



**Final Deliverable - Deployment Design Decisions**  
**Course Group 4**  
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**Dr. Ramiro Liscano**

**Group Members:**

Shanjay Kailayanathan - 100624670  
Jana Kanagalingam -100603975  
Ireni Ruthirakuhan - 100657302  
Jerusha Macwan - 100723319

## Deployment Design Decisions

When implementing the project's application there had been several design decisions that the group had to take into consideration.

Initially, we wanted to showcase the functionality of our application through the use of a mobile application. Within this mobile application, we would develop features to enable registration and login of the end-user, as well as features to showcase the sensor connectivity status, temperature status, as well as incorporating a functionality where we ask the user to set peak temperature values to be alerted when reached.

When developing the functionality, we wanted to ensure user authentication through fetching users that had been permitted to use the application through phpMyAdmin MySQL. This would fetch the appropriate data from the database enabling only valid users to enter the application. The connection of the sensor is specified. The respective data is sent through the mosquitto broker from the MQTT communication that had been utilized by the backend platform Digital ocean. Once the connection to the sensor had been established we had been able to showcase the relative sensor data.

We had some issues with incorporating Node-RED into the application as we had previously wanted. When working with Node-RED we had reached an issue where we had some issues with the SSL settings as it had not been working as expected. This restricted Node-RED to be connected via a secure connection. Due to time constraints, and the inability to find a solution to this issue, we decided to bypass this. The issue stated had been discovered at a later time, after class regarding the development of the IoT backend had finished. As a group, we had been able to complete the respective chapters as expected, so coming to understand the cause of this issue was harder to fix than we had expected. We spent the majority of the time trying to trace back to where the issue may have been resolved. We had reached out to the teaching assistant but unfortunately were not able to come to a solution prior to the last in-class session due to timing constraints. We had also had previous issues regarding certain aspects of setting up the IoT backend platform, but with the help of the google document shared, the majority of the issues that we had faced had been resolved.