

Smart Saline Bottle For Health Care Using IoT

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Abstract

This study focuses on a system for weighing saline bottles and providing an alert message to the nurse or doctor currently on duty. The goal is to ensure accurate monitoring of saline levels and timely notifications to healthcare professionals when the bottle needs attention. By integrating weight sensors and alert mechanisms, the system aims to enhance patient care by preventing shortages or overflows of saline, ultimately contributing to more efficient and effective medical interventions.

Problem Statement

- Creating a system to weigh saline bottles and provide an alert message to the nurse or doctor currently on duty if the weight of the bottle falls below a certain threshold.
- This is important to ensure that patients receive the necessary fluids and medication in a timely manner.
- The system should have the capability to monitor the weight of the saline bottle, compare it with the predetermined threshold, and send an alert to the responsible healthcare professional's device, notifying them of the low saline level.

Objectives of Project

- It include ensuring accurate medication administration, preventing errors, and maintaining patient safety.
- Alerting the nurse or doctor through a message when the weight is outside the expected range helps them take timely actions to address any potential issues with the medication or infusion process.

Literature survey for first objective

When conducting a literature survey for your system, you'll want to explore research related to medication administration, patient safety, and automated alert systems in healthcare settings. Look into studies discussing infusion pump technology, sensor-based monitoring, and communication between medical devices and healthcare professionals. Additionally, explore any existing systems that utilize weight monitoring to ensure accurate medication delivery.

Literature survey for second objective

Explore literature on automated alert systems in healthcare. This could include studies on how alert systems improve response times, reduce errors, and enhance patient outcomes. Focus on how these systems are designed, implemented, and integrated into clinical workflows.

Proposed System

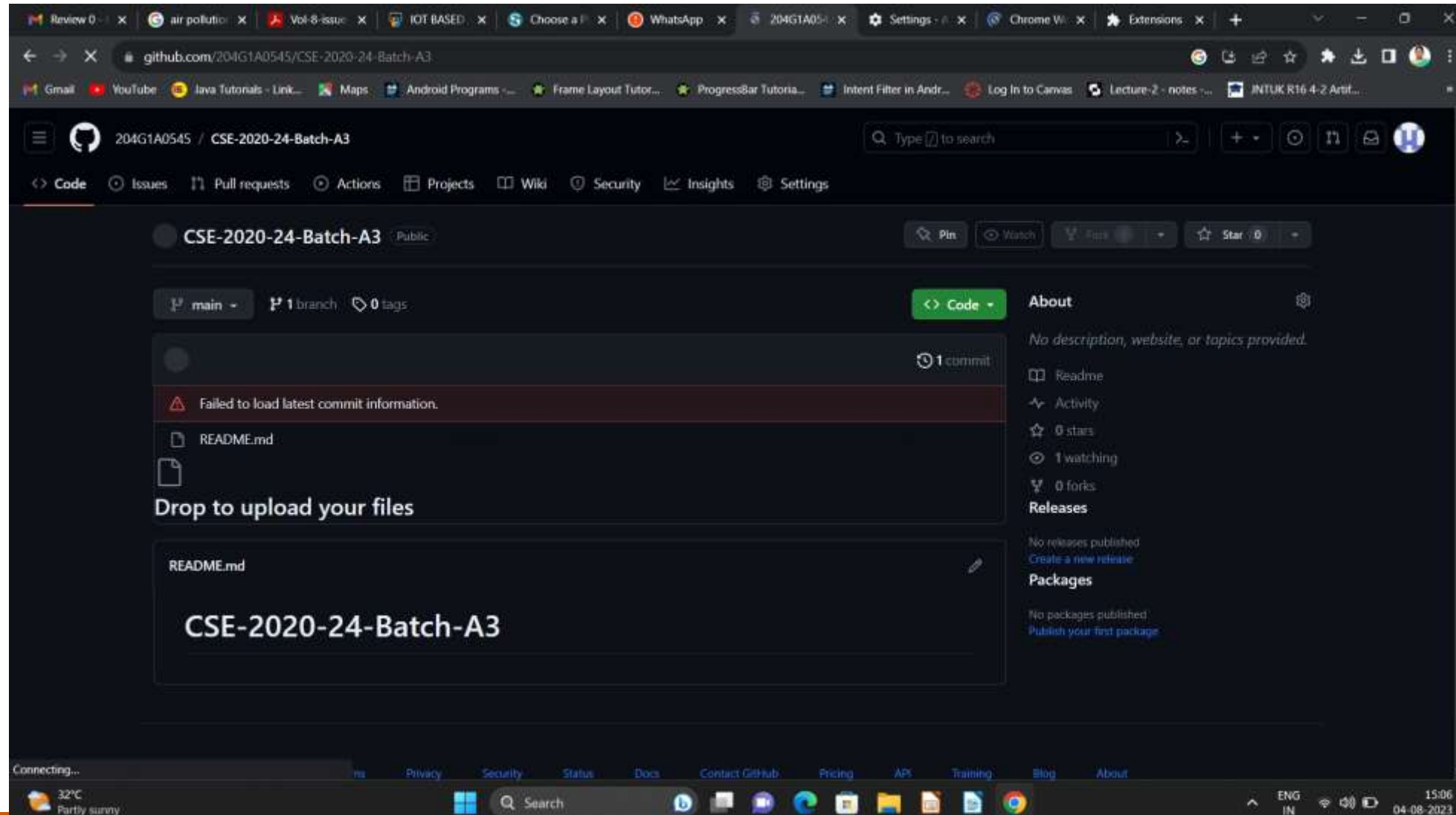
- ❖ **Weight Monitoring:** The weight sensor continuously monitors the weight of the saline bottle as the infusion progresses.
- ❖ **Threshold Setting:** A predefined weight range is established based on the expected amount of saline to be administered. If the weight goes outside this range, it indicates a potential issue such as incorrect infusion rate or empty bottle.
- ❖ **Real-time Alert:** When the weight crosses the established threshold, the system generates a real-time alert message.
- ❖ **Alert Delivery:** The alert is sent to the nurse or doctor currently responsible for the patient's care. This can be done through various means such as mobile apps, pager systems, or hospital communication systems

References

- [1] S.Gupta, M.Kulkarni, and Y.Kulkarni,” Smart Saline Monitoring System Using Load Cell and RF Sensor,” International Research Journal of Engineering and Technology (IRJET), 05 (06)|,2018.
- [2] S.Umchid, P.Kongsomboom, and M. Buttongdee,” Design and Development of a Monitoring System for Saline Administration,” Proceedings of the World Congress on Engineering I, 2018
- [3] D.Baviskar, P.Patil, S.Bhatambre, M.Hake, and S.Adsure, “IoT BASED SALINE LEVEL MONITORING SYSTEM, “Open access international journal of science,10.1088/1757-899X/981/3/032095
- [4] M.Swain, S.Mallick, and R.Sabat, “Smart Saline Level Indicator cum Controller,” International Journal of Application or Innovation in Engineering & Management, 4(3), 2015



Git Hub Dashboards of each student



Any Queries?