





# PAIN POINT OF SINGAPORE HEALTH SERVICES

## Statistics :

Singapore's healthcare system faces several challenges, particularly due to its aging population, projected to reach 23% by 2030. In 2021, healthcare expenditure amounted to approximately SGD 13.5 billion, or 4.5% of GDP, with 80% of citizens relying on public services, which often lead to wait times for specialist appointments averaging between 6 to 12 weeks. Mental health issues are increasingly prevalent, with 1 in 7 Singaporeans affected as of a 2021 survey, underscoring the demand for mental health services. Additionally, the Ministry of Health anticipates a need for 30,000 more healthcare workers by 2030 to adequately meet the rising demand for care.

## OUR CONTINUING MISSION TO MAKE A CHANGE AND IMPROVEMENT OF HEALTH CARE SERVICES BY IT SOLUTION

### System Primary Functions



- ✓ Rescheduling of Appointments (by Manual or Auto)
- ✓ Auto Extension of Future Planned Appointments
- ✓ Extension of Treatment
- ✓ Auto Start / Stop of Treatment
- ✓ Registration Management
- ✓ Patient Management
- ✓ Resource Utilisation Tracking (Real Time Dashboard)
- ✓ Drugs Preparation Tracking
- ✓ Reports Generation
- ✓ System Interfaces with current hospital CMS system (Clinical management system CMS On-ramp)

# THE NEEDS FOR EACH STAKEHOLDER



## Challenges:

- Long waiting time between treatments
- Long waiting time between procedures
- Potential medical reactions towards administrated drugs

## Needs:

- Receive correct drug administration
- Reduction in waiting overall wait time
- Alleviation of stress during attendance



## Challenges:

- Need to fit ward-responses between requests from other departments
- Susceptible to communication breakdown
- Drug expiration

## Needs:

- Accurate instructions from nursing
- Reliable communication channels
- Accurately know when drugs are required



## Challenges:

- Attending correct appointment
- Potential delays in treatment procedures
- Post-treatment paperwork
- Timely notifications to pharmacy to prepare drugs

## Needs:

- Quickly response to emergencies
- Reduced time in post-treatment works
- Access to real-time information



## Challenges:

- Different reports from different departments
- Associating patient-resource-nurse for a given appointment
- Potentially outdated information

## Needs:

- Standardised reports
- Real-time monitoring and report generation

# OUR GOALS AND ENHANCEMENTS

## GOALS

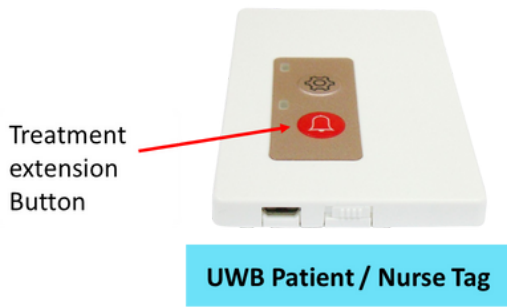
- 1 Maximise Ward Efficiency
- 2 Smooth Operations
- 3 Improved Patient Safety & Satisfaction
- 4 Reduced Drug Wastes

## ENHANCEMENTS

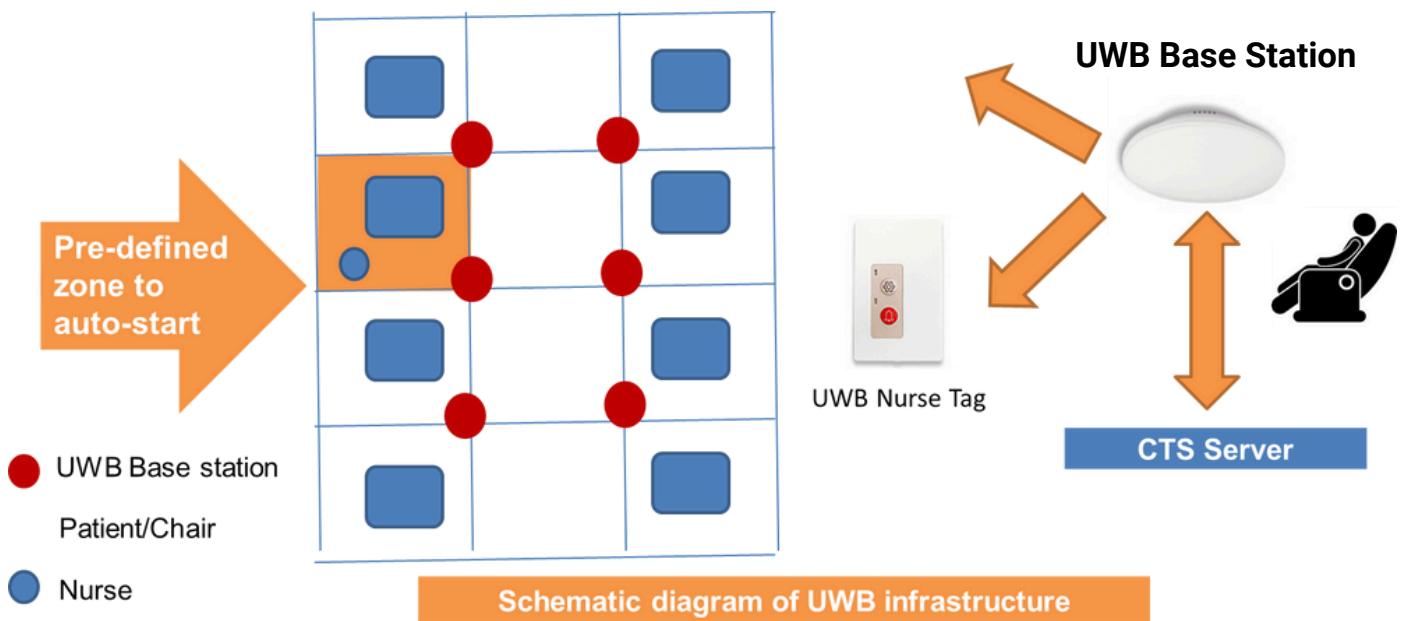
- 1 Appointment Scheduling
- 2 Resource Management
- 3 Patient Management
- 4 Workflow Optimisation
- 5 Real Time Reports & Analysis
- 6 Proximity Based Automation

# UWB TAG AND UWB BASE STATIONS

(For Extension of treatment time and treatment status)



With the UWB Real-Time Location System (RLTS), the locations of each nurse and patient tag can be tracked live. Treatment can automatically start (auto-start) when the nurse and patient tags enter the predefined zone of the chair. The extension of treatment time and treatment status can be modified on the tags.

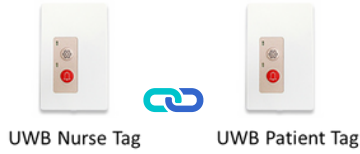


## BENEFITS

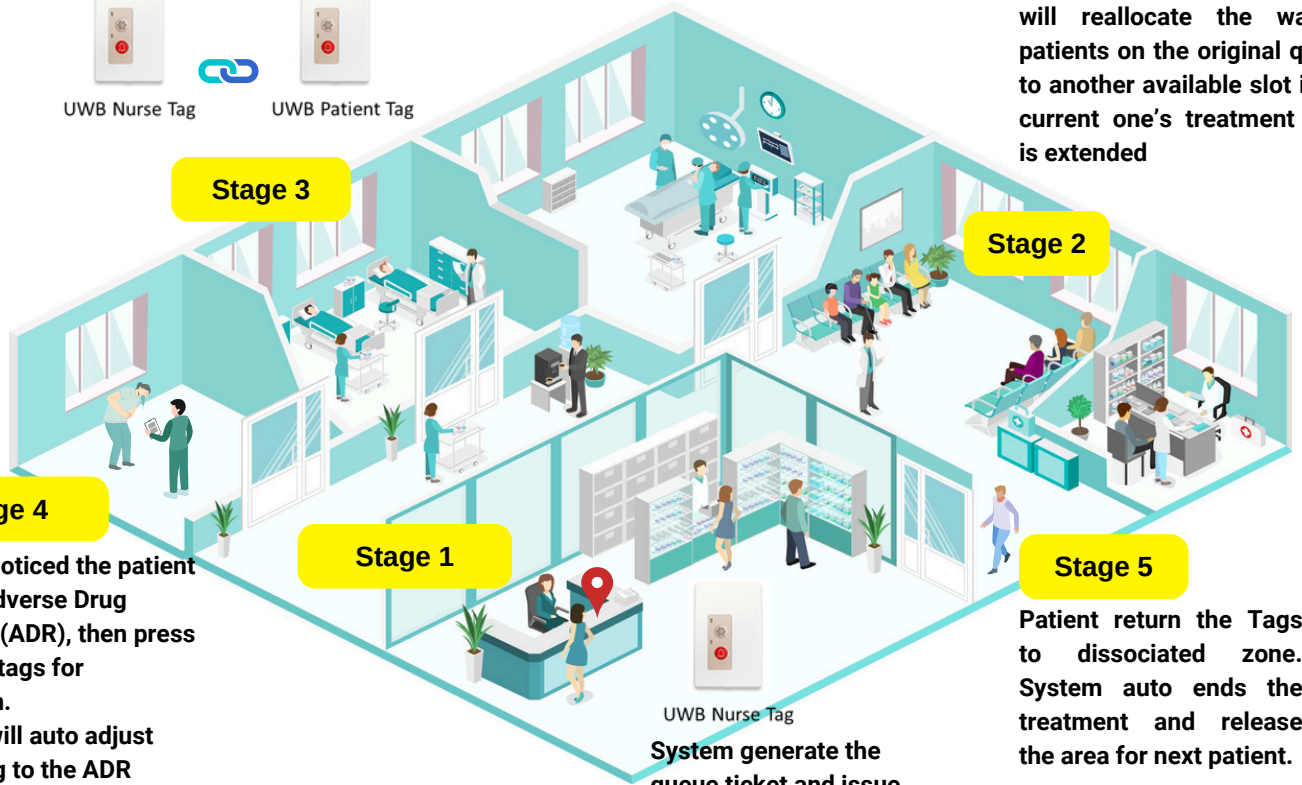
- **Efficient and Optimal Resource Allocation:** A scheduling system can optimize the allocation of chemotherapy treatment resources such as infusion chairs, medical staff, and equipment. It helps ensure that the available resources are utilized effectively, minimizing idle time and maximizing productivity.
- **Reduced Waiting Times:** By implementing an efficient scheduling system, patients can experience reduced waiting times for chemotherapy treatments. The system can prioritize and schedule appointments based on various factors such as treatment urgency, patient preferences, and available resources. This helps to minimize delays and improve the overall patient experience.
- **Improved Patient Satisfaction:** A well-organized scheduling system can enhance patient satisfaction by providing them with convenient and timely appointments. Additionally, the system can enable patients to reschedule or cancel appointments easily, accommodating their individual needs and preferences.
- **Data Management and Analysis:** A scheduling system can store and manage comprehensive data related to chemotherapy treatments, including patient records, treatment schedules, and resource utilization. This data can be analyzed to identify trends, optimize scheduling algorithms, and improve operational efficiency. It can also support research and quality improvement initiatives by providing valuable insights into treatment outcomes and resource allocation.

# OVERALL JOURNEY MAP

1. Treatment can start (auto-start) when the nurse and patient tags come into the pre-defined zone of the treatment area.
2. Extension of treatment time and treatment status can be done on tags.



Schedule Picker of the system will reallocate the waiting patients on the original queue to another available slot if the current one's treatment time is extended



### Stage 4

1. If nurse noticed the patient having Adverse Drug Reaction (ADR), then press the UWB tags for extension.
2. System will auto adjust according to the ADR extended duration of treatment and update for future appointments.

### Stage 3

### Stage 2

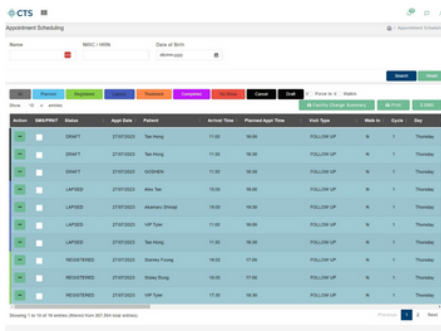
### Stage 1

### Stage 5

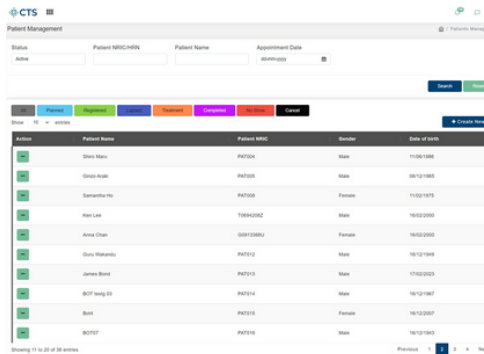
UWB Nurse Tag  
System generate the queue ticket and issue the UWB patient tags to patient

Patient return the Tags to dissociated zone. System auto ends the treatment and release the area for next patient.

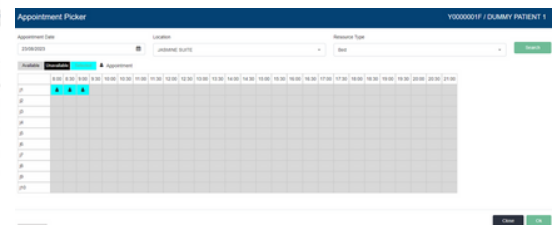
# SOFTWARE UI



Appointment Scheduling



Patient Management



Schedule Picker

Software customized according to specific requirement to ensure the maximum fulfillment of the hospital's needs and requirements.



## Singapore

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