Application Story

Tongren Hospital Takes a Digital Approach to Resolving Service Challenges

Tongren Hospital is a 3A-grade hospital equipped with 1200 beds that handles an average of 2.3 million emergency department visits, 40,000 inpatients, and over 25,000 operations per year. To maintain a consistent and high standard of care, Tongren Hospital is committed to implementing service solutions that emphasize the connection between people, medical care, and medicine in order to achieve a modernized patient-oriented hospital. Accordingly, Tongren Hospital adopted several of Advantech’s intelligent hospital solutions; these included an intelligent check-in system and interactive multimedia broadcast system designed to optimize hospital processes, reduce queue length, and eliminate long patient wait times.

Now, upon arrival at Tongren Hospital, patients are able to check the available appointment times for their required department and view the doctor’s information presented on displays located by the registration and check-in counter. Regarding the check-in process, patients can use a self-service kiosk to check themselves in with their national health insurance card. After check-in, the hospital information system (HIS) automatically synchronizes the inputted appointment data with the existing appointment schedule. Display systems located by the clinic room door are used to display doctor/disease details, current appointment number, and any relevant public announcements. These innovative solutions not only streamline the appointment process but also frees nursing staff from the responsibility of manually registering patients and booking appointments.

Ordering Information

iOutpatient Solution

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<th>Solution Package</th>
<th>Solution Type</th>
<th>Edge SRP</th>
<th>IAPP</th>
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<td>Android</td>
<td>Advantech DS-081U1HPSW-I1E-C</td>
<td>WISE-PaaS/SignageCMS</td>
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<tr>
<td>2. Self Check-in Terminal</td>
<td>Webinar</td>
<td>Advantech UTC-532HPCW-I1E-C</td>
<td>Hospital Queuing Management</td>
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<tr>
<td>3. Interactive Queuing Terminal</td>
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Blueprint of an Intelligent Hospital
iOutpatient Architecture

The iOutpatient SRP serves as a signage and queue management platform that receives patient information and check-in and queuing data from the hospital information system (HIS), and connects networked devices to enable centralized remote management, hardware monitoring, and software upgrades. All collected data is integrated at the Hospital Command Center to provide performance statistics and facilitate hospital operations analysis. Implementing iOutpatient can reduce staff workloads, freeing them to focus on patient care.

Advantages of iOutpatient

- Improved organizational performance
- Optimized outpatient care
- Improved service efficiency
- Increased patient satisfaction
- Health education promotion
- Data visualization and analysis
- Excellent scalability and extensibility
- Easy installation and operation

Public Queuing System

- Digital queue allocation to available counters
- Supports institutional counter processes
- Queue transition with a single ticket number

Clinic Check-in System

- Supports self-check-in and patient-calling announcements
- Displays outpatient clinic information
- Adjusts care delivery to patient needs

Integrated Signage System

- Broadcasts queue status hospital wide
- Supports various multimedia and video streaming formats
- Offers interactive guides and educational functions

Examination Room Queuing System

- Dynamic examination room allocation
- Optimizes inspection workflows
- Calling software accessible and synchronized instantly

IT/ Administration

- Layout design and programming management
- Remote hardware monitoring and software upgrades
- Supports data visualization at the Hospital Command Center

Data Sources Expected Benefits

- Hospital information systems (HIS)
- Hospital operation management systems
- Outpatient care process records
- Intelligent service systems
- Edge computing devices
- Third-party databases

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- Optimizes inspection workflows
- Cycles software access and synchronizes instantly

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- Supports data visualization at the Hospital Command Center

**External Queuing System**
- Efficiently integrates multiple terminals integrated signage terminals, all-in-one touch panels, self-service kiosks, and TV wall applications.

**iOutpatient**
- From Registration, Treatment, Examination and Payment, Total Queuing Service can be Intelligent and Ensure a Patient-Friendly Hospital through iOutpatient solution.
- Efficiently Integrating Multiple Terminals Integrated Signage Terminals, All-in-one Touch Panels, Self-service Kiosks and TV Wall Application.
- Connecting to Hospital Information System, Real-time Queuing Status and Making Data Visualization.
Data Sources

- Hospital information systems (HIS)
- Hospital operation management systems
- Outpatient care process records
- Intelligent service systems
- Edge computing devices
- Third-party databases

Expected Benefits

- Improved organizational performance
- Optimized outpatient care
- Improved service efficiency
- Increased patient satisfaction
- Health education promotion
- Data visualization and analysis
- Excellent scalability and extensibility
- Easy installation and operation

Public Queuing System

- Digital queue allocation to available counters
- Supports institutional counter processes
- Queue transfers with a single ticket number

Clinic Check-in System

- Supports self-service check-in and patient-calling announcements
- Displays outpatient clinical information
- Adjusts care delivery to patient needs

Integrated Signage System

- Broadcasts queue status in hospital wide
- Supports various multimedia and video streaming formats
- Offers interactive guides and educational functions

Examination-Room Queuing System

- Dynamic examination room allocation
- Optimizes examination workflows
- Ensures patient accessibility and timely flow

IT/ Administration

- Hospital information system integration
- Remote hardware monitoring and software upgrades
- Supports data visualization at the Hospital Command Center

Advantages of iOutpatient

- From Registration, Treatment, Examination and Payment, Total Queuing Service can be Intelligent and Ensure a Patient-Friendly Hospital through iOutpatient solution.
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WisePaaS

SignageCMS

WisePaaS

Dashboard

Data

Linker

Hospital

Queuing

Management

WisePaaS

AFS

iOutpatient Management

Patient Qualification Management

Queue Status Management

Examination Room Configuration

Waiting Time Management

Reporting

Time Monitoring

iOutpatient Data Services

Patient Data

Queue Status

Reporting

Time Monitoring

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<td>UTC-520HPQW-I1E-C</td>
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<td>2 Self Check-in Terminal</td>
<td>Windows</td>
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<tr>
<td>3 Interactive Queuing Terminal</td>
<td>LTE-C</td>
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Test: 92% Accuracy, 98% Effectiveness, 99% Security, 99% Convenience

Solution Type
Queuing Display Terminal
Self Check-in Terminal
Interactive Queuing Terminal

DS-081U1HPSW-I1E-CUSM-110HPSA-I1E-C
UTC-752HPKW-I1E-C
UTC-532HPCW-I1E-C
UTC-723HPKW-I1E-C

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<tr>
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<tr>
<td>Hospital RTLS</td>
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<tr>
<td>Environmental control</td>
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<tr>
<td>Hospital iWard</td>
<td>Hospital iWard</td>
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<tr>
<td>Medical Cold Chain Management</td>
<td>Medical Cold Chain Management</td>
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<tr>
<td>Medication Dispensing</td>
<td>Medication Dispensing</td>
</tr>
<tr>
<td>Device &amp; Function</td>
<td>Device &amp; Function</td>
</tr>
<tr>
<td>ePaper Management</td>
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<tr>
<td>OR Video/Image Streaming</td>
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Bluetooth: Please verify specifications before quoting. This guide is intended for reference purposes only.

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