UML Documentation CHMS

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The DataListener interface allows for flexibility when it comes to getting the data from the data generator. The interface is implemented by TCPListener, FIleDataListener and WebSocketListener. The data forwarded and then parsed in the DataParser class where. The SourceAdapter transmits the parsed data to the DataStorage class where it is stored and can be accessed by all the other classes.

The AlertGenerator class which is the one of the most essential classes out of our project as it decides whether an alert should be generated or not. It confirms an alert by checking past incidents of the patient.

The DataRetriever class makes sure that the people accessing the database have authorised access. This is important as the data being stored is personal and should not be accessible by just anyone.

The PatientIdentifier and IdentityManager class is responsible for matching patient IDs from incoming data with patient records in the database; it ensures accurate attribution of patient data.

UML State Diagram for Alert Generation System

My UML State Diagram illustrates the lifecycle of an alert within the Alert Generation System. Firstly, the threshold which was set for the patient must be exceeded. The alert is then generated and sent to a medical staff on duty. The alert can be acknowledged or not acknowledged. If it is the latter, the alert will be resent until it's finally acknowledged by one of the medical staff. When acknowledged it can either be resolved automatically (e.g. when the condition stabilises itself) or manually.

UML Sequence Diagram for Alert Generation System

My UML Sequence Diagram depicts the process of alert generation within the Alert Generation System. It starts with the patient data being sent to the AlertGenerator where it is checked against the individual's thresholds. If the data exceeds one of the thresholds an alert is not sent out just yet, as the AlertGenerator also checks past data in the DataStorage class. It confirms the alert by verifying if exceeding values are a recurring theme and also checks past incidents. If it's a serious matter an alert is sent out to the AlertManager which is responsible for dispatching alerts. The AlertManager checks if one of the medical staff acknowledges the alert, completing the process. If the alert fails to be acknowledged it is sent out again.