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## Patent Search

|                         |   |
|-------------------------|---|
| Invention Title         | A Microcontroller-Based Internet of Things System for the Detection of Alive Humans in Disaster and War Areas |
| Publication Number      | 41/2022   |
| Publication Date        | 14/10/2022  |
| Publication Type        | INA   |
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| Application Filing Date | 10/10/2022  |
| Priority Number         |   |
| Priority Country        |   |
| Priority Date           |   |
| Field Of Invention      | COMPUTER SCIENCE  |
| Classification (IPC)    | G06F0011140000, H04L0067120000, H05B0047115000, A01K0063020000, H02H0003330000                                |

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| Mr.T R Arunkumar          | Assistant Professor, Department of Computer Science, Rani Channamma University, Bhutaramanahatti, Karnataka Belagavi Pin: 591 156 Karnataka India                                    | India   | Indi |
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| B Naresh                  | Assistant Professor, Institute of Aeronautical Engineering, Medchal Pin: 500043 State: Telangana Country: India   | India   | Indi |
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#### Abstract:

A Microcontroller-Based Internet of Things System for the Detection of Alive Humans in Disaster and War Areas ABSTRACT During a crucial operation, it may be impossible determine whether or not a soldier is still alive or has perished. It is crucial to adhere to the plan in the event of a natural disaster so that lives can be saved and people receive the necessary aid. When time is of the essence, the live human detection robot's ability to go where humans and heavy machines cannot and identify whether a person is alive is important.

#### Complete Specification

##### Description:DESCRIPTIONS

There are an excessive number of natural disasters, such as earthquakes, tsunamis, and building collapses, and man-made disasters, such as chemical spills, in the world today, and it can be difficult to prevent them. Because the disaster affected such a large area, it will be impossible for rescue workers to reach everyone who needs help. Large areas decrease the possibility that rescue workers can cover everything. We are constructing it using an Arduino Uno microcontroller and other sensors, including PIR sensor and an ultrasonic sensor. The PIR monitors the surrounding temperature and detects any changes. A robot vehicle equipped with ultrasonic sensors patrols the disaster zone to monitor the situation. We utilise GSM modules to communicate with this robot because they may be used over long and short distances. This robot was equipped with DTMF modules so that it could interact with rescue personnel. This robot is incredibly useful for locating and preserving human life. The primary objective of the project is to verify individuals' identities and establish whether or not they are authorised to enter a restricted area. It can also operate as a robot that responds to disasters. 1. The objective of this project is to establish a plausible plan for creating a simplified version of a robot capable of locating people in crisis zones. Consider instances in which technical obstacles prevented rescue personnel from locating survivors. 2. In a situation where individuals may be wounded, it is prudent to use high-tech equipment to do the task as quickly and effectively as possible. These devices would identify search for, and report illegal human movement inside predetermined boundaries. Additionally, by understanding the human dimension of things. The goal of this project is to construct a working prototype of a design that might be utilised create a small robot that can locate people. Following a natural or man-made disaster, a robot like this would be deployed to hunt for survivors and identify the dead and injured. Humans can aid in rescue operations, but because earthquakes and collapsing structures are dangerous, human rescue teams cannot be dispatched. Therefore, we have an immediate need for the high-tech equipment described in this article to expedite and make this hazardous activity safer to do. It is a simple tool that can help

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### Application Details

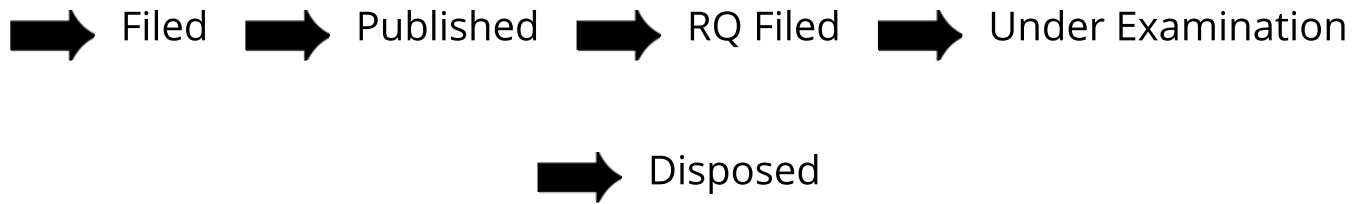
|                                  |   |
|----------------------------------|---|
| APPLICATION NUMBER               | 202241057921  |
| APPLICATION TYPE                 | ORDINARY APPLICATION  |
| DATE OF FILING                   | 10/10/2022  |
| APPLICANT NAME                   | 1 . K ASHOK KUMAR<br>2 . Mr. Umesh Kumar<br>3 . Satyanarayana.vannam<br>4 . Dr Priyank Singhal<br>5 . B Naresh<br>6 . Dr. RAJESH B. SURVASE<br>7 . Kale Navnath Dattatraya<br>8 . Dr.K.THIYAGARAJAN<br>9 . Mr. Aysola Saichander<br>10 . Mr.T R Arunkumar<br>11 . Dr. Harikumar Pallathadka |
| TITLE OF INVENTION               | A Microcontroller-Based Internet of Things System for the Detection of Alive Humans in Disaster and War Areas   |
| FIELD OF INVENTION               | COMPUTER SCIENCE  |
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| E-MAIL (UPDATED Online)          |   |
| PRIORITY DATE                    |   |
| REQUEST FOR EXAMINATION DATE     | --  |
| PUBLICATION DATE (U/S 11A)       | 14/10/2022  |

Application Status

APPLICATION STATUS

**Awaiting Request for Examination**

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| <b>FORM 1</b>  |                        |                |                        | <b>(FOR OFFICE USE ONLY)</b>   |                        |
|--|------------------------|----------------|------------------------|--|------------------------|
| <b>THE PATENTS ACT 1970</b><br><b>(39 of 1970)</b><br><b>&amp;</b><br><b>The Patents rules, 2003</b><br><b>APPLICATION FOR GRANT OF PATENT</b><br><b>[See section 7, 54 &amp; 135 and rule 20 (1)]</b> |                        |                |                        | <b>Application No:</b><br><b>Filing Date:</b><br><b>Amount of Fee Paid:</b><br><b>CBR No:</b><br><b>Signature:</b>   |                        |
| <b>1. APPLICANT'S REFERENCE / IDENTIFICATION NO. (AS ALLOTTED BY OFFICE)</b>   |                        |                |                        |  |                        |
| <b>2. TYPE OF APPLICATION [Please tick (√) at the appropriate category]</b>  |                        |                |                        |  |                        |
| Ordinary (√)   |                        | Convention ( ) |                        | PCT-NP ( )   |                        |
| Divisional ( )   | Patent of Addition ( ) | Divisional ( ) | Patent of Addition ( ) | Divisional ( )   | Patent of Addition ( ) |
| <b>3. (3A) APPLICANT</b>   |                        |                |                        |  |                        |
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| K ASHOK KUMAR  |                        | Indian         | India                  | ASSISTANT PROFESSOR<br>GURUNANAK INSTITUTIONS<br>TECHNICAL CAMPUS,<br>HYDERABAD,<br>RANGA REDDY<br>Pin: 501506<br>TELANGANA<br>INDIA                                       |                        |
| Mr. Umesh Kumar  |                        | Indian         | India                  | Director<br>IIMT College of Polytechnic Greater<br>Noida<br>Plot No 20 A Knowledge Park 3 Greater<br>Noida<br>Gautam Buddha Nagar<br>Pin: 201308<br>Uttar Pradesh<br>India |                        |
| Satyanarayana.vannam   |                        | Indian         | India                  | Assistant professor<br>Vaagdevi College of Engineering,<br>Bollikunta,<br>Warangal.<br>Pin:506005<br>Telangana<br>India  |                        |

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| Dr Priyank Singhal      | Indian | India | Associate Professor<br>College of Computing Sciences and<br>Information Technology, Teerthankar<br>Mahaveer University, Bagarpur, NH 24,<br>Delhi Road, Moradabad<br>Pin:244001<br>Uttar Pradesh<br>India |
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|                           |        |       |  |
|---------------------------|--------|-------|--|
| Dr. Harikumar Pallathadka | Indian | India | Director and Professor<br>Manipur International University, Ghari,<br>Imphal, Imphal West,<br>Pin: 795140<br>District : Imphal<br>Manipur<br>India |
|---------------------------|--------|-------|--|

**3B. CATEGORY OF APPLICANT** [Please tick (√) at the appropriate category]

|                    |                           |              |            |
|--------------------|---------------------------|--------------|------------|
| Natural Person (√) | Other than Natural Person |              |            |
|                    | Small Entity ( )          | Start up ( ) | Others ( ) |

**4. INVENTOR (S)** [Please tick (√) at the appropriate category]

|   |         |        |
|---|---------|--------|
| Are all the inventor(s) same as the applicant(s) named above? | Yes (√) | NO ( ) |
| If "No", furnish the details of the inventor(s)               |         |        |

| Name | Nationality | Country of Residence | Address |
|------|-------------|----------------------|---------|
|      |             |                      |         |

**5. TITLE OF THE INVENTION**

**A Microcontroller-Based Internet of Things System for the Detection of Alive Humans in Disaster and War Areas**

**6. AUTHORISED REGISTERED PATENT AGENT(S)**

|            |  |
|------------|--|
| IN/PA No.  |  |
| Name       |  |
| Mobile No. |  |

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**8. IN CASE OF APPLICATION CLAIMING PRIORITY OF APPLICATION FILED IN CONVENTION COUNTRY, PARTICULARS OF CONVENTION APPLICATION**

| Country | Application Number | Filing date | Name of the applicant | Title of the invention | IPC (as classified in the convention country) |
|---------|--------------------|-------------|-----------------------|------------------------|---|
| -NA-    | -NA-               | -NA-        | -NA-                  | -NA-                   | -NA-  |

**9. IN CASE OF PCT NATIONAL PHASE APPLICATION, PARTICULARS OF INTERNATIONAL APPLICATION FILED UNDER PATENT CO-OPERATION TREATY (PCT)**

|                                  |                           |
|----------------------------------|---------------------------|
| International application number | International filing date |
| -NA-                             | -NA-                      |

**10. IN CASE OF DIVISIONAL APPLICATION FILED UNDER SECTION 16, PARTICULARS OF ORIGINAL (FIRST) APPLICATION**

|                                 |  |
|---------------------------------|--|
| Original (first) application No | Date of filing of original (first) application |
| -NA-                            | -NA-   |

**11. IN CASE OF PATENT OF ADDITION FILED UNDER SECTION 54, PARTICULARS OF MAIN APPLICATION OR PATENT**

|                             |                                    |
|-----------------------------|------------------------------------|
| Main application/patent No. | Date of filing of main application |
| -NA-                        | -NA-                               |

**12. DECLARATIONS:**

**(i) Declaration by inventor (s)**

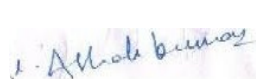
(In case the applicant is an assignee: the inventor(s) may sign herein below or the applicant may upload the assignment or enclose the assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period).

I/We, the above-named inventor(s) is/are the true & first inventor(s) for this Invention and declare that the applicant(s) herein is/are my/our assignee or legal representative.

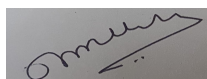
(a) Date: 10/10/2022

(b) Signature:

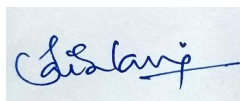
(c) Name:



K Ashok Kumar




Mr. Umesh Kumar



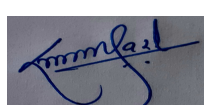
Satyanarayana.vannam



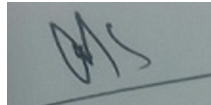
Dr Priyank Singhal



B Naresh



Dr. Rajesh B. Survase



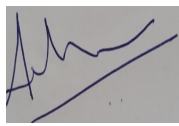
Kale Navnath Dattatraya



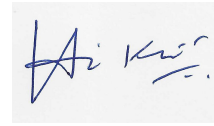
Dr.K.Thiyagarajan



Mr. Aysola Saichander



Mr.T R Arunkumar



Dr. Harikumar Pallathadka



**(ii) Declaration by the applicant(s) in the convention country**

**(In case the applicant in India is different than the applicant in the convention country:** the applicant in the convention country may sign herein below or applicant in India may upload the assignment from the applicant in the convention country or enclose the said assignment with this application for patent or send the assignment by post/electronic transmission duly authenticated within the prescribed period)

I/We, the applicant(s) in the convention country declare that the applicant(s) herein is/are my/our assignee or legal representative.

(a) Date

(b) Signature(s) -----NA-----

(c) Name(s) of the signatory

**(ii) Declaration by the applicant:**

**I/We, the applicant hereby declares that:-**

- I am /we are in possession of the above-mentioned invention
- The ~~provisional~~/complete specification relating to the invention is filed with this application.
- ~~The invention as disclosed in the specification uses the biological material from India and the necessary permission from the competent authority shall be submitted by me/us before the grant of patent to me/us.~~
- There is no lawful ground of objection to the grant of the patent to me/us.
- I am/we are the true & first inventor(s).
- I am/we are the assignee or legal representative of true & first inventor(s).
- ~~The application or each of the applications, particulars of which are given in Paragraph 8, was the first application in convention country/countries in respect of my/our invention(s).~~
- ~~I/We claim the priority from the above mentioned application(s) filed in convention country/countries and state that no application for protection in respect of the invention had been made in a convention country before that date by me/us or by any person from which I/We derive the title.~~
- ~~My/our application in India is based on international application under Patent Cooperation Treaty (PCT) as mentioned in Paragraph 9.~~
- ~~The application is divided out of my /our application particulars of which is given in Paragraph 10 and pray that this application may be treated as deemed to have been filed on DD/MM/YYYY under section 16 of the Act.~~
- The said invention is an improvement in or modification of the invention particulars of which are given in Paragraph 11.

**(d) Following are the attachments with the application:**

(a) Form 2

| Item                   | Detail                                | Fee           | Remark |
|------------------------|---------------------------------------|---------------|--------|
| Complete specification | No. of pages: 10                      | <b>1, 600</b> |        |
| No. of Claim(s)        | No. of claims: 08<br>No. of pages: 02 |               |        |
| Abstract               | No. of pages: 01                      |               |        |
| Drawings               | No. of drawings: 0<br>No. of Pages: 0 |               |        |
| Priority               | No. of Priorities:                    |               |        |

# ~~In case of a complete specification, if the applicant desires to adopt the drawings filed with his provisional specification as the drawings or part of the drawings for the complete specification under rule 13(4), the number of such pages filed with the provisional specification are required to be mentioned here.~~

~~(a) Provisional specification (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).~~

~~(b) Sequence listing in electronic form~~

~~(c) Drawings (in conformation with the international application)/as amended before the International Preliminary Examination Authority (IPEA), as applicable (2 copies).~~

~~(d) Priority document(s) or a request to retrieve the priority document(s) from DAS (Digital Access Service) if the applicant had already requested the office of first filing to make the priority document(s) available to DAS.~~

~~(e) Translation of priority document/Specification/International Search Report/International Preliminary Report on Patentability.~~

~~(f) Statement and Undertaking on Form 3~~

~~(g) Declaration of Inventorship on Form 5~~

Total fee Rs. in Cash/ Banker's Cheque /Bank Draft bearing No.....  
date.....on Bank

We hereby declare that to the best of my/our knowledge, information and belief the fact and matters slated herein are correct and I/We request that a patent may be granted to me/us for the said invention.

Dated this 10<sup>th</sup> day of October, 2022



Saurabh Kumar Jain  
(IN/PA-3637)  
Agent for Applicant

To,  
The Controller of Patents  
The Patent Office, At Delhi/Mumbai/Chennai/Kolkata, India.