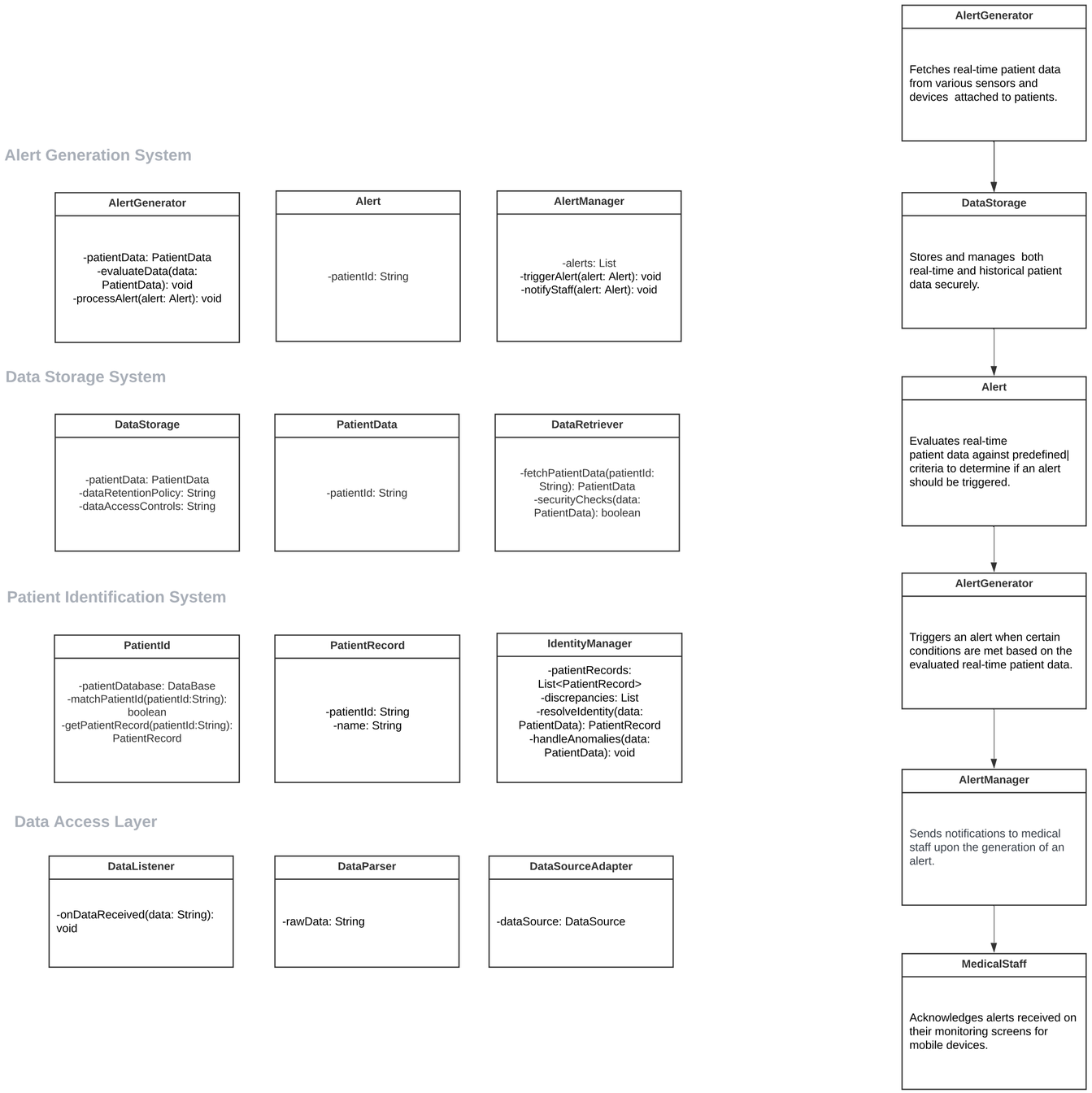

For the State Diagram: Our choice to depict the lifecycle of an alert in the form of a state diagram offers a visual representation of how alerts evolve within the system. Each state, such as Generated, Sent, Acknowledged, and Resolved, represents a distinct phase in the alert's journey. By including transitions between these states based on system actions, like data evaluation by the AlertGenerator, and user actions, like acknowledgment by medical staff, we provide a comprehensive overview of how alerts progress. This approach enhances understanding of the alert management process, facilitating smoother communication between stakeholders and enabling better decision-making regarding system improvements or optimizations. Additionally, the clarity provided by the state diagram aids in identifying potential bottlenecks or inefficiencies in the alert handling workflow, allowing for targeted interventions to enhance system performance.

For the Sequence Diagram: Our decision to focus on the sequence of interactions between system components during the alert generation process offers insights into the underlying mechanisms driving alert creation, transmission, and resolution. By highlighting critical interactions, such as data checks performed by the AlertGenerator and notification sending facilitated by the AlertManager, we provide a detailed view of how different modules collaborate to handle alerts effectively. This approach enables stakeholders to grasp the intricacies of the alert generation workflow and understand the roles played by each system component. Moreover, the sequence diagram facilitates communication between development teams, system administrators, and end-users by clearly delineating the sequence of events triggered by the detection of patient data meeting alert criteria. This enhances transparency and fosters collaboration, ultimately leading to a more robust and user-friendly alert management system.