STRUCTURAL INTEGRITY ASSESSMENT SYSTEM SUMMARY REPORT

Group 24- Milind Kurma, Punit Malpani, Luke Kim, Sharmisha Parvathaneni

Project Description

Structural Integrity assessment system is a system that assists engineers who want to understand the structural faults to ensure safety. The sensors are placed in different locations selected by the engineer, which will calculate the information and display tilt, strain, load, temperature and crack formations information. It utilizes sensors and a cloud platform that displays specific information about the position of the sensors and their value records. This data can be subjected to visual data analytics to display graphical distribution to the user, aiding in their understanding of the characteristics of the building site. Users will be able to access places where it is challenging for people to go and work, understand the stability of the structure in an efficient manner without requiring a lot of labor, and reduce hazards associated with structures falling.

Design:

Using sequence diagram and grammatical analysis, important classes such as Sensor, User, Account, Notification were identified initially. After identifying classes, fields and methods were though about and relationships were identified. As SIAS is a web program, entities such as Client Browser, Web Server, Script and Application Server, Database Server were crucial in generating a sequence diagram. The sequence diagram starts with the Structural/Maintenance Engineer, who will interact with a client browser. Client browser sends Get/Post requests to the web server. At the server end, script and application server forms the backend. It handles calculations on sensor data that it fetches from the database and returns dynamically generated pages. Database comprises of user account login information and sensor data information.

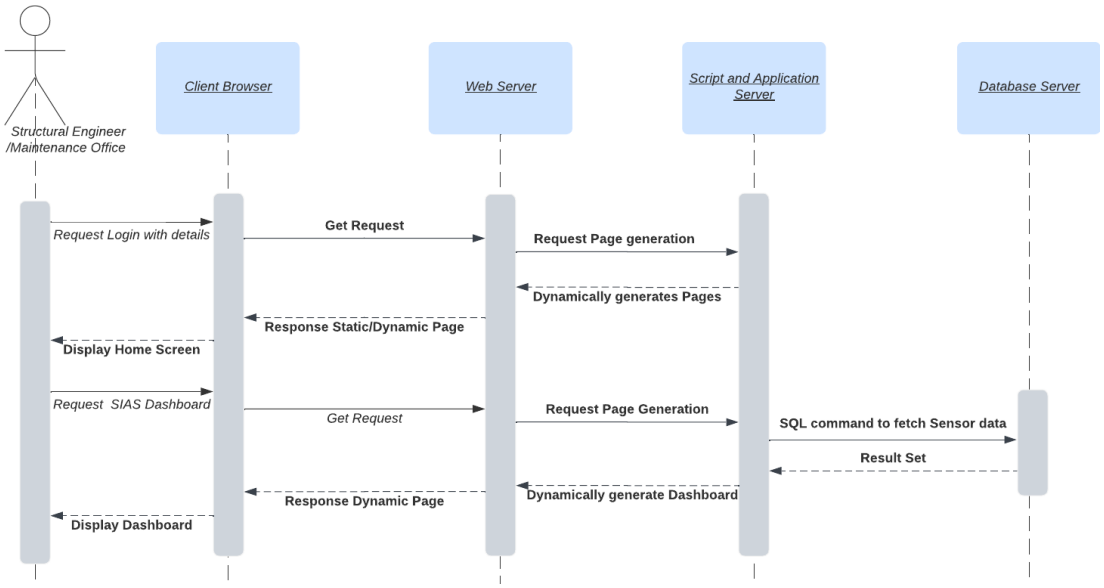

Fig.1 SIAS- Sequence Diagram

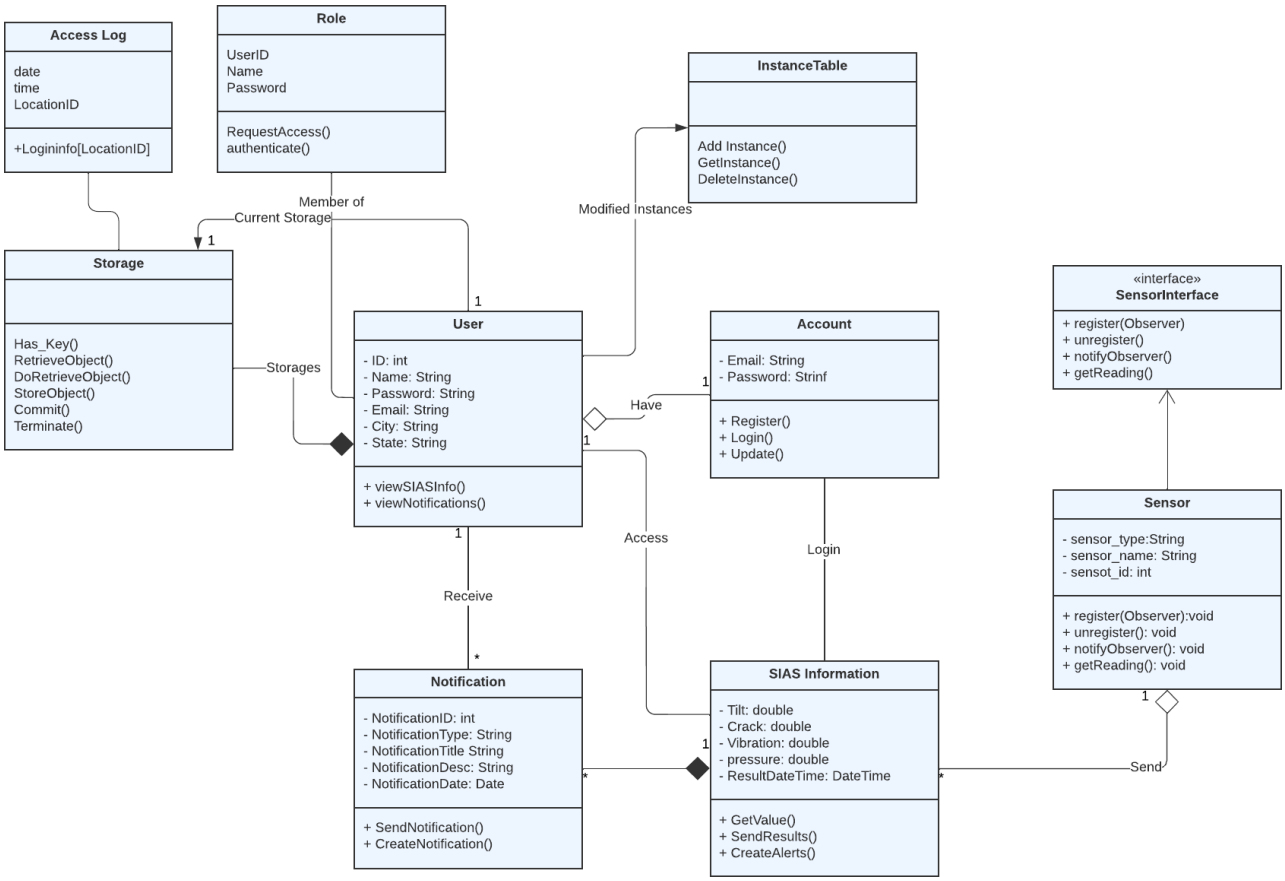

Fig.1 Object Design