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[**Citizen Media: A Global Innovation Competition**](https://www.changemakers.com/citizenmedia)

This Entry has been submitted.

**A medical wonder!!! A device to detect heart attacks! and call 911**

[**Vignesh Ravi**](https://www.changemakers.com/users/vignesh-ravi)

**Organization type:**

**for profit**

**Budget:**

**$10,000 - $50,000**

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PROJECT SUMMARY

ELEVATOR PITCH

**Concise Summary: Help us pitch this solution! Provide an explanation within 3-4 short sentences.**

HADAS is low cost smart vest 200$ to detect heart attacks :) It instanly brings the ambulance.

ABOUT PROJECT

**Problem: What problem is this project trying to address?**

World Health Organization estimates 17.5 million died of heart attack. This is 30 percent of all deaths globally. More than 250000 die before reaching hospital. These life’s can saved if ambulatory help is provided to these people on time which is not received most of time so my aim to create a system that can monitor and analyze these signs and take necessary action when needed.Well above this many reports suggest of more deaths in coming years WE HAVE A SYSTEM TO INSTANTLY DETECT AND ALERT A HOSPITAL ON PATIENT WITH HEART ATTACK! WE HAVE A NEW SOLUTION TO DETECT A HEART BLOCK JUST AS IT OCCURS So the system I work on uses the heart ECG wave which is continually monitored by the textile ECG electrode which is added in a specially designed wearable vest so these are filtered before they are processed and this is traced for any abnormalities which when detected are processed again for verification and if the ECG shows sign of heart attack due to the fact that ECG wave is completely affected due to heart attack

**Solution: What is the proposed solution? Please be specific!**

The ECG works by detecting and amplifying the tiny electrical changes on the skin that are caused when the heart muscle during each heart beat It particularly abnormal rhythms caused by damage to the conductive tissue that carries electrical signals, or abnormal rhythms caused by electrolyte imbalances. In a myocardial infarction (MI), the ECG waveform always follows a particular pattern which can be automatically detected using ECG algorithms My basic idea is to create an effective alert system for high risk heart patients which would promptly alert the nearest hospital. Approximately 250,000 people die in a year due to heart attack before reaching a hospital. This alert system is made possible by using a specially designed vest which can be worn easily like any other shirt. By integrating sensors such as ECG , and EEG(in a cap),Respirometer(piezo) blood pressure and temperature monitor crucial data are analyzed and the vital functions are perpetually monitored all these data are stored in a memory card for future reference while meeting the doctor. Inside a vest made of the fabric material which the user feels convenient to wear due to thin monitoring and alert circuit. The working goes like this,Once the algorithms i developed detect a heart attack the verify again and send the data to the nearest hospital through GSM transmission where the input from the respiration monitor is also fed one verified the folks in hospital give the gps reading to the ambulance in hospital to fetch the patient and all this happens in a matter of seconds

IMPACT: HOW DOES IT WORK

**Example: Walk us through a specific example(s) of how this solution makes a difference; include its primary activities.**

There is no current system that can give one a full 5 lead ecg at 250$ moreover can it give you algoritms to detect heart attacks or EEG scanning system or EMG scanning system like mine does,the trick involved is replacing Hardware by software which i was thought by my mentor OTHER VENTURES AND APPLICATION 1)Sports -: The athletes and sports people have to measure their ECG by using the vest the coach can analyze the heart rate but that is not all the main monitoring of muscles is more important than heart rate for athletes but there is no technology in present to do it in mine the player wears a band or strap of this conductive fabric and this data of muscles is again graphed and is nothing but emg which is useful to determine condition of player in playing and in football the coach analyzes this data and uses this to change the player or give mild exercise say to his foot by simply analyzing the emg got from the strap. 2)Fire fighters Firefighters work in harsh environment without any alert on their health which leads to problems and moreover due to the obscure vision the firefighter finds it difficult in his mission for firefighters we can have the same vest above which they can have their regular suit. The vital data are sent to the ground force . I’m also having a air quality monitor whose data goes to the special wrist watch which alerts if it detects methane or any other poisonous gas. we can also have a spectacles which has a small thermal camera mounted .Thus he can save more people and he can take notice of his condition too.

SUSTAINABILITY

**Marketplace: Who else is addressing the problem outlined here? How does the proposed project differ from these approaches?**

well as i said above my system is unique and for now i dont have any competitors,Well i might get strong repulsion from conventional ECG folks as mine might even bring a revolution but it is upto us to move forward in life as part of evolution, I have a patent for the same :) :D

ABOUT YOU

ABOUT YOU

**First Name**

Vignesh

**Last Name**

R

**Twitter URL**

**Facebook URL**

<http://www.facebook.com/projectHADAS>

ABOUT YOUR ORGANIZATION

**Organization Name**

**Organization Country**

, TN

**Country where this project is creating social impact**

**How long has your organization been operating?**

Less than a year

The information you provide here will be used to fill in any parts of your profile that have been left blank, such as interests, organization information, and website. No contact information will be made public. Please uncheck here if you do not want this to happen..

INNOVATION

**Select the stage that best applies to your solution**

Growth (your pilot is up and running, and starting to expand)

**How long have you been in operation?**

Operating for less than a year

SOCIAL IMPACT

**FOUNDING STORY: We want to hear about your “Aha!” moment. Share the story of where and when the founder(s) saw this solution’s potential to change the world.**

well though it might sound funny but well i am a inventor so i like searching for new solutions in this world,So well i had this wierd dream of a man dying due to heart attack and no one calling 911 i got thinking the next day and i was shocked to see the conditon exists in reality too! 2500,000 people dying every month might not sound as a big issue but in real world it is 2500,000 due to late detection of heart attack and no one calling the ambulance and in many cases theier life could have been saved if they got medical attention,Moreover when high risk people are alone in their home it often happens so i was promted to invent this device

**Specify both the depth and scale of your solution’s social impact to date**

My system is allowing earlier detection of heart problems and even immediate action in case of the worst.It also allows people in workouts to know their heart rate and the best part is that we can even detect and verify a case of myocardial infarction in the EHU(emergency heart Unit) which will work for 24 hours in all hospitals and this sends a emergency ambulance to help the patient even the cell contacts the nearest 10 people and using a new software type of which tells the position of the patient and the altitude to the people nearby and they can give first aid as the hospital finds the numbers called and helps them to carry out first aid and all people who come under the category of danger zone based on health.

Then the vest comes into use as many people in rural areas cant afford to buy the vest 200$ the community center will rent the vest for a about 5$ for a month that makes it available .So we can imagine a world where a poor farmer in india getting a medical health from a person in city,We are also making andrioid open APP after the fall of google health and in such a way ensuring a patients confendiality and having free medical care for him.

**What is your projected impact within the next 1-5 years? Is your idea replicable? If so, how?**

Well I aim big,I see a future where all people use these low cost system for medical care and i can see a poor farmer in south african suffering from heart attack getting medical help from a British DOctor via the new Medical Transfer system, I also visualize this being used in many areas of health and medicine research,I dont think this idea is replicable the ECG processing algorithms will be closed with me.

**Winning entries present a strong plan for how they will achieve and mark growth. Identify your six-month milestone for growing your impact**

Prove the world HADAS works cool

SIX-MONTH TASKS

**Task 1**

Ready the algoritms

**Task 2**

test the complete vest system

**Task 3**

field testing :D

**Now think bigger! Identify your 12-month impact milestone**

12-MONTH TASKS

**Task 1**

Start my own industry

**Task 2**

Give a rental service via ration card in public distributive systems

**Task 3**

DO good to the world :)

**How many people have been impacted by your project?**

101 - 1,000

**How many people could be impacted by your project in the next three years?**

More than 10,000

SUSTAINABILITY

**Explain how your company, program, service or product is structured**

Hybrid model

**What barriers have hindered the success of your project to date? How do you plan to overcome these and other challenges as you grow your solution?**

Well the testing,Funds have always been a problem for me and well but once i prove my concept i am sure many would want to fund me :)

**How do you see the information-technology and media sectors shifting over the next decade? How will your solution adapt to and/or drive that changing environment?**

As the world population grows they are becoming more keen on their health and well i see it as a way i can drive my project into this enviorment,I also though of making my device more fun by making new apps on the countless number of smartphones coming out daily,I also see that as my device has a lot of sensors it can maybe used to create games.

**Failure is not always an option. If your solution fails to gain traction in the next two years, what other applications of the idea could you explore?**

I would explore into energy sector where it is a never ending problem and always has new stuff to do

**Expand on your selections, explaining how you will sustain funding**

well ive got to do R&D as always and be open and prove my concept soon :D

**Tell us about your partnerships**

ive been in part with National Innovation FOundation,National Physical Labratory

**What type of team (staff, volunteers, etc.) will ensure that you achieve the growth milestones identified in the Social Impact section?**

well i will go to the grassroots to promote my systems, I will for a bold,brave team to take up that task

**Changemakers is a collaborative and supportive space. Please specify any community resources you would need to grow and sustain your initiative. Select all that apply**

Investment, Research or information, Collaboration or networking, Pro-bono help (legal, financial, etc.).

**Specify any resources you might offer to support other initiatives. Select all that apply**

Marketing or media, Research or information, Innovation or ideas, Mentorship.

**Please elaborate on any needs or offers you have mentioned above and/or suggest categories of support that aren’t specified within the list**

Well i do need some funds and support :D

SUMMARY

**Define your company, program, service or product in 1-2 short sentences**

HADAS(Heart Attack Detector) is low cost smart vest 200$ to detect heart attacks :)

* [Printer-friendly version](https://www.changemakers.com/print/112944)

**Give Feedback**

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Your insights will be sent privately to this project to help them improve.

Rate This Project

Overall\*



Innovation



Impact



Sustainability



Write a Private Feedback\*



|  | **Strength** | **Need Improvement** |
| --- | --- | --- |
| Clarity of model |  |  |
| Financial Sustainability |  |  |
| Idea Originality |  |  |
| Impact Measurement |  |  |
| Impact Potential |  |  |
| Partnerships |  |  |
| Scalability |  |  |
| Team |  |  |
| Understanding of Marketplace |  |  |



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