

Disclosure form for filing a Patent through FITT

**Publication/public disclosure of the invention before patenting is not advisable and should be avoided.*

PATENT INVENTION DISCLOSURE

1. APPLICANTS :

(a) Indian Institute of Technology Delhi, Haus Khas, New Delhi 110016

(b)

(c)

(Relevant MoU / Letter of request to be appended)

2. TITLE OF THE INVENTION:

Integrated Regular Health Monitoring Machine

3. TYPE OF THE PATENT APPLICATION:

(Please tick mark the relevant option)

Provisional/ Complete/PCT/Foreign filing

✓

4. NAMES OF THE INVENTORS :

(Please give complete names initials are not accepted along with designations, please provide contact details such as email and mobile numbers for the key inventors to be contacted for any clarification)

(a) Principal Investigator (Faculty of IIT Delhi):

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(c) Co-inventor Name: Tanmay Goyal
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5. PUBLICATION OR DISCLOSURE OF THE INVENTION

- (a) Whether the invention is disclosed before in public by publication /presentation /poster/display/launch: Yes
- (b) Please provide details of such publication including title, date, etc.
Presentation for Summer Undergraduate Research Award, Mechanical dept, IITD
Dated: 07-01-2019
(only in front of 5 IIT Delhi professors)

(Kindly append documents supporting the same)

6. SPONSORING AGENCY DETAILS *(Kindly append any Terms & Conditions, MoU/Agreement therewith)*
Industrial Research & Development (IRD), IIT Delhi

7. INFORMATION ON STAGE OF THESIS (UG/PG/Doctoral) :

- (a) Thesis has been submitted and date of submission: No
- (b) Expected date of thesis submission:

8. USE OF BIOLOGICAL MATERIAL & INVOLVEMENT OF TRADITIONAL KNOWLEDGE (*Kindly give the details if any use of biological material has been made for the invention or any traditional knowledge is involved.*)

None

9. BACKGROUND

- (a) What led you to create this invention / what are the problems intended to be solved by your invention?

Healthcare in India is poor at grassroots, there being a lack of proper structure for basic health monitoring leading to the overlooking of common health issues/ novice assessment by people. Especially in the rural and remote parts, this quite often results in medical escalations and easily avoidable deaths. The solution intends to provide a simpler, more accurate and cost-effective way for assessing health and communicating the results to a doctor sitting elsewhere.

- (b) Current technologies /products/processes that provide solution(s) for the same problem(s)

In addition to creating simple and cheap devices for health parameter measurements, the coming technologies are trying to leverage IoT to address the problem. There are some programmes (for instance, one by ReMeDi organisation), which employ health monitoring systems in rural areas and require semi-skilled volunteers for a checkup. Some other technologies like KIOSK systems use wearable sensors for continuous health monitoring purposes like ECG sensors, SPO2, etc.

- (c) How does your invention address/improve on the drawbacks and deficiencies of available solutions?

The technologies which are on a similar line are not yet implementable, primarily because of impractically high costs, a prerequisite of relevant skills of operation and non-portability. A commercial BMI measuring systems, for instance, can cost up to ₹ 40K. While maintaining robustness, the designed product is inexpensive and can be comfortably carried to a very remote location, owing to easy disassembly and assembly. In addition to this, the system stores user data on a cloud such that it can be shared by an entire locality and can be operated by the semi-literate rural population.

10. DETAILS OF INVENTION (*Kindly enclose a brief abstract of the Invention highlighting the novel features thereof along with a few keywords in order to facilitate a patent search on the subject.*)

(a) 3-4 relevant keywords related to the invention
Rural health monitoring, Remote health, Medical device, Basic health

(b) Whether your invention relates to a Product / Process / Both

✓

(c) Novel Features of the invention

- Integrated system : combined and fast results
- Android Application – “HealthM” : An app is created that controls the entire system wirelessly by a click of few buttons as well as allow us to see the results and comparisons along with health tips
- Technical know-how needed : minimal
- Automation : user friendly for illiterate people also
- Electronic storage of data online: reference for future tests
- Health tips : Basic health tips will be provided as a report(scope of machine learning)
- Time/effort reduced : Data can be electronically transferred to the doctor via internet through cloud.

(d) Use /Applications of invention.

- This can be mainly used in rural and inaccessible areas where there is a lack of doctors.
- This can be setup at such areas without the need of a highly qualified doctor, nurse or medical practitioner.
- This because of quicker results can be setup in schools and colleges where regular health checkups of people is done. This will store all the data online so that can be accessed anytime in future to compare.
- This can be setup for monitoring patient’s health improvement in hospitals as this will store all data and compare the results periodically. Also, it will give a direct analysis to doctor and patient with time thus making it easy to observe improvement
- Can be controlled by any person remotely or even the person himself can control the machine by a user-friendly machine controller app – “HealthM”

(e) Alternatives to your invention (if any)

- Presently all the available related tech are too bulky, complicated to use and expensive. Thus, they not solve the purpose of our invention of making healthcare available to rural and inaccessible areas and making it easy to use by a layman. Also, the data being stored is not online in the available devices thus making it accessible to limited people only.

11. COMMERCIALISATION DATA (*Kindly give the names and complete addresses of different companies which could be interested in the commercial use of this technology.*)

- **Sri Ram Hospital** - 8, Pal Road, In front of Hanuwant School, Jodhpur, Rajasthan 342001
- **Manidhari Hospital** - 644, Residency Rd, Near Manidhari Hospital, Sardarpura, Jodhpur, Rajasthan 342003
- **Indian Institute of Technology Delhi** - IIT Campus, Hauz Khas, New Delhi, Delhi 110016

I hereby CERTIFY that the particulars herein given by me are correct to the best of my knowledge and belief.

Signed by:

(Full Name with designation & date)

To

Foundation for Innovation and Transfer Technology