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1.3.2 List of students under taking Project work /Field trip/ Internship

Academic year 2021-2022

DEPARTMENT OF MECHATRONICS ENGINEERING

S.No.	Reg No.	Name	Year	Project Work	Mini Project Work	Internshi P	Field Visit
1.	712218115002	ARUN KUMAR P	IV	✓			
2.	712218115003	ASWINTH I	IV	✓			
3.	712218115004	FRANKLIN STEWART F	IV	✓			
4.	712218115005	HARIHARAN B	IV	1			
5.	712218115006	HARIHARAN S	IV	✓			
6.	712218115007	HARI KRISHNAN M	IV	✓			
7.	712218115008	HARISH A	IV	1			
8.	712218115009	JAGAN M	IV	✓			
9.	712218115010	JEEVA KRISHNAN R	IV	✓			
10.	712218115011	KARTHIK M	IV	✓	5		
11.	712218115012	KAVI BHARATHI M	IV	✓			
12.	712218115013	KAVIN BARATH S	IV	✓		*	
13.	712218115014	KAVIYARASAN S	IV	✓			
14.	712218115015	LOKESH B	IV	✓	14		
15.	712218115016	MADHAVAN R	IV	✓			
16.	712218115018	NARAYANAN R	IV	✓			
17.	712218115019	NIRAA KULAN B	IV	✓			
18.	712218115020	NITHISHKUMAR R	IV	✓			
. 19.	712218115021	PRASANNA G	IV	✓			
20.	712218115022	RADHAKRISHNAN S	IV	✓			
21.	712218115023	RANJITHRAJ V	IV	✓			
22.	712218115024	RATHANAGIRIESWARAN K	IV	✓			
23.	712218115025	SARAVANAN G	IV	✓			
24.	712218115026	SENTHIL M	IV	✓			
25.	712218115027	SIVABHARATHI M	IV	✓			
26.	712218115028	SIVA MURUGAN M	IV	✓			
27.	712218115030	SRIHARI P	IV	✓			
28.	712218115031	SUDARSAN D	IV	✓			
29.	712218115032	SUMESH T	IV	✓			
30.	712218115033	SURYABHARATHI R	IV	✓			
31.	712218115034	VIGNESH R	IV	✓			
32.	712218115035	WESLINE JONES R	IV	✓			



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DEPARTMENT OF MECHATRONICS ENGINEERING

PROJECT LIST (2018-2022)

S.NO.	REG. NO.	NAME OF THE STUDENTS	TITLE OF THE PROJECTS	NAME OF THE SUPERVISOR
1.	712218115014	KAVIYARASAN S	AUTOMATED AUTOMOTIVE AND LOCOMOTIVE CHARGING	MR.A.PRAVIN KUMAR
	712218115015	LOKESH B		
	712218115034	VIGNESH R		
	712218115035	WESLINE JONES R		
2.	712218115018	NARAYANAN R	IOT BASED MEDICINE REMINDER BOX	MR.V.SATHEESH KUMAR
	712218115026	SENTHIL M		, and the second
	712218115028	SIVA MURUGAN M		
	712218115030	SRIHARI P	2	
3.	712218115006	HARIHARAN S	3D PRINTED PLA POLYMERS	MR.V.SATHEESH KUMAR
	712218115012	KAVI BHARATHI M		
	712218115016	MADHAVAN R		
	712218115021	PRASANNA G		
4.	712218115023	RANJITHRAJ .V	SMART DRY HAND SANITIZING	MR.P.SENTHIL
	712218115031	SUDARSAN.D	MACHINE USING FOG	KUMAR
	712218115011	KARTHIK.M	DISINFECTION METHOD	
	712218115019	NIRAAKULAN.B		
5.	712218115008	HARISH A	IOT CONTROLLED AUTOMATIC SCREW JACK	MR.V.SATHEESH KUMAR
	712218115010	JEEVA KRISHNAN R		
	712218115013	KAVIN BARATH S		
	712218115032	SUMESH T		
6	712218115033	SURYABHARATHI R	IOT BASED SMART AGRICULTURE	MR.E.MAHESH
	712218115024	RATHANAGIRIESWARAN K		
	712218115009	JAGAN M		
			The state of the s	





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	712218115007	HARI KRISHNAN M		
7	712218115002	ARUN KUMAR P	DESIGN AND FABRICATION OF DISABLED PEOPLE VEHICLE	MR.A.PRAVIN KUMAR
	712218115020	NITHISHKUMAR R	WITH AUTOMATIC BRAKING SYSTEM	
	712218115022	RADHAKRISHNAN S		
	712218115027	SIVABHARATHI M		
8	712218115003	ASWINTH I	LIFI BASED VECHICLE TO VECHICLE COMMUNICATION	MR.DR.M.PRABHU
	712218115004	FRANKLIN STEWART F		
	712218115005	HARIHARAN B	,	
	712218115025	SARAVANAN G		





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DESIGN AND FABRICATION OF DISABLED PEOPLE VECHICLE WITH AUTOMATIC BRAKING SYSTEM



A PROJECT REPORT

Submitted by

NAME ARUNKUMAR.P NITHISHKUMAR.R RADHAKRISHNAN.S SIVABHARATHI.M REGISTER NO 712218115002 712218115020 712218115022 712218115027

In partial fulfillment for the award of the degree

of

BACHELOR OF ENGINEERING

IN

MECHATRONICS ENGINEERING

PARK COLLEGE OF ENGINEERING AND TECHNOLOGY

KANIYUR, COIMBATORE - 641659

ANNA UNIVERSITY: CHENNAI 600 025

JUNE 2022



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ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report Certified that this project report

"DESIGN AND FABRICATION OF DISABLED PEOPLE VECHICLE

WITH AUTOMATIC BR AKING SYSTEM" is the bonafide work of

"Arunkumar.P (712218115002), Nithishkumar.R (712218115020),

Radhakrishnan.S (712218115022), Sivabharathi.M (712218115027)" who

carried out the project work under my supervision.

Asst. Prof A.PRAVINKUMAR M.E., PROJECT GUIDE

ASSISTANT PROFESSOR

Department of Mechatronics Engineering

Park College of Engineering and Technology, Kaniyur, Coimbatore.

SIGNATURE

Prof.V.SATHEESHKUMAR.M.E., HEAD OF THE DEPARTMENT

ASSOCIATE PROFESSOR

Department of Mechatronics Engineering

Park College of Engineering and Technology, Kaniyur, Coimbatore.

Submitted for the viva-voice examination held on: 22 0622

EXTERNALEXAMINER



Dr.D.LAKSHMANAN.ME., Ph.D. PRINCIPAL

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ABSTRACT

Automatic braking may be a safety technology that automatically activates the vehicle's brake to the point, when necessary. An automatic Braking system is mostly an effective mechatronic system that has an Ultrasonic wave emitter provided on the front, back, side portion of a car producing and emitting Ultrasonic waves. Each carmaker has its automatic braking system technology, but all of them believe in some sort of sensor input. The ultrasonic sensor contains transmitter and receiver units, and the ultrasonic transmitter detects the obstacle by transmitting the signals and reflects them to the ultrasonic receiver unit. The ultrasonic sensor input is then used to determine if there are any objects present in the path of the vehicle. If an object is detected, the system can then determine if the speed of the vehicle is bigger than the speed of the thing ahead of it. And the speed of the vehicle will be gradually reduced and stopped. Frequent usage of brake in hill station results in high temperature on disk. Additionally, a disc brake temperature sensor and level sensor are used to monitor the engine oil leakage and temperature on the disk.



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5.1 CONCLUSION

We have successfully completed the fabrication automatic braking system model prototype and this project presents the implementation of an automatic braking manually. but the speed of the vehicle can be reduced automatically due to the sensing of the obstacles. It's reduced the accident levels and tends to save the lives of so many people by doing this project practically we gained the knowledge about working of automatic braking system and this future study and research, we hope to develop the system into an even more advanced speed control system for automobile safety. There is a huge opportunity to develop systems that has increased functionality. These included systems capable of functioning effectively in a wider range of collision circumstances, including head on and front to side collisions on straight roads and curves and pedestrian collisions. This can be achieved using a range of different sensors such as radar, camera image technology, infrared, far infra-red, laser and sensor fusion. However, there was a substantial quantity of research that suggested ABS alone would have limited abilities in collisions at junctions because of restricted line of sight and more complex situations. This problem can be solved by adding vehicle to vehicle communications to develop the functions in this collision type. Some full automated collision avoidance systems can be also developed using both vehicle sensors and vehicle to vehicle communication.





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LIFI BASED VECHICLE TO VECHICLE COMMUNICATION



A PROJECT REPORT

Submitted by

NAME ASWINTH.I FRANKLIN STEWART.F HARI HARAN.B SARAAVANAN.G

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

in

MECHATRONICS ENGINEERING

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KANIYUR, COIMBATORE - 641659

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JUNE 2022





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BONAFIDE CERTIFICATE

Certified that this project report "LIFI BASED VECHICLE TO VECHICLE

COMMUNICATION" is the bonafide work of "ASWINTH.I(712218115093),

FRANKLIN STEWART.F(712218115004), SARAVANAN.G (71221811025),

HARIHARAN.B(712218115005) "who carried out the project work under my

supervision.

SIGNATURE

Prof.Dr.M.PRABHU,

PROJECT GUIDE

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Prof.V.SATHEESHKUMAR.M.E.,

HEAD OF THE DEPARTMENT

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Submitted for the viva-voce examination held on 22/06/2022

INTERNAL EXAMINER

EXTERNAL EXAMINER







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ABSTRACT

Now a days, traffic accident detection is becoming one of the interesting fields due to its tremendous application in intelligent transportation systems. Main causes behind these road accidents are lack of unskilled drivers, consuming alcohol while driving, over speed, sleep while driving. Plenty of solutions have been applied to prevent these road accidents. But most of them were failed to prevent this. In this work we present an advanced accident detection using LIFI technology. This work provides an intelligent system for accident prevention and detection for human life safety. That prevention part has various sensor like eye blink sensor, alcohol sensor and ultrasonic sensor. If the sensor detects whether the rider consumes alcohol or the distance between two vehicles is low then it sends that information to another vehicle which is going in front it. So that they can be alert. And if the driver is sleeping while driving means then the eye blink sensor detects it and give an alert to the driver.



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CONCLUTION AND FUTURE WORK

As a result of increased population, the number of accidents also increased. This is reduced to a great extent by this technology. The Li-Fi helps faster transfer of data between the vehicles. This technology can also be implemented in street lights for data transfer about the traffic. As it employs visible light for communication, this is not restricted in any places. There is no interference in the signals. Hence this technology is far better than other methods of data transfer. It will allow inter access in places such as operation theatres and aircrafts where internet access is usually not allowed. If this technology can be used efficiently, we might soon have something of the kind of WI-FI hotspots wherever a light bulb is available. It will be cleaner and greener and the future of mankind will be safe. Since this technology has a vast potential, many researches are being conducted in this field. In this fast changing world as a result of increased population, the number of accidents also increased. This is reduced to a great extent by this technology. The Li-Fi helps faster transfer of data between the vehicles. This technology can also be implemented in street lights for data transfer about the traffic. As it employs visible light for communication, this is not restricted in any places. There is no interference in the signals. Hence this technology is far better than other methods of data transfer. It will allow inter access in places such as operation theatres and aircrafts where internet access is usually not allowed. If this technology can be used efficiently, we might soon have something of the kind of WI-FI hotspots wherever a light bulb is available. It will be cleaner and greener and the future of mankind will be safe. Since this technology has a vast potential, many researches are being conducted in this field. In this method along with the distance measurement, drunkard drive indication

and overtake guidance switch, the speed sensors can also be added to measure the speed of the cars.



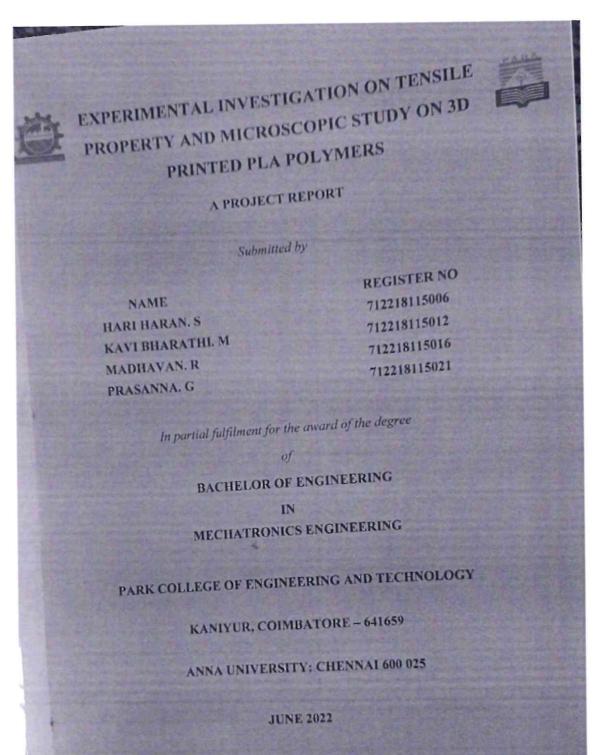
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ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report "EXPERIMENTAL INVESTIGATION ON TENSILE PROPERTY AND MICROSCOPIC STUDY ON 3D PRINTED PLA POLYMERS" is the bonafide work of "HARI HARAN. S (712218115006),KAVI BHARATHI. M (712218115012), MADHAVAN.R (71221811016), PRASANNA. G (712218115021) "who carried out the project work under my supervision.

SIGNATURE

Prof.V.SATHEESHKUMAR.M.E.,

HEAD OF DEPARTMENT

ASSOCIATE PROFESSOR

Department of Mechtronics

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SIGNATURE

Prof.E.MAHESH.M.E.,

SUPERVISOR

ASSIATANT PROFESSOR

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Submitted for Anna university project examination held on 2.2/66/2 2

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ANAN.ME., Ph.D PRINCIPAL

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ABSTRACT

Additive Manufacturing (AM) also known as 3D printing, has been drawing increasing interest from industry, as well as the research and academic communities. Recently, cheaper and faster AM techniques have been developed which can produce high print qualities.

The project aims to design a number of tensile specimens from PLA filament based on ASTM standard ASTM D638 type IV (which is the standard for determining the tensile properties of a plastic). We can design the specimen in software like CREO, SOLIDWORKS and we got it sliced in a slicing software named CURA.

. We have conducted tensile tests on the printed specimens to determine the rigidity of each and finding the optimum standard parameters for better efficiency. We performed microscopic study on the specimens to understand the layer bindings and structural arrangements to further justify the results of the tensile test we performed.





PARK A

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CONCLUSION

The specimens were designed under ASTM D638 standards and were printed under various parameters in a Creality Ender 3 V2 3D printer. The mechanical properties such as tensile and microstructure were investigated from the fabricated samples. The results among these printed tensile specimens were mostly similar, indicating 36.95 Mpa (Specimen No.8) has more effect on these properties due to Nozzle temperature raster angle and layer wall thickness.

This may be due to the reason that the layer wall thickness highly affects the strength of the printed material and we can see keeping the value at 1mm has impacted in the tensile test reports. The raster angles 0°, 45° also played a role in maintaining the tensile strength among the specimens and as per the literature reviews, these angles provided a better efficiency and offers better layer bindings in the given specimen. Now coming to the temperature 220 – 230 °C they have played a role in layer bindings and so the we can see on an average specimen printed under 230 °C have shown better tensile strength in comparison to those printed under nozzle temperature 220 °C.



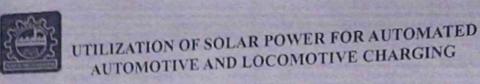
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A PROJECT REPORT

Submitted by

NAME KAVIYARASAN.S LOKESH.B VIGNESH.R WESLINE JONES.R REGISTER NO 712218115014 712218115015 712218115034 712218115035

In partial fulfilment for the award of the degree

of

BACHELOR OF ENGINEERING

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MECHATRONICS ENGINEERING

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BONAFIDE CERTIFICATE

Certified that this project report "UTILIZATION OF SOLAR POWER FOR AUTOMATED AUTOMOTIVE AND LOCOMOTIVE CHARGING in the bonafide of "Kaviyarasan.S (712218115014), Lokesh.B(712218115015), Vignesh.R. (71221811034), Wesline Jones.R (712218115035) "who carried out the project work under my supervision.

Prof.A.PRAVIN KUMAR M.E.,

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Prof.V.SATHEESHKUMAR.M.E., HEAD OF THE DEPARTMENT

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ABSTRACT

The vehicle population is increasing day by day and is expected to exceed the human population in the upcoming years. This would also result in the consumption of fossil fuels and in the extinction of the nonrenewable resources. Hybrid and electric vehicles are gaining popularity, making the improvement in charging station infrastructure a necessity. Superchargers and mega-chargers have set a benchmark for fast charging of high-capacity vehicle batteries. Electric vehicles are promoted in large numbers by government of India to reduce environmental pollution and climatic changes. Major anxieties while introducing electrical vehicles in their driving range and initial cost. Enough number of normal, medium and fast charging stations and battery and swapping stations are to be planned and installed for smooth conveyance of Electrical vehicles. This project deals with a normal charging station implemented at a workplace. A solar power plant and wind mill is used as a major source of electrical energy. An alternate connection to the station storage battery is importing/exporting the electrical power at times of deficient/excess solar power-generation.





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6.2 CONCLUSION

In this paper, a new recharging mechanism for electric vehicles is proposed using solar and wind energy. The usage of EV is directly affected by the present charging technique. Recharging stations are necessary for longer drive vehicles and it is commonly used in few countries. The traveling distance depends on the capacity of energy storage present in the vehicle. The recharging stations are needed for long distance travel. In this paper, we have introduced a new hybrid renewable charging mechanism for EVs. The solar and wind energy has been used for electric vehicle charging. At last, we conclude that this approach reduces the pollution and increases the usage of EVs as a result creating pollution free environment.

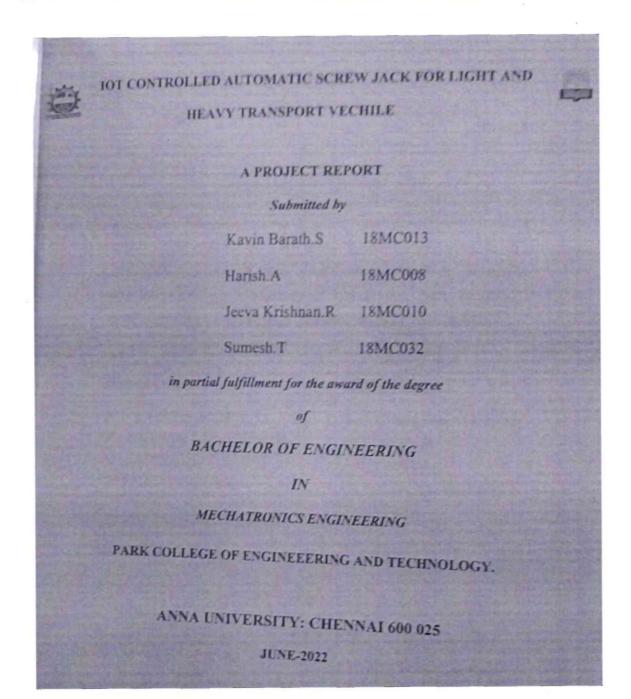




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APPENDIX 2

ANNA UNIVERSITY: CHENNAI 600 025

BONAFIDE CERTIFICATE

Certified that this project report "IOT CONTROLLED AUTOMATIC SCREW JACK FOR LIGHT AND HEAVY TRANSPORT VECHILE" is the bonafide work of "KAVIN BARATH.S (18MC013), HARISH.A (18MC008), JEEVA KRISHNAN.R (18MC010), and SUMESH.T (18MC032)" who carried out the project work under my supervision.

Prof. V. Satheesh Kumar M.E.,

HEAD OF THE DEPARTMENT

Associate Professor Department of Mechatronies Engineering Park College of Engineering and Technology.

Kaniyur, Coimbatore.

Prof. G. Surya Raj M.E., Ph.D.,

SUPERVISOR

Assistant Professor

Department of Mechatronics

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EXTERNAL EXAMINER





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ABSTRACT

In today's era, an automobile has become the part and parcel of our life, even after the introduction of new range of tubeless tires a most common problem with us is the punctured wheel which is really a cumbersome and tedious task and the most tiring amongst the whole process is placing jack and lifting it, but what if this tiring task is done by just one click. Our paper titled "IOT CONTROLLED AUTOMATIC SCREW JACK FOR LIGHT AND HEAVY TRANSPORT VECHILE" is the solution for the same. The entire assembly is controlled by app which is made on IOT app maker and the brain of this project is the Arduino Uno which controls all the motors by receiving signals from the app with help of a WIFI module, Arduino stores the code which is encoded into it by Arduino encoder. Entire assembly is moved by 10 and 60 RPM DC motors. The motorized power jack can be widely used in low cost automation in manufacturing industries. The weight lifting is quick and effortless, which reduces the physical fatigue (tiredness) felt by the worker. This report deals with design and fabrications of motorized power jack which is used for lifting heavy automobiles, using the power from a dc motor. The project helps in reducing the effort as well as time taken to lift the load in comparison to the ordinary screw jack.



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CONCLUSION

The project carried out by us made an impressing task in the field of automobile and automobile workshops. It is very usefully for the workers to work in the automobile workshop are in the service station.

This project has also reduced the cost involved in the concern. Project has been designed to perform the entire requirement task which has also been provided.

FUTURE SCOPE

There is a scope of improvement that is by replacing the Bluetooth control with car automatic switch technology



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10T Based Smart Agriculture



A PROJECT REPORT

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ABSTRACT

Agriculture is basic source of livelihood People in India. It plays major role in economy of country. But now days due to migration of people from rural to urban there is hindrance in agriculture. Monitoring the environmental factor is not the complete solution to increase the yield of crops. There are no of factors that decrease the productivity to a great extent. Hence Automation must be implemented in agriculture to overcome these problems. An automatic irrigation system thereby saving time, money and power of farmer.

The Traditional Farm land irrigation techniques require manual intervention. With the automated technology of irrigation the human intervention can be minimized. Continuous sensing an monitoring of crops by convergence of sensors with Internet of things (IOT) and making farmers to aware about crops growth, harvest time periodically and in turn making high productivity of crops and also ensuring correct delivery of products to end, consumers at right place and right time. So to overcome this problem we go for smart agriculture technique using IOT.

This Project includes sensors such as temperature, humidity, soil moisture and rain detector for collection the field data and processed. These sensors are combined with well-established web technology in the form of wireless sensor network to remotely control and monitor data from the sensors.



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CONCLUSION AND FUTURE SCOPE

and it will increase the productivity as well as improve the quality and can save lives of farmer. There is an urgent need for a system that makes the agricultural process easier and hurden free from the farmer's side. With the recent advancement of technology it has become necessary to increase the annual crop production output of our country India, an entirely agro centric economy. The ability to conserve the natural resources as well as giving a splendid boost to the production of the crops is one of the main aims of incorporating such technology into the agricultural domain of the country. To save farmer's effort, water and time has been the most important consideration.



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SMART DRY HAND SANITIZING MACHINE USING FOG DISINFECTION METHOD A PROJECT REPORT



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ABSTRACT

Since the onset of the COVID-19 pandemic, it is recommended that you wash your hands several times a day. But can you waste so much water? The problem of irrational water use will cause more problems than the epidemic itself. To solve this problem, we have developed a system that allows you to wash your hands without using more than 95% water. Sometimes hand disinfection is a very important factor in the fight against infectious diseases. But do you need a lot of water to disinfect your hands? After all, many wash their hands (more than 15-20 seconds when turning the tap). To disinfect with disinfectant or soap, water is enough to reach every millimeter of your hand. This should be enough to kill the infection or get out of your hands. When the faucet is open, only 10-30% of the water touches the skin and the rest flows through this first layer of water. Our machines go even further and save more water through the wrong base system. The engine is integrated with the tank at the bottom. If necessary, the tank is filled with water with a safe herbal disinfectant. When the user rubs his hands against the soap system, the water mist system activates automatically, converting the water in the reservoir into mist leading to the bathroom. Since it is in a gas (water vapor) state, it can be reached in less than 5 seconds. After exposing the user to water mist for 5-15 seconds, wash off the soap from hands with water mist. Use less than 95% of the water needed to wash your hands in a traditional mixer. This hand-held washing machine is equipped with a manual control system based on Arudino uno. This parameter includes the amount of time that the device must pass for eachuser.





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5.1 CONCLUSION

The proposed work has many important advantages and helps to kill viruses and bacteria in public places such as train stations, airports and theaters. Good hygiene is helpful as it is a non-contact approach that helps maintain proper social distancing in line with general standards. Its portable design makes it easy to install and use in a variety of locations depending on your needs. The technology used is still new and very unstable. Using about 95% less water than traditional hand washing, it solves one of the biggest water saving problems, which is why we see progress and new products on the market with a similar mechanism. Use less than 95% of the water needed to wash your hands using conventional faucets. The saved water can be used for other purposes. The system is fully automated and avoids manual mistakes such as opening the tap, tap leaks and maximizing water savings. With this mechanism, the installation and maintenance of existing faucets is no longer a problem, people can operate them comfortably, contactless and very hygienic.





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IOT BASED MEDICINE REMINDER BOX



A PROJECT REPORT

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ABSTRACT

Our project's main aim is to make a Smart medicine box for those users who regularly take medicines and the prescription of their medicine is very long as it is hard to remember to patients and also for their care giver.

Old age patients suffer from problems of forget to take pills on proper time which causes certain health issues for patients having Permanent diseases like diabetes, blood pressure, breathing problem, heart problems, cancer diseases etc. We saw these problems in hospitals & people around us who have such kind of diseases and thus based on these two problems we made smart medicine box which solve these problems by Setting up time table of prescribed medicines through push buttons as given in prescription. Present time will be saved in RTC module and notification time will be saved in EEPROM. At the time of taking medicine system generate Notification sound and display the Bright light in certain pill boxes. So, patient can know the specific number of box from which he has to take out medicines. All pill boxes are pre-loaded in the system which patient needs to take at given time. And our system has quality that it can sense if the patient had taken out pills from the box or not. Another advantage of our system includes of Sensing capability if the patient tries to postpone the time of taking medicine by suddenly opening and closing the medicine boxes to stop the sound. Even this medicine box connect with smart phone though IOT module. User can access the medicine box by blynk open source mobile application. It would help the user to access the medicine box. And this kit will send the reminder massege to mobile phone through IOT.

User can also change the counting of medicine which are kept in medicine box and also user can get the notification every time as per the schedule.





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CONCLUSION

There are many systems that are serving the same purpose But these systems are difficult to use, non-mobile, expensive and a complex process. The proposed system overcomes all of the above problems and it is simply affordable with better accuracy. This system is helpful to every age group. It is helpful for tracking regular medicine intake and reduces manual supervision and human effort. With the simple circuitry and cheap device comes as a boon for the young and elderly, a simple solution for mothers for their adolescents and caretakers for the aged and suffering. It can find its use in every household or hospital that has medical supervision and can be marketed as an efficient solution for us. The main goal of the system is to provide healthy, tension free life to those who are taking pills regularly and to provide it at an affordable cost.

