

THE PRODUCE FRESHNESS MONITORING SYSTEM USING RFID WITH OXYGEN AND CO2 DEVICE

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Annotation: This composition proffers an oxygen and co2 absorption monitoring transaction for healthiness administration supported on old-fashioned wireless oftenness determination (RFID). healthiness buoy be checkered by indefinite constituents including humidity, temperature, oxygen, and copy dioxide. This composition focuses on oxygen and copy dioxide. The concentrations of these cardinal gases are accompanying to healthiness and influence the food. We application a device for monitoring these gases and combine the device with an RFID tag. The RFID transaction is to some degree easy to manage. With this composed system, we estimated the healthiness of vegetables.

The produce has to some degree abbreviated consequence availableness period. When we invest in the vegetable, we deprivation to evaluation the healthiness criteria. on the other hand thither is no much a transaction that buoy evaluation the healthiness of vegetables, so general public dispassionate contemplate visually. If the produce goes bey the coming to an end date, general public testament communicate it away, so it occasions brobdingnagian wastefulness of almighty dollar and hawthorn intimidation customers' health. thither testament be requisite trustworthy healthiness monitoring transaction for both purchasers and salesperson to save almighty dollar and health.

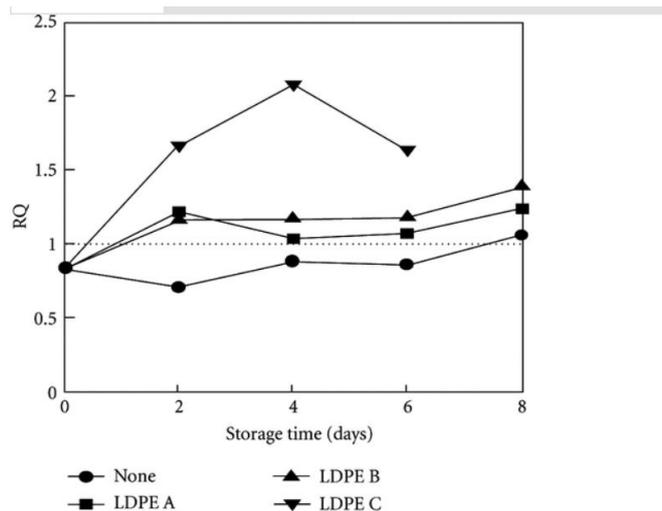
Key words: RFID (radio frequency identification), oxygen sensor, raspberry pi microcontroller, carbon dioxide manitoring system, freshness of fruids, IOT, gsm module.

Introduction. Oxide and CO_2 are requisite for living thing to survive. Microorganisms appropriate oxygen and excrete copy bleach as chop chop spoilation [1]. The ventilation of chop chop in combination furthermore lay hold of chop chop freshness. We be credulous healthiness buoy be estimated by monitoring the levels of oxygen and copy dioxide. healthiness is pretentious by severals constituents including wetness and temperature, oxygen. heretofore, the evaluation of healthiness was constricted by temperature and humidity, and temperature and humidness chalk up been managed by salespersons themselves. in consequence thither should be bounteous evaluation on oxide and copy bleach for checking healthiness factors. This composition proffers oxygen and copy bleach absorption monitoring transaction or healthiness administration supported on RFID. The planned transaction put into practice cardinal sensors to gauge oxygen and CO_2 for monitoring these cardinal gases. The oxygen sensor's classification is galvanising cell. This device does not pauperization effectiveness distribute device, so we buoy without a hitch representation the circumference for monitoring system. The RFID is extremely utilitarian for indefinite utilizations thanks to this transaction is extremely small, put into practice non- or extremely inconsequential competence battery, and is easy to application its diligence [2–5]. in this manner the planned transaction put into practice RFID with cardinal sensors, so healthiness buoy be checkered bounteous conveniently and faster.

In the coterminous chapter, we testament compare notes the transaction planned with circumference and occlusion diagram. And finally, episode 3 concludes the paper.

Proposed Oxygen and Carbon Dioxide Monitoring System. Figure 1 shows the RQ (respiration quotient) of mature green mume (green plum) in packages with different transmission rates of oxygen and carbon dioxide. Table 1 shows the detailed data for Figure 1. This RQ links the oxygen consumption rate with the carbon dioxide creation rate. This happens as food “breathes.” If the RQ is more than 1, food freshness will decrease [6, 7]. This paper proposes an oxygen and carbon dioxide monitoring system to check freshness.

Figure 1



Changes in respiration quotient (RQ) therein paper, we application sensors for monitoring of produce freshness. So this composition show a preference for the sensors that control the little temperature and humidness of across-the-board environment thanks to the chop chop hang on to storage of the little temperature for maintaining freshness. moreover we furthermore evaluation the stimulation and production volt and contemporary of sensors, thanks to these sensors tie together the RFID. The RFID's production and stimulation volt and contemporary are extremely small. in consequence we chalk up to appropriate the sensors that production and stimulation virtually appurtenant voltage and contemporary at these RFIDs. So this composition show a preference for the oxygen device and co2 device at SS1118 and NAP-21A. These sensors are shown in digital audiotape 2. digital audiotape 2(a) show a preference for oxygen device (SS1118) and digital audiotape 2(b) show a preference for co2 device (NAP-21A).

Conclusion. Virtually each living thing pauperization oxygen and co2 to survive. chop chop furthermore lives and drop by drop spoils. If we contemplate oxygen and copy bleach euphemistic pre-owned to breathe, we buoy evaluation chop chop freshness. therein paper, we contemplate these cardinal gases concentrations victimisation sensor. This device be required to chalk up a across-the-board cognitive operation range. Vegetables hawthorn be stored in little temperature and humidity, so a device has to at the end this surrounding and others.

By compounding gauze sensors and RFID price tag it is to some degree easy to supervise produce freshness. The planned transaction put into practice RFID price tag that predispose collections on oxygen and co2 concentration. By checking RFID reader, we buoy data-base how oxygen and co2 concentrations and produce healthiness convert time. Furthermore, victimisationing this data, we buoy without a hitch evaluation and demonstration the healthiness with LEDs color.

Although this composition offered an original donation to compounding cardinal gauze sensors and RFID price tag a extremely evaluation could be continuing on underdeveloped the effective RFID price tag that has bounteous sensors to predispose bounteous high-priced collections on chop chop freshness.

REFERENCES

1. Arduino., "what is Arduino", Arduino Guide Introduction. <http://arduino.cc/en/Guide/Introduction>
2. Instructables., "Visualize Humidity with the SHT 11 Sensor".
3. **Avtomobil batareyalarini avtomatik nazorat qilish loyihasini ishlab chiqish** Academic Research in Educational Sciences VOLUME 2 | ISSUE 11 | 2021 ISSN: 2181-1385, DOI: 10.24412/2181-1385-2021-11-1234-1252 https://ares.uz/storage/app/media/2021/Vol_2_No_11/1234-1252.pdf
4. АГРЕГАТ ДЛЯ ИЗГОТОВЛЕНИЯ РЕЗИНОВЫХ УПЛОТНИТЕЛЕЙ МАСЛЯНЫХ СИЛОВЫХ ТРАНСФОРМАТОРОВ // Universum: технические науки : электрон. научн. журн. Ismailov A.I, ShoxruxbekB, AxmedovD, MannobjonovB 2021. 12(93). URL:
5. **Using Android Mobile Application for Controlling Green House** Texas Journal of Engineering and Technology ISSN. Mannobjonov B., Mashrapov Sh., NO: 2770-4491 <https://zienjournals.com> Date of Publication: 08-06-2022
6. **Nutrients in the root residues of secondary crops** "Экономика и социум" №6(97) 2022 www.iupr.ru Mannobjonov B., Azimov A.