

Project Title

Triage System

Project Lead and Members

Project lead: Terence Mok, Asst. Director, Management Information System (MIS)

Project members:

- Wendy Lum (Manager, MIS)
- Chua Zhirong (Senior System Analyst)
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Organisation(s) Involved

Ang Mo Kio Thye Hua Kwan

Aims

To automate visitor management with minimal manpower required

Background

See attachment

Methods

See attachment

Results

See attachment

Lessons Learnt

With the dynamic and evolving situation of COVID-19, a robust Triage system will help to automate repetitive tasks, especially for repeat visitors, to allow faster registration.

This will allow them more time to spend with their loved ones in view of the shortened visiting hours in the hospital, as well as smoother visitor management to clear crowds. Ultimately, this will translate into better visitor experience without compromising the regulation on visitor limitation mandated by MOH.

Conclusion

Our organisation is dedicated to provide quality rehabilitative care for patients recovering from stroke, fractures and other debilitating medical conditions. With the system in place during difficult times like COVID-19 where resources are limited and stretched, this saves a considerable amount of resources, enabling us to be more efficient and focus on providing better care for our patients. We are heartened that the system has been improving and keeping up with the changes in the MOH advisories in a timely manner

Project Category

Automation, IT & Robotics,

Keywords

Automation, IT & Robotics, Visitor Management, Triage System, Visitor Experience, Pandemic, Contact Tracing, Waiting Time, Manpower Savings, Human Error, Waste Reduction, Nursing, Medical Services, Infection Control, Community Care, Ang Mo Kio Thye Hua Kwan Hospital, Management Information System

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太和观 THK

ANG MO KIO

THYE HUA KWAN HOSPITAL

太和观医院

Triage System For Pandemic Times

Automation, IT, Robotics Innovation

Ang Mo Kio-Thye Hua Kwan Hospital / Management Information System (MIS), Infection Control Team

BACKGROUND

In times of pandemic, visitor management plays a critical part to register, track and restrict visitors limit, to minimize the potential community spread in the hospitals. This drives the need to improve productivity and utilization of scarce resources through the use of technology and automation, in managing visitor management effectively and reduction of the manpower needed to man the triage. AMK-THKH has successfully implemented the triage system to automate the visitors management with minimal manpower required.

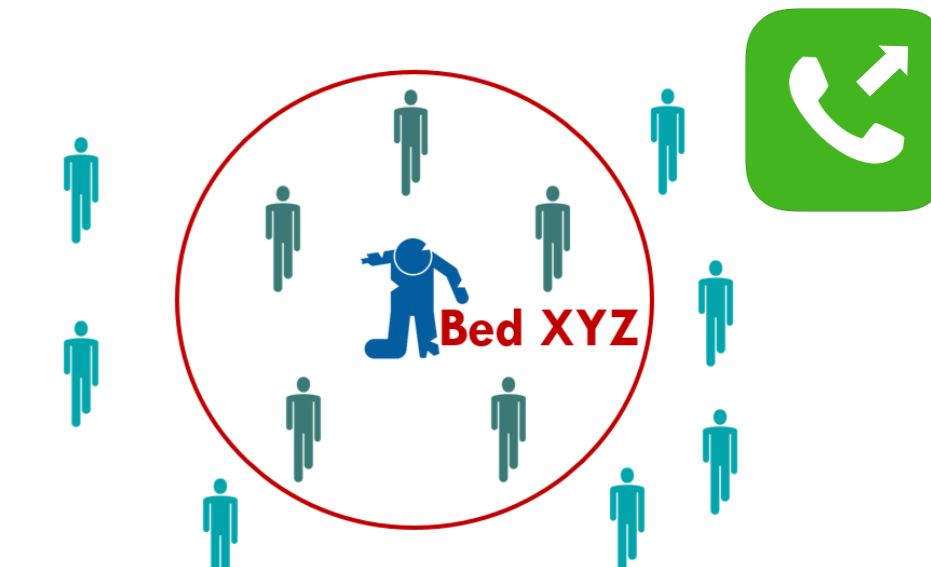
KEY OUTCOMES



Automate visitors screening to facilitate faster registration in visitors management.



Eliminate manual forms in visitor registration, recording of travel history and tracking of temperature.



Reduce manual effort in contact tracing, statistics collection and reporting.

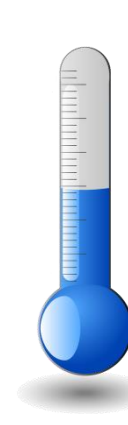
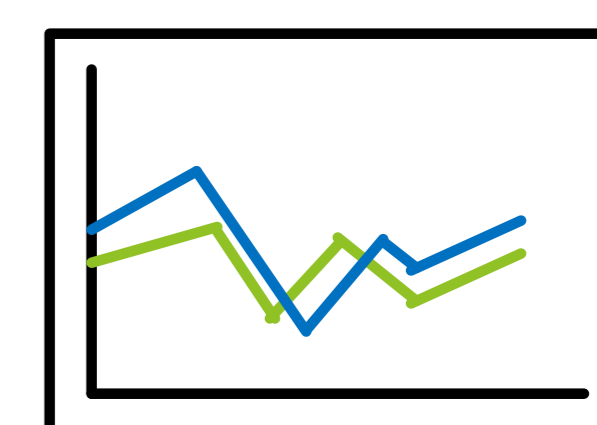
MANPOWER CONSTRAINTS

Relies heavily on resources to register and screen visitors travel declaration history manually at Hospital's lobby entrance and Ambulance Bay.



CONTACT TRACING / STAFF TEMPERATURE

- 1. Flexibility to implement **time sensitive changes** in screening questions and affected countries.
- 2. DORSCON level handling and the **need to restrict visitor / caregiver limitation** by patient.
- 3. **Statistics and analysis** of data collected for contact tracing and reporting to management.
- 4. Need to monitor and **record Staff Temperature** on a daily basis.

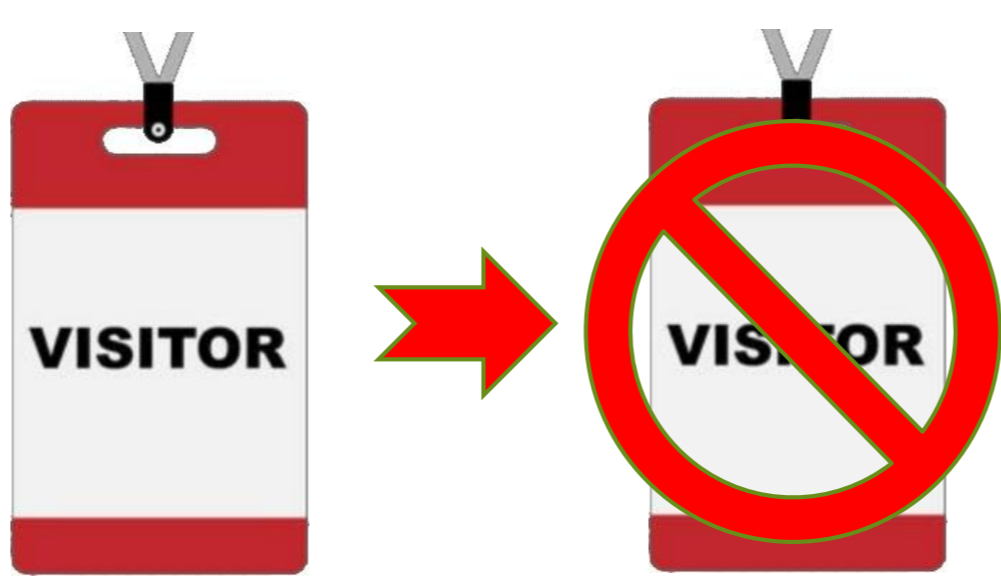


why are they so slow?

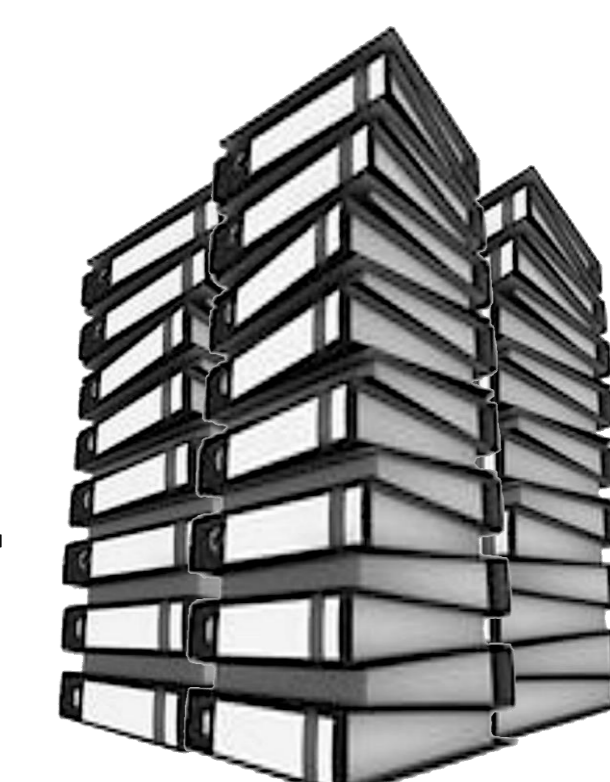
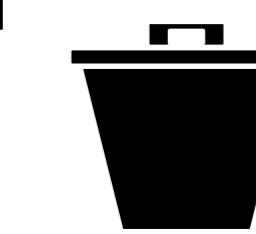


With a triage system, it helps to screen visitor travel declaration history, deny entry to visitors with potential upper respiratory tract infection (URTI) symptoms or having close contact with a COVID-19 infection person. For repeat visitors, it speeds up registration by scanning their NRIC/ID cards to retrieve their previously stored information.

- 1. **Long lead time** to manually record per visitor thereby leading to longer waiting time for visitor.
- 2. **Tedious and difficult** to manually track hardcopy to validate number of visitors per patient.
- 3. Repeat visitors had to **re-fill screening forms**.



- 1. Need to **reduce paper wastage** and storage of manual forms.
- 2. Ability to allow **quick registration** for repeat visitors.



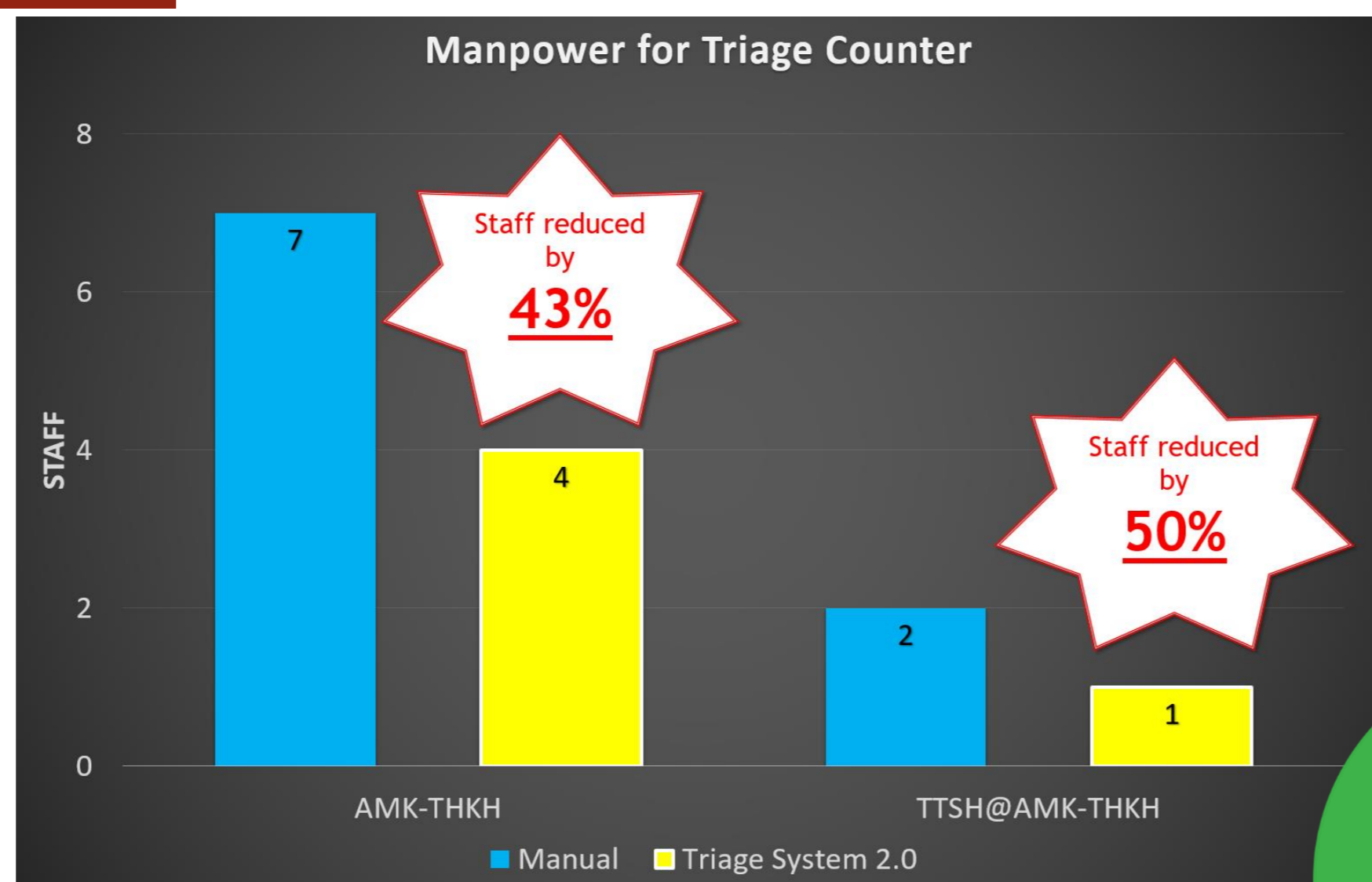
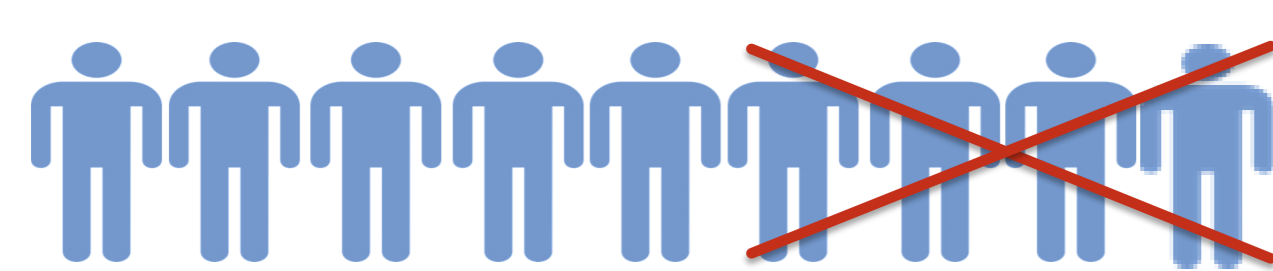
REGISTRATION / WAITING TIME

PAPER WASTAGE / STORAGE

! Problem 💡 Solution

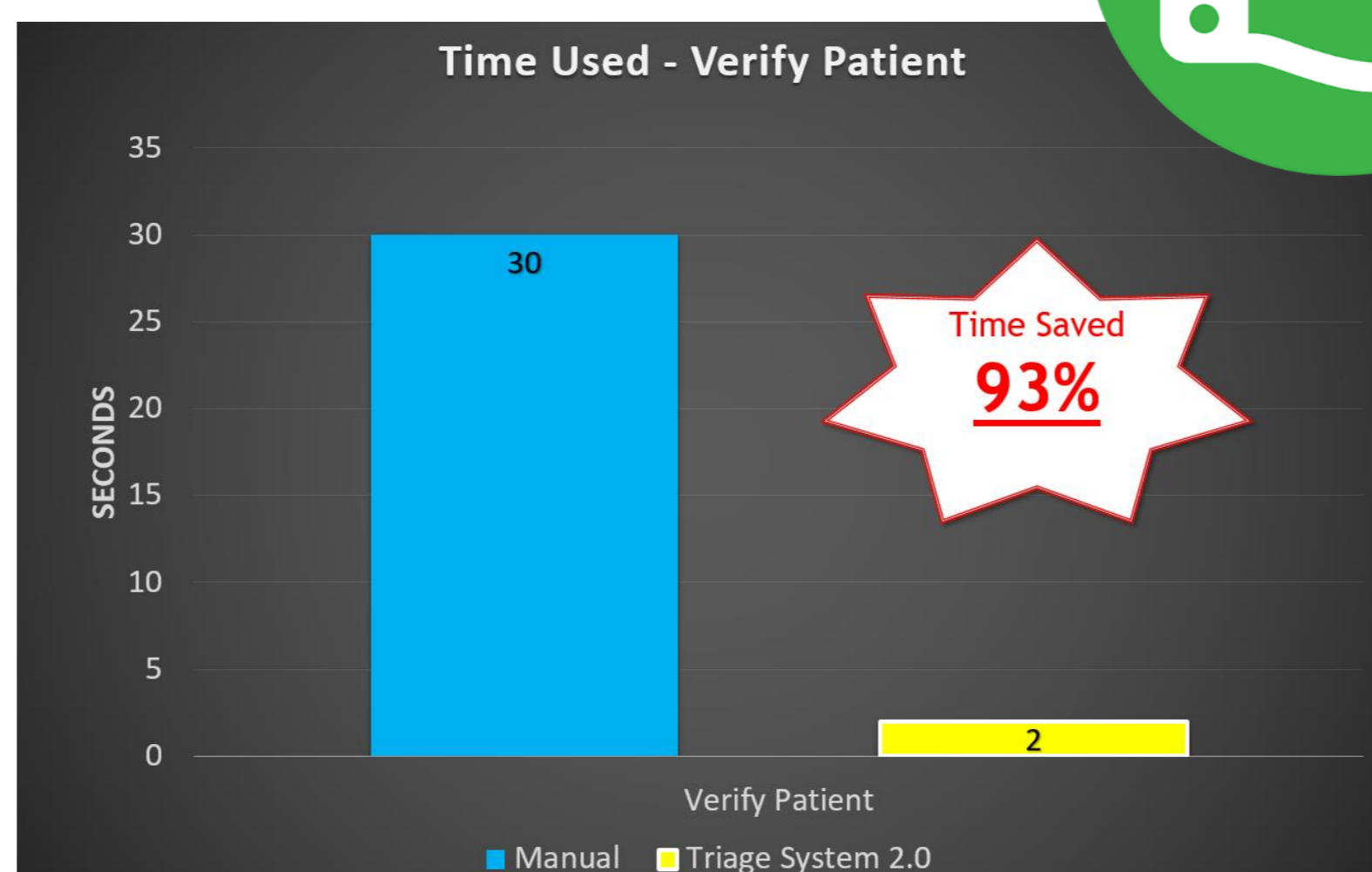
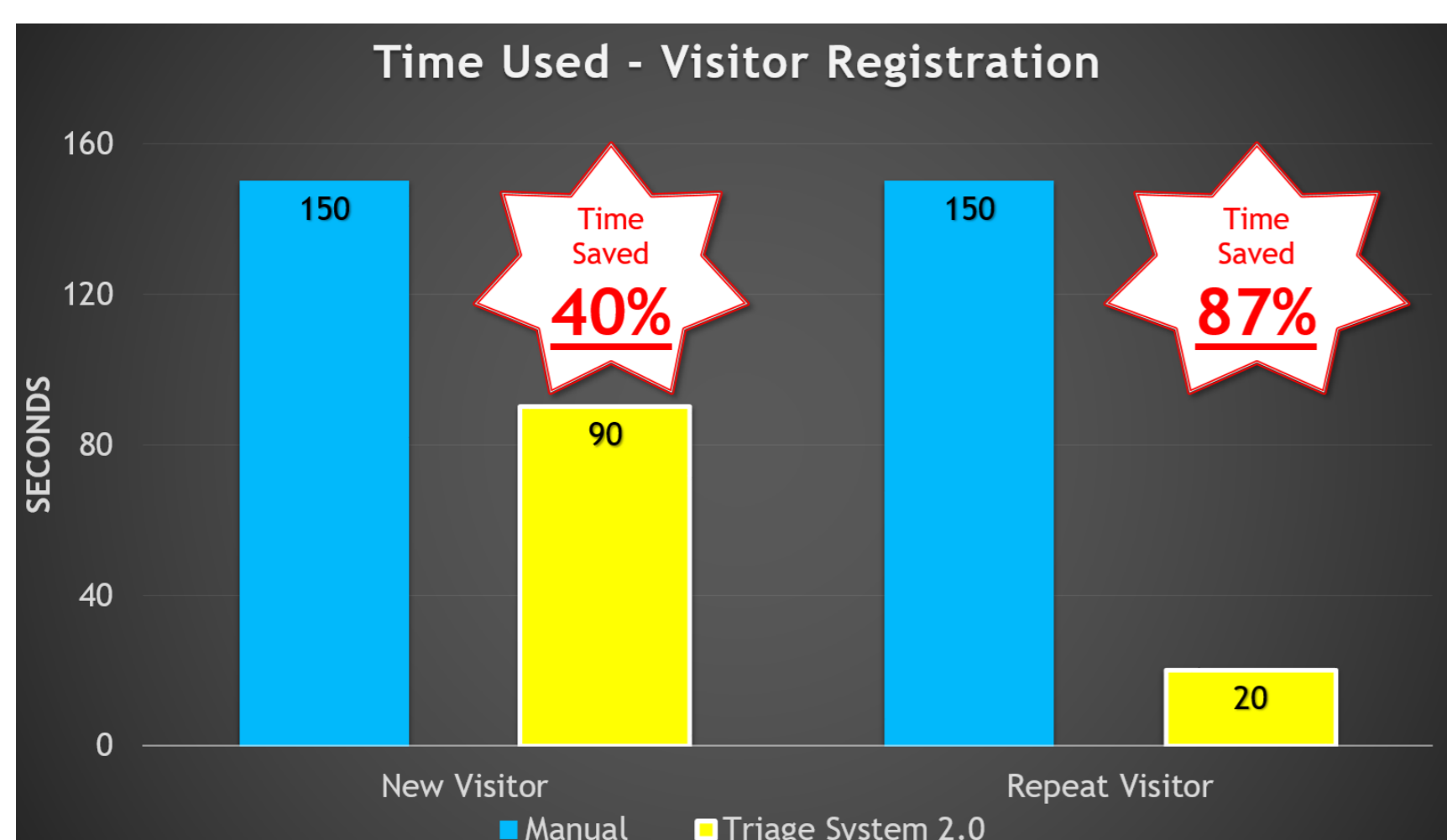
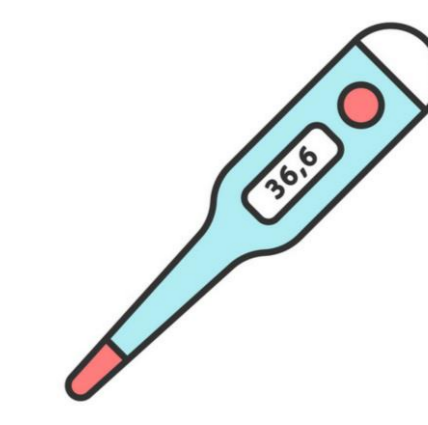
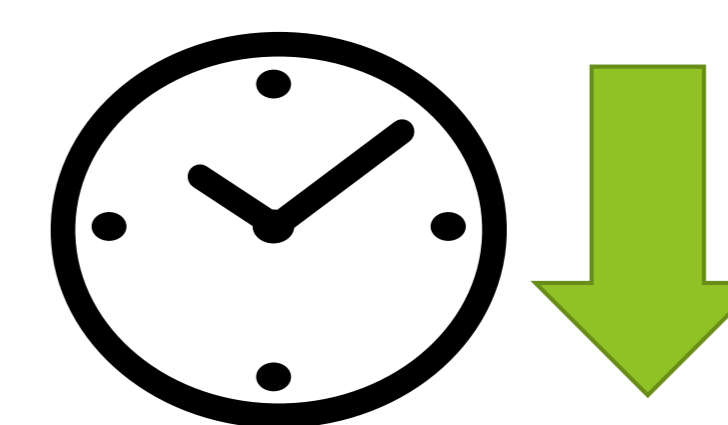
MANPOWER SAVINGS

- 1. There is a **reduction of 43% manpower** (for AMK-THKH) and **50% manpower** (for TTSH@AMK-THKH).
- 2. These manpower saved, potentially helps our staff to be relieved of triage duties and they can spend **more time on patient care activities**.

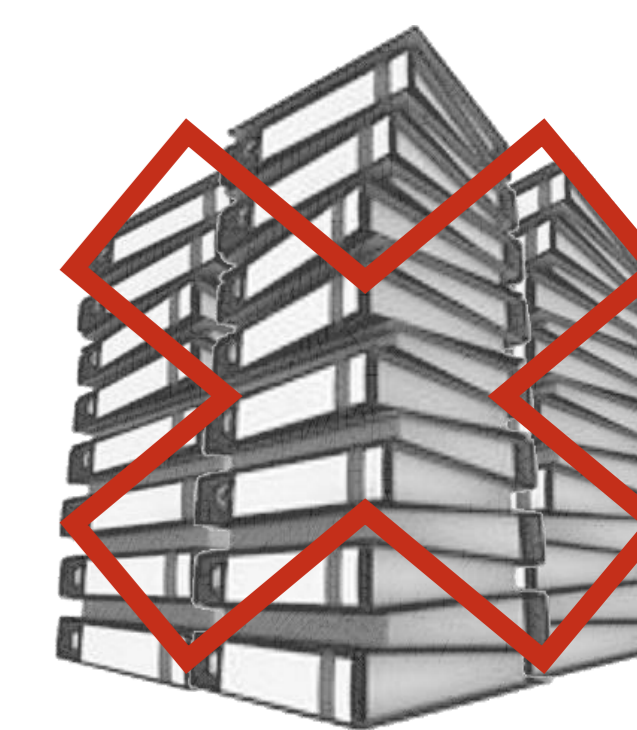


CONTACT TRACING / STAFF TEMPERATURE

- 1. The system is able to **modify the screening questions changes quickly** and concurrently to all triage computers.
- 2. **Improves productivity** by reducing the time required to do:
 - a. contact tracing by 85%.
 - b. aids reporting to management by 88%.
- 3. Ability to **record, track staff temperature** and generate report in real time.



- 1. Provides **quick registration** of visitors screening questionnaires through the web based Triage system.
- 2. Allows repeat visitors for **re-entry within seconds**, without comprising visitor limit checks per patient.
- 3. Provides **management of exceptional cases** like Caregiver training and blacklisting of non-abiding visitors.
- 4. Ability to provide **fastidious contact tracing** through reports.



GO PAPER-LESS

AUTOMATION BY GOING PAPERLESS

- 1. Ensures **timeliness** and **accuracy** of visitors' registration data through elimination of duplicate entries of bio data for repeat visitors.
- 2. Improves **productivity** by shortening time taken for users to enter visitors' information, thereby reducing the man power needed.
- 3. Better **tracking** on the **restriction** of the number of visitors per bed with integration and validation with AMK-THKH inpatient system.

REGISTRATION / WAITING TIME

IMPROVE VISITOR EXPERIENCE

IMPROVE PRODUCTIVITY AND EFFICIENCY

SCALING UP

Triage System

- Pandemic situation is ever-changing and system needs to be flexible to cater for dynamic change in screening requirements and handling when the DORSCON level changes. Future enhancements include tagging of recovered COVID-19 visitors and automatic purging after X months.
- AMK-THKH has also shared this system to other non-profit organizations to help them better manage visitors, as Singapore stands united against this pandemic outbreak.



SUMMARY

PROBLEM STATEMENT & ACTION TAKEN

IMPROVEMENTS & BENEFITS

LEARNING POINTS & NEXT STEPS