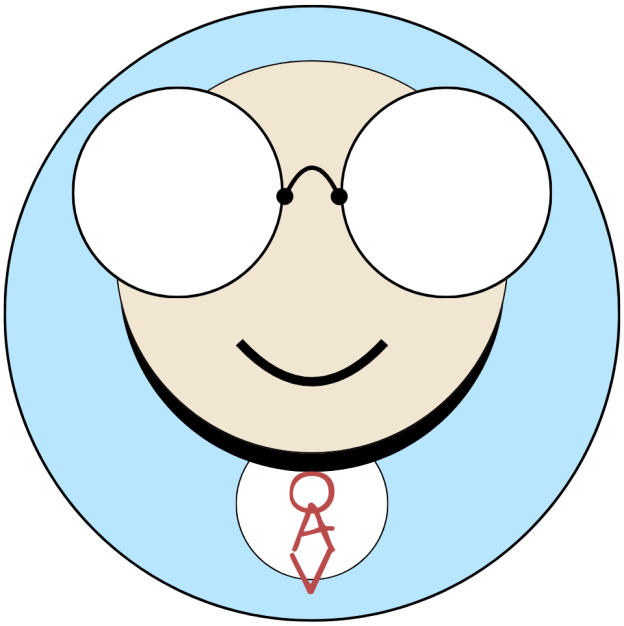

# Virtual Medical Queue System


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# Introduction

A lasting problem that many countries face right now is the long queues inside their public medical facilities. This is due to the sheer volume of patients that need to be taken care of and not enough medical resources available to cater to those patients. The amount of time and energy that is wasted when people queue for public services is a serious problem (Alam, 2018). This is likely to stir stress and lead to an unpleasant experience for those in public as they wait in long queues. Furthermore, in specialized cases such as chronic respiratory illnesses, delays in service can lead to worsening patient conditions, making queue optimization a matter of medical urgency (Gillard et al., 2025).

# Problem Description

Despite technological and healthcare advancements, many public medical facilities still use a First-Come-First-Served system that does not account for patient priority or staff availability. As noted by Alam (2018), the "dead time" spent in visible, slow-moving queues leads to heightened patient anxiety and can even result in verbal or physical friction between patients and exhausted medical staff. Additionally, bottlenecks at registration or triage desks stall the entire patient flow, creating a "domino effect" that delays specialized care.

## Proposed Solution

Reducing wait times and allowing for prioritization for patients are the key obstacles for this problem. To address these obstacles, this research proposes a solution by creating a Virtual Medical Queue System. It is a web application that can be accessed anytime, as to not require installation and be made readily available. This web app aims to simplify the queuing process in a medical facility, and alleviate the long queue lines. To achieve this, there will be multiple features integrated into this web application.

- Patient Registration: Patients can register directly through the web application by inputting essential and valid credentials. (Valid ID, Phone Number, etc…)
- Virtual Queuing: Patients can view the queues for initial check-ups and choose to queue virtually and then get evaluated. They are also able to view how long a queue is currently, and its estimated waiting time.
- Patient Priority: Once a triage is able to evaluate the urgency of a patient’s status, they are given priorities in queues.
- Notification System: The web application sends a notification through the browser to alert the patient when it is their turn in the queue.

## Conclusion

Most medical facilities are faced with an overwhelming demand, as multiple patients come in daily. To aid this, reducing wait times in medical facilities is essential to improving the patient's experiences and simplifying the medical facility's processes. By implementing a technological solution that helps streamline the process, medical facilities can avoid a hectic environment and keep processes clean and efficient. This research proposes the Virtual Medical Queue System to aid this cause and turn the long queues into an organized process.

## References


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