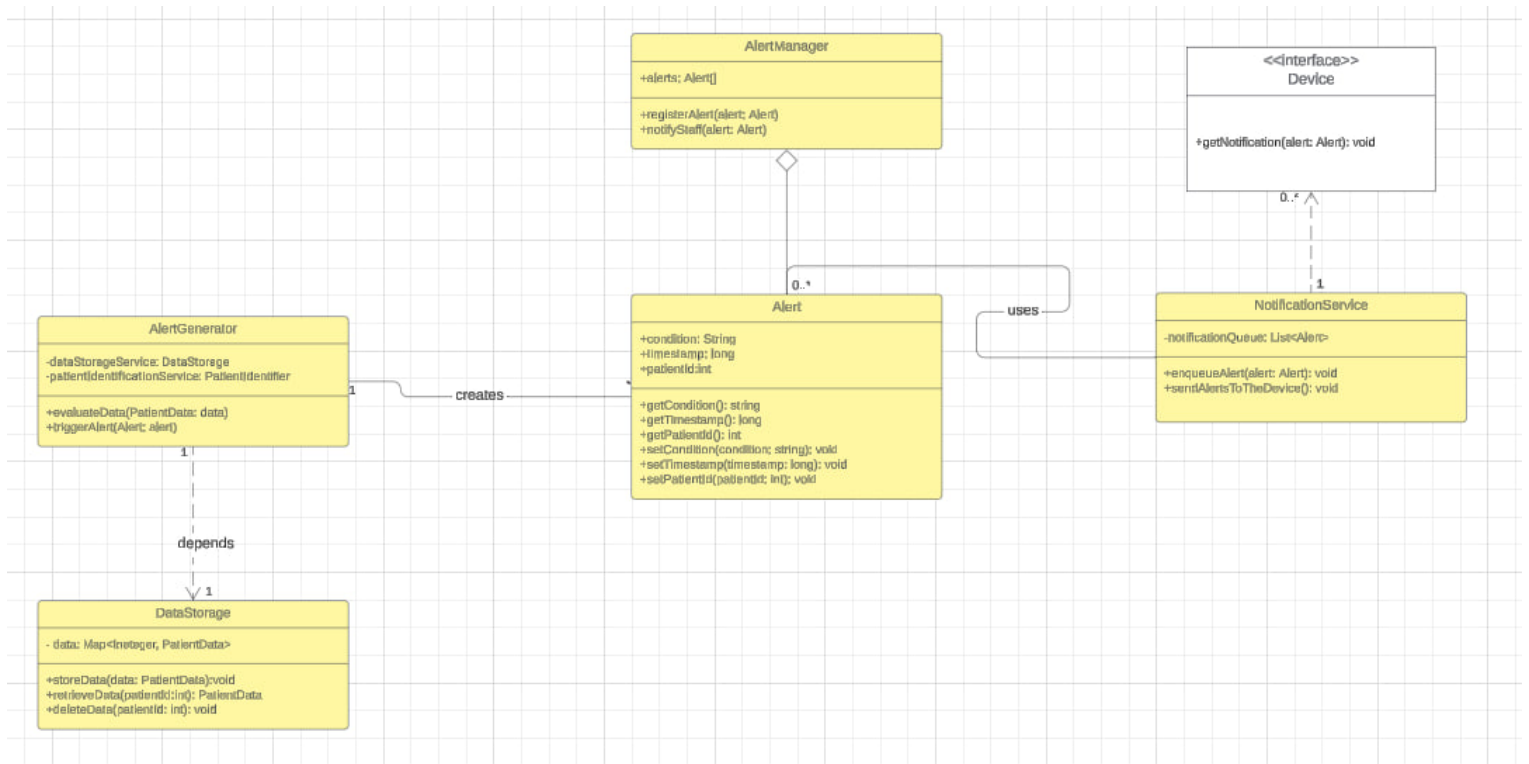


Alert Generation System



At the heart of the patient monitoring system is AlertGenerator, which continuously analyses sensor data streams, taking into account unique criteria for each patient. The component relies on DataStorage to access historical data and uses PatientIdentifier to verify patient identity, ensuring the accuracy and relevance of the alerts generated. The evaluateData method from AlertGenerator actively checks to see if current health indicators meet predefined thresholds, and if unusual values are detected, initiates the creation of an Alert using the triggerAlert method.

The AlertManager then takes charge of the Alert lifecycle by logging and sending alerts via the NotificationService. This service maintains the Alert queue and is responsible for distributing them to the medical staff using the enqueueAlert and sendAlertsToDevice methods. The implementation of the Device interface ensures that alerts are delivered to specific devices where medical staff can view them and confirm acceptance, ensuring that each alert is appropriately responded to.

This system not only enables rapid and accurate response to critical changes in patients' condition, but also adapts alert criteria according to changes in the patient's condition, providing a personalised approach to monitoring. This emphasises the importance of methods such as updateAlertCriteria in AlertGenerator, which allow medical staff to customise system parameters.