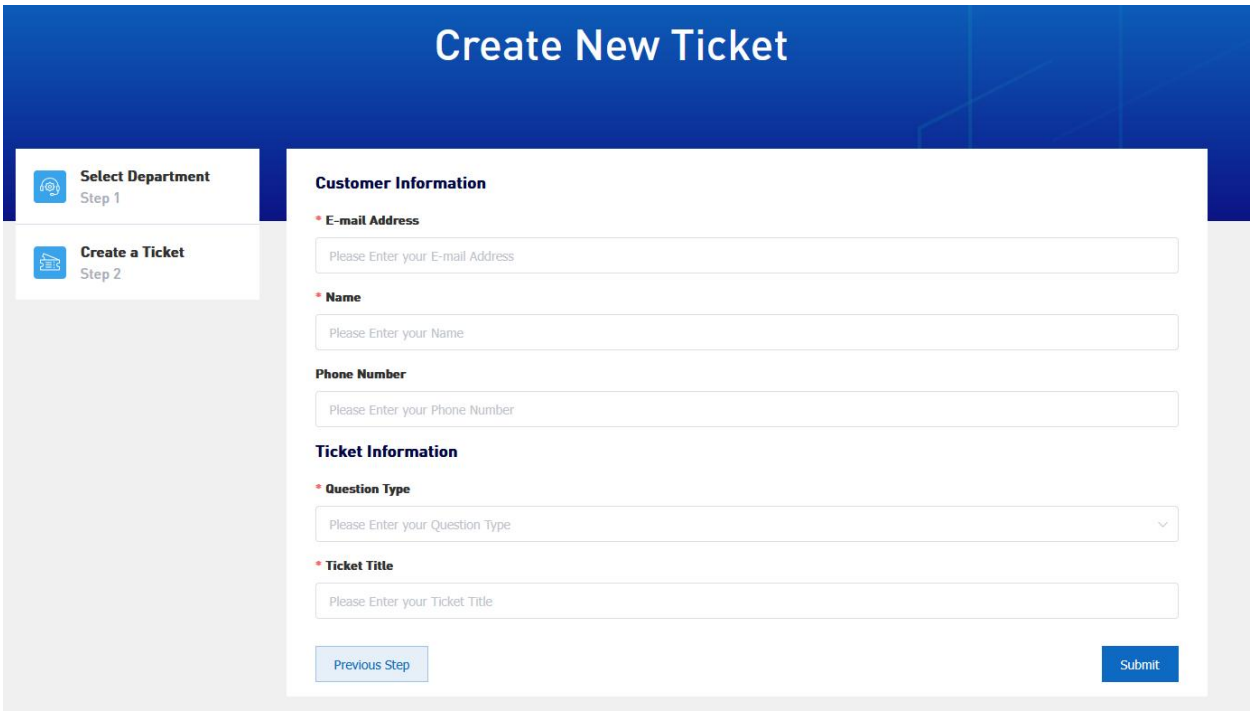


Figure 6-1 E-Support Interface: Creating a Ticket

- **Ticket Routing and Processing:** 1) Automated workflow rules configured using the ClickPaaS process engine enable automatic ticket routing for standardized processes. 2) Comprehensive ticket

operations are available. Beyond basic actions like assignment, reply, and closure, the system supports features like internal notes, ticket splitting, merging, escalation, and suspension, meeting diverse operational needs across various handling scenarios. 3) Progress tracking is transparent. Ticket statuses (Pending Assignment, In Progress, Awaiting Confirmation, Completed) are synchronized in real-time to the E-Support frontend. New replies trigger internal message/email notifications.

- **Full-Cycle Data Management:** The system automatically retains all communication records (including text, images, attachments), engineer handling information, resolution time, and other data. It supports multi-dimensional searches by time, department, issue type, etc., providing a basis for service quality analysis.

## 3. Outcomes and Benefits

The Work Order System officially launched in July 2024, replacing the legacy system to receive and process MITS tickets. Having been operational for over a year, the system runs stably with significant results:

- **Significant Cost Reduction:** The low-code development model compressed the project delivery cycle from 18 months (typical for

traditional custom development) to 6 months. System maintenance no longer requires specialized coders; the IT team can adjust rules and optimize functions via ClickPaaS's visual interface, leading to a notable decrease in both development and annual operational costs.

- **Enhanced User Experience:** Multi-channel submission meets needs in different scenarios. The progress display feature reduces anxiety for staff and students awaiting resolutions.

## 4. Replicability and Promotion Value

This case demonstrates strong replicability and promotional value, primarily due to the flexibility and scenario adaptability of the low-code platform.

The system's core process framework (Request Submission -> Assignment -> Processing -> Archiving) can be directly replicated for business inquiries, applications, and processing in administrative service departments or student service departments. By merely adjusting form fields, workflow rules, and permission configurations, similar ticket systems for various campus service scenarios can be rapidly deployed, achieving standardization and efficiency in campus service management.

## 5. Next Steps

To further unlock the value of the low-code platform, the next focus is on optimizing search functionality: upgrading the system's search module by introducing a full-text search engine. This will enable keyword searches across all dimensions of ticket information, including titles, descriptions, communication records, and text within attachments (e.g., PDF, Word documents). This enhancement will allow engineers to quickly locate historical tickets with similar issues and their solutions, thereby improving search efficiency and reducing information retrieval time.