The Application is a representation of the overall system for evaluating municipal drinking water safety. The Presentation Layer, Business Layer, and Data Layer are its three main layers.

The Web application, mobile app, user authentication, and data visualisation are examples of components found in the Presentation Layer, which focuses on the user interface. Users can interact with the system and view assessment results thanks to it.

The system's essential features are included in the business layer. Pre-processing and transforming the data are part of data processing, while statistical analysis, predictive modelling, and anomaly detection are part of analytics. Model training, evaluation, and deployment all use machine learning. Metrics for measuring water quality, risk assessment, and compliance are all calculated using algorithms.

Data sources, integration, and storage are dealt with by the data layer. Sensors that measure water quality, local records, and outside datasets are some examples of data sources. Data integration deals with gathering,

cleaning, and transforming data. Databases for water quality keep track of past data, present data, and sampling data for analysis.

How these elements interact and work together to evaluate the safety of municipal drinking water is visually depicted in the UML architecture diagram. It acts as a guide for comprehending the system's architecture and can help with future growth, cooperation, and communication among stakeholders.