

Coaxial Shaft System

Mr. Amol Gunale | Simanta Inspection System Pvt. Ltd.

Problem Statement

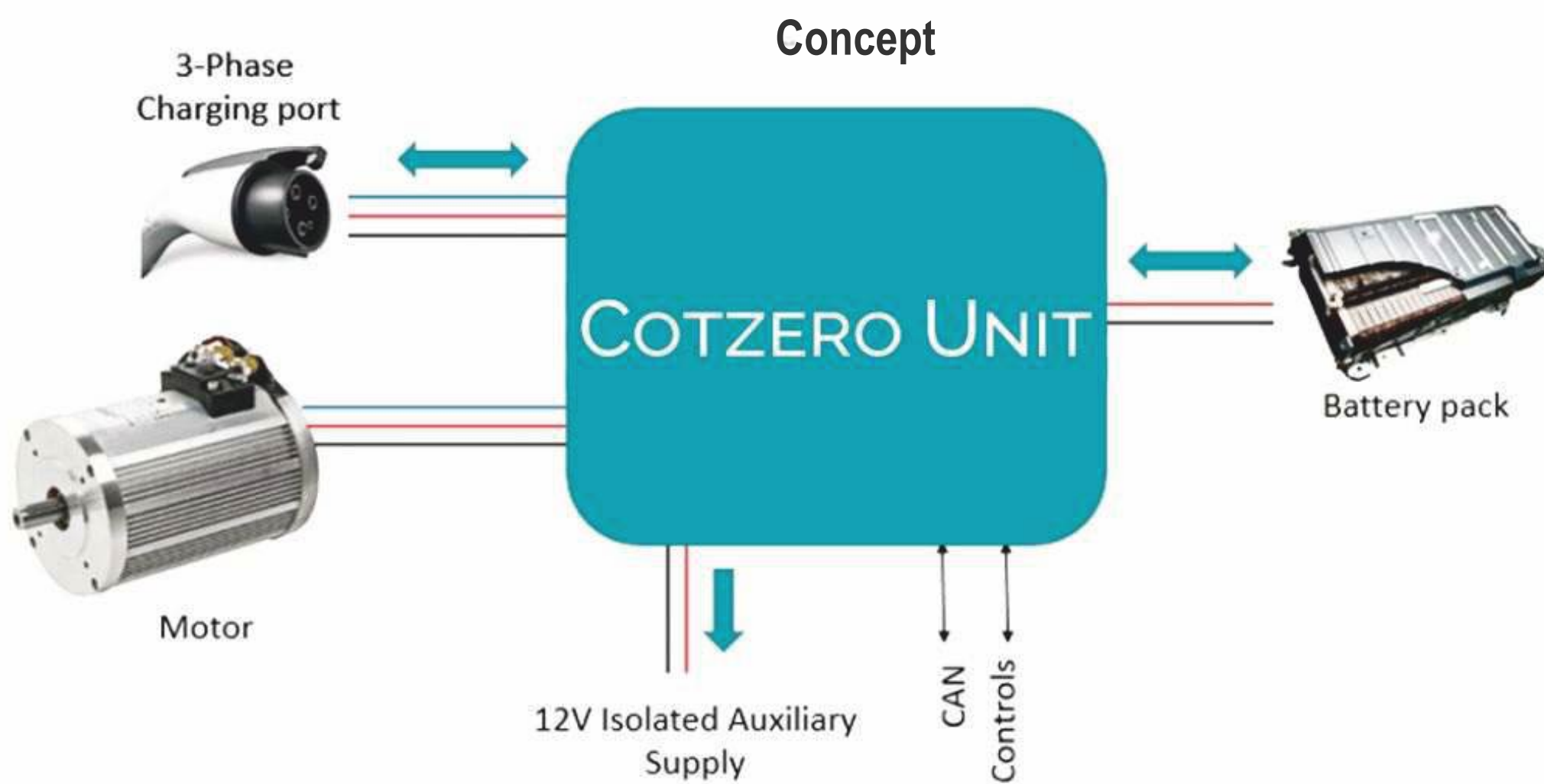
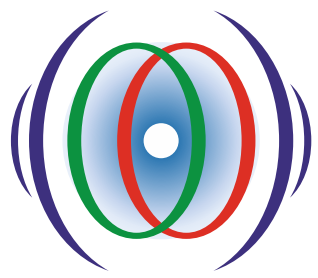
To overcome excessive friction in any drive train.

Concept & Innovative Technology

Using magnetic coupling introduces non contact method of force transmission from one moving element to another thus reduces friction along the line of transfer of motion.

Benefits & Applications

Overall energy required to perform certain amount of motion work.



Powertrain for Electric Vehicles with Fast Charging Capabilities

Mr. Manjul Manivesh | Cotzero Pvt. Ltd.

Problem Statement

Adoption of Electric Vehicles is hindered today majorly because of lack of charging infrastructure, which in turn is a result of very high initial investment required to set up the charging stations. The major cost is of the charging equipment required to fast charge a conventional EV. With our innovative technology, we are bringing this cost down by over 95%.

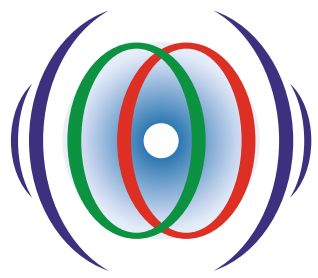
Concept & Innovative Technology

On board fast charging at no additional cost than the conventional system. Inexpensive AC supply ports required for fast charging, so the cost of charging infrastructure gets drastically reduced.

Benefits & Applications

Our powertrain will be used by the automakers to make electric vehicles. This will enable them to develop vehicles with fast charging capability. Since with this powertrain, there is no need of AC-to-DC power converters on charging stations, the charging infrastructure development cost is reduced significantly. This, in turn, will lead to a denser charging network.

NURTURING IDEAS



Production of Carbon Nanotubes (CNTs) from Industrial Emissions

Mr. Mohammed Zameer | Carbon Continuum Pvt. Ltd.

Problem Statement

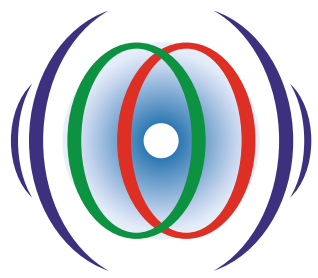
Global Fossil fuel consumption produces 9.4 Giga tonnes of CO₂ emissions/year. Expensive and limited production ways of CNTs in the laboratory scale. Need for super materials and green technology to control the climate change.

Concept & Innovative Technology

Conversion of Industrial waste emissions into strong materials (CNTs). Use of global emission as a source for CNTs production by fixing the reactor at industrial site. Dual advantage in reducing the carbon gases out into the atmosphere at the same time production of powerful material 'CNTs' in bulk quantities.

Benefits & Applications

Reduction of Green House Gases (GHGs). One of the strongest material 'Carbon Nanotubes' at a affordable price. Open the doors to wide variety of carbon composites based applications.



Butterfly Infant Special Feeder

Ms. Effath Yasmin | Nourish and Nurture

Problem Statement

New Born below 8 weeks refusing to latch on to Mothers breast as they are given the bottle in early infancy, causing " Nipple Confusion ", thereby impacting breastfeeding and mother's milk supply.

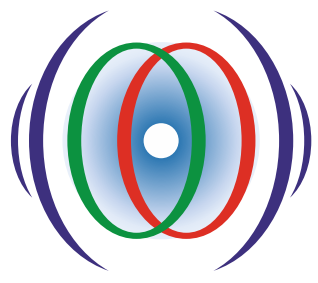
Concept & Innovative Technology

The Infant feeder is an artificial nipple that has a capillary tube, capillary ducts, notches and nipple openings that attaches to the breast of the mother to help naturally breastfeed.

Benefits & Applications

The aim is to resolve issues of Low Milk supply, Slow weight gain, help cleft lip palate, premature babies normally breastfeed and support delayed breastfeeding and Surrogate and adoptive mothers to breastfeed. The capillary infant feeding tube will fit into the capillary ducts which will facilitate the inflow of supplementary milk feed. The perforation on the surface enables better grip on breast and allows breathing of skin while attached to the breast. The nipple openings are tiny and allow natural mother's breast milk to flow to the baby.

NURTURING IDEAS



Waste to Wealth (Coffee Cups)

Dr. Anudeep Sandanamudi | Dhriti Bio Solutions

Problem Statement

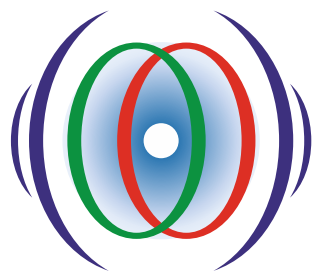
In India, Spent coffee waste account for 1,00,000 Metric tons per year & ever increasing. Ground coffee waste generated is land filled or disposed of as waste. The problem statement is in converting the ground coffee waste to wealth.

Concept & Innovative Technology

According to engineering services, designing a cup shape is extremely tough process. Due to the depth; structural integrity will weaken and as a result it forms cracks. Our team of scientists created a binding force between molecular matrixes of ground coffee waste in a natural and most economical way. This binding gives strength to take a shape of a cup.

Benefits & Applications

Value addition to industrial waste. Sustainable replacement to plastic and paper cups. Employment generation.



Affordable Point of Care Urine Screening Device for Kidney Function Tests

Dr. Vishal Salunkhe | Ominar Solutions Pvt. Ltd.

Problem Statement

Almost 17% of Indians suffering from chronic kidney disease (CKD) and 35% of these patients are diagnosed with kidney failure situations due the lack of early diagnosis. Kidney disease in its early stages does not cause symptoms. Usually when people develop symptoms, their kidney failure has progressed to the advanced stage including dialysis or kidney transplantation to stay alive.

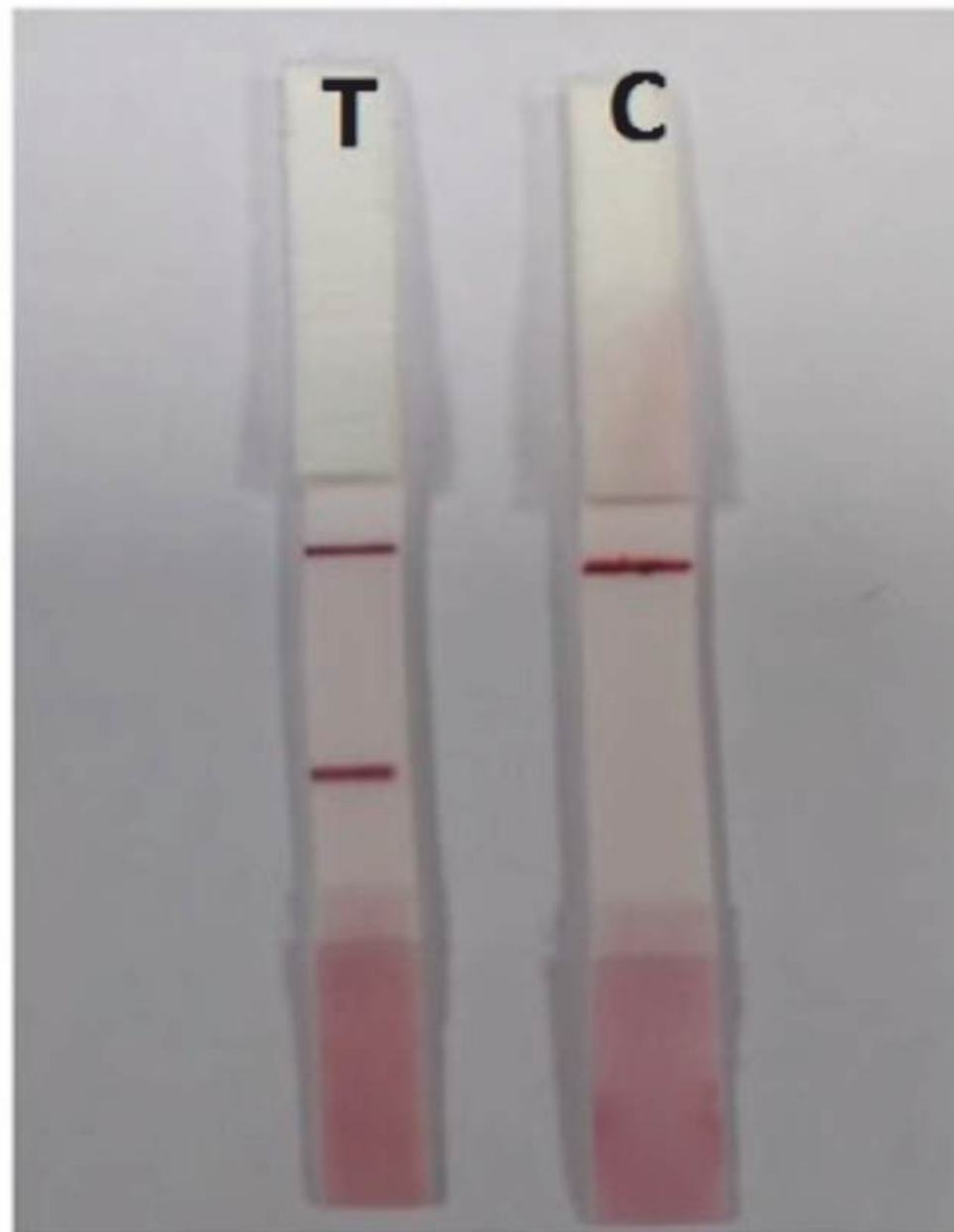
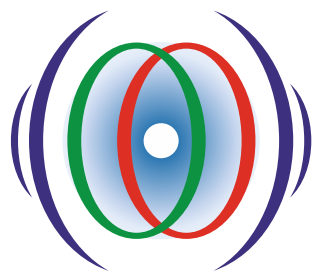
Concept & Innovative Technology

Kidney screening device will contain 6 biochemical reactions corresponding to 6 diagnostic biomarkers. This device will be of single use. Microfluidics-technology is used that will help automate chemical reactions in short and efficient way. Few drops of urine sample are placed on device and after 5- to- 10 minutes colour change will appear. With smartphone and freely available android app, capture the image and it will be processed automatically. Your results will appear on your phone, in a lab report format within 10 minutes.

Benefits & Applications

Commercial prices range from 1500 to 2000 Rs. Our price will be less than Rs. 500. Time : less than 10 minutes. Overall kidney health status such as kidney stone development and urinary tract infection can be known.

NURTURING IDEAS



Diagnostic Test for Premature Rupture of Membrane (PROM)

Dr. Jyoti Kumbhar | Intignus Biotech Pvt. Ltd.

Problem Statement

Premature Rupture of Membranes (PROM) is a serious pregnancy complication that increases the risk of maternal and fetal infections causing preterm birth and accounts for approximately 18% to 20% of perinatal deaths. An accurate diagnosis with prompt and correct intervention is of utmost importance in the management of PROM especially in preterm gestation. Failure to ascertain the correct diagnosis would result in either failure to initiate proper treatment or would lead to unnecessary interventions such as hospitalization and inappropriate use of antibiotics and antenatal corticosteroids, as well as induction of labour.

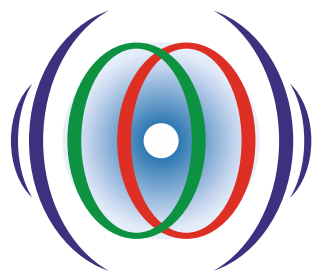
Concept & Innovative Technology

A low cost, point-of-care, device free diagnostic test dip stick platform for detection of PROM. The platform would be useful for any disease diagnostic platform, where blood interference might be a problem.

Benefits & Applications

The main problem of diagnosis of PROM is vaginal bleeding. The currently available tests do not perform at all, in the presence of vaginal bleeding. Moreover, the second concern is the cost of the currently used tests. They are very costly and the patients do not give preference for the usage of such costly tests.

NURTURING IDEAS



Rescue Ball

Mr. Ganesh Suryawanshi | Combat Robotics India Pvt. Ltd.

Problem Statement

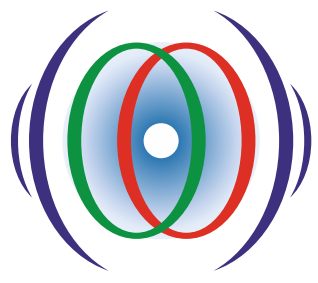
Locating Human Lives during major building collapse, earthquake, fire. Reaching inaccessible areas during earthquake, landslide or debris accumulation.

Concept & Innovative Technology

Small robotic ball with integrated camera and mic. Communication system will help deliver the information of the situation at the inaccessible places.

Benefits & Applications

Robotic Ball can reach inaccessible areas like earthquake, building Collapses, landslide or debris accumulation, precisely locate victims & helps to plan rescue operations. This concept will find useful for Disaster management forces and Military forces.



A low cost effective Device to prevent Pressure Ulcers in Bedridden Patients

Mr. Ashish Mohandas

Problem Statement

Pressure ulcer is one most costly and physically debilitating medical condition resulting in increased morbidity, length of stay and even leads to fatal. The caretakers of the bedridden patients experience musculoskeletal disorders due to manual repositioning. Caretakers / Institutional staff extremely finds it difficult to reposition patients every 2 hours.

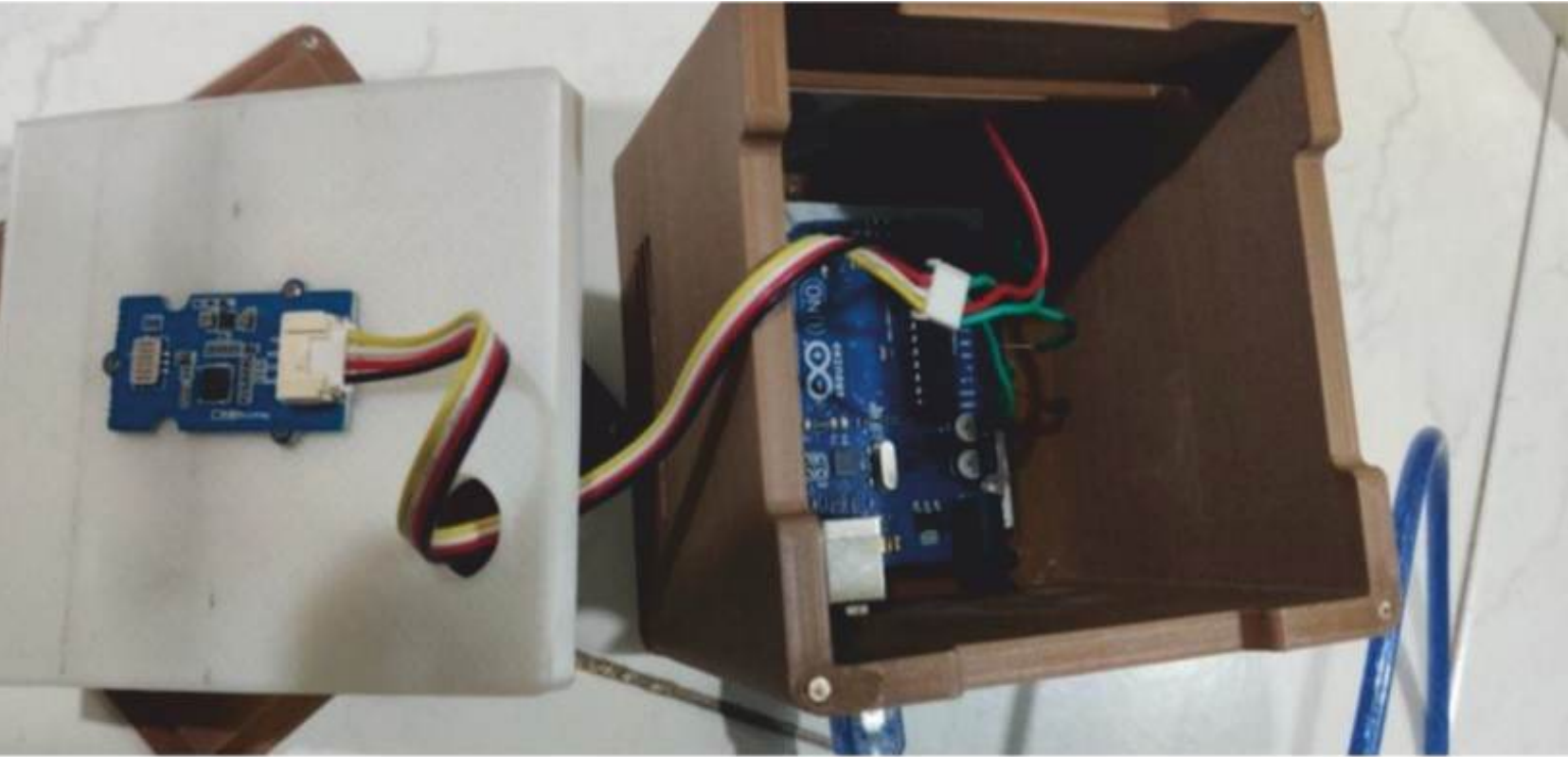
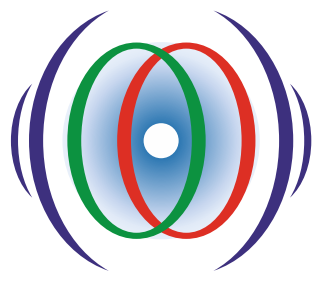
Concept & Innovative Technology

Continuous lateral repositioning resulting in shifting and redistributing the pressure from critical Areas. Lifting of Bony Prominence areas through selective movement of surface underneath the patient.

Benefits & Applications

Considerably reduce treatment cost and LOS by preventing pressure ulcers. Achieving the gold standard Affordably. No more Musculoskeletal disorders for caretakers. Patient not woken up during night for lateral turning. Especially helpful for caretakers who are unable to physically provide manual repositioning to patients. No loss of time for caregivers.

NURTURING IDEAS



Methods and Systems for Detection of Parkinson's Disease

Ms. Neenu Kalayil

Problem Statement

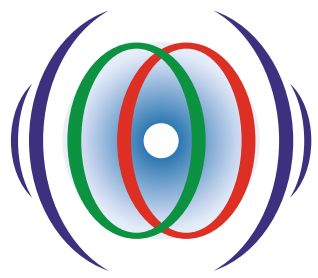
There is no existing method for early detection of Parkinson's disease. The currently available tests and treatments are highly expensive and invasive. Quantitative measure of Parkinson's disease is not available.

Concept & Innovative Technology

Parkinson's causes stiffness of muscles which results in deformation of vocal cords leading to changes in the parameters such as pitch, jitter, formant frequency, shimmer, energy, etc. as compared to normal subjects. Parkinson's patient gives out a distinct musky smell. This smell can be detected through sweat analysis which is captured with the help of VOC sensors.

Benefits & Applications

Early prediction of Parkinson's disease through Speech and Smell signatures analysis. A simple, portable, noninvasive and inexpensive device. It can be used as a detection kit by neuro-physicians. In industries, it can be used as a part of the annual health check-ups.



Shiras Tran - Empowering People, Fearlessly with Protection of Health, Life and Liberty

Mr. Tejsinh Gaikwad

Problem Statement

N95 Nose-Mouth Masks: Never Fit Well, breathing continues through gaps between Mask & the Face, leaving N95 Filter unused. Face Shields, PPE kits and/or Nose-Mouth N95 Masks are practically not only insufficient but are wrong solutions for our Covid Yoddhas, world over. In fact, they all are Not The Holistic Protection Gear at all to Protect all Inhaling Organs.

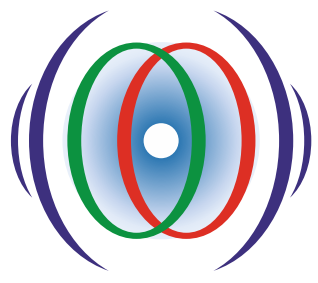
Concept & Innovative Technology

“Shiras Tran” - a comprehensive Equipment aimed at providing Anti-Bacterial and Anti-Viral, Penetration Resistant, Anti-Touch Uni-body and Duo-body Head Gear, is a Space Suit Technology adapted for Protecting our COVID Yoddhas / Beneficiaries worldwide.

Benefits & Applications

A Uni-body/Duo-Body Head Gear, which unlike Masks and Face Shields shall not just Cover the Nose-Mouth or the distant Front Face, but ISOLATE all the Inhaling Points of the Body to avoid any Unwanted Bacterial or Viral infection entering the Respiratory Track or Blood or anywhere in the Body.

NURTURING IDEAS



Multifunction Oximeter

Mr. Chandrakant Mahajan

Problem Statement

Existing Oximeter in market provides measurements for Oxygen Saturation and Pulse Rate. For Temperature measurement and Blood Pressure measurement additional devices are required. The cost of above all the devices totals to around Rs. 7500 to 8500; further handling multiple devices is cumbersome. Proposed Device will have functionality of detecting Blood Oxygen (SPO₂), Pulse Rate (BPM), Blood Pressure (Systolic and diastolic) and Non-contact Body Temperature.

Concept & Innovative Technology

Proposed Device will have functionality of detecting Blood Oxygen (SPO₂), Pulse Rate (BPM), Blood Pressure (Systolic and diastolic) and Non-contact Body Temperature. Non Invasive method of detecting blood oxygen and blood pressure. Also non-contact body temperature through infra ray technology.

Benefits & Applications

This device will be handheld and cost effective and can be carried out anywhere. We can connect this Multifunction Oximeter to Mobile or laptop through Wi-Fi. It Measures Oxygen saturation Level and pulse rate while it also Measures Blood Pressure Systolic and Diastolic. It can be used during anesthesia and postanesthesia care, including both general and conscious sedation in Intensive care units, Neonatal care units, including delivery, nursery, and neonatal intensive care units etc.

NURTURING IDEAS