تجربة تلميذ مبدع

smart home

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◙ ملخص:

تواجه مصر العديد من التحديات التي تسعى الحكومة المصرية ومراكز البحث العلمي إلى إيجاد حلول لها، وجدنا أن أزمة الطاقة أحدي هذه التحديات وذلك بسبب الارتفاع الملحوظ في عدد السكان حول العالم لذلك حدث ازدياد في استهلاك الطاقة وكذلك اخذت أنظارنا أزمة الصحة العامة التي هي من أهم التحديات التي تواجه مصر بل والعالم كله، لذلك قررنا استخدام التكنولوجيا الحديثة وصنعنا نظام إضاءة موفر للطاقة باستخدام حساسات الحركة وذلك في التحكم في استهلاك الكهرباء، ونظامًا يحمي الأفراد من تسرب الغازات السامة خاصة الغاز الطبيعي المتواجد في جميع المنازل وتسريبه قد يؤدي إلى حدوث حرائق وايضا الاختناق وإلحاق أضرار بالإنسان والحيوان وذلك باستخدام المستشعرات التي تستجيب تلقائيًا لأي تغيير أو أي حدث ببرمجته على جهاز Arduino.

◙ الكلمات المفتاحية :

الثنائيات الباعثة للضوء- اوردوينو اونو- مستشعر غاز- مستشعر حركة

◙ Abstract

    Egypt faces many challenges that the Egyptian government and scientific research centers are seeking solutions to. We found that the energy crisis is one of these challenges, due to the noticeable increase in

the population around the world, so there was an increase in energy consumption, and the public health crisis, which is one of the most important challenges facing Egypt and even the whole world, caught our attention, so we decided to use modern technology and create an energy-saving lighting system. Energy using motion sensors in controlling electricity consumption, and a system that protects individuals from leakage of toxic gases, especially natural gas that is present in all homes, and its leakage may lead to fires, as well as suffocation and damage to humans and animals, by using sensors that respond automatically to any change or any Happened to program it on the Arduino.

◉ **Key words:**
Light Emitting Diodes - Arduino Uno - Gas Sensor - Motion Sensor

◉ **The goal of the project:**
- energy Saving
- money Saving
- lives Saving

◉ **Materials and tools used:**

Arduino Uno	motion sensor HW-201	LED light	Connection pins
Gas sensor MQ-5 sensor	Buzzer	Bread board	Maquette

◉ **Social benefits**
1–energy saving.
2. save money.

3-a solution to increase the electric bill.
4-reduce problems among the population due to electricity.
5-provide electricity systematically for senior roles.
6-saving the lives of many people.
7-reduce the number of fires and burns.
8-knowledge of gas leaks and how to control them.

◎ **EDP steps**
1- identify the problem.
2- gathering information.
3-possible solution.
4- great the prototype
 5-evaluation
6- refine
7- communications

◎ **demo model**

◎ **Final model**

◎ **Experimental steps**

1-choosing one of the problems facing Egypt, so we chose as a research team the problem of energy and health problems.

2-each member of the team searched for these two problems, so we were able to collect information in terms of the causes of the problem, how to feel it, possible solutions and choose the best solutions from them.

3-in terms of the energy problem, we have the best solution for it, which is the use of Sansour, it will save energy, money, as well as time, as we found that it is convenient, safe and in everyone's circulation, as for the second problem, the health problems resulting from gas leakage, we found the best solution is to use a gas-sensitive sensor that triggers an alarm about gas leakage, as we can control the gas through applications on the phone.

5-after collecting information about the problem and finding the best solutions to it, we made an experimental protocol that embodies the problem and the solution.

6-we have re-manufactured and formulated the protocol from an experimental form to a final form.

7-we gathered as a team and discussed how to market our product attractively and keep pace with the era of progress and technology, and we found that we were filming something tangible from reality, so we filmed a video that illustrates a recurring problem and exists with the presentation of the solution to it

◎ **Stakeholders**

These stakeholders want the product or service that the project delivers and they expect it to be of quality and contain value.

1. schools .

2. home owner .
3. museums .

4. government buildings .
5. hospitals .
6. Mosques .
7. Churches .
8. Banquet halls .

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