P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626140.
Tamilnadu State

DNV·GL

ISO 9001:2008

Date:18.07.2018

PROPOSAL SANCTIONED FOR FINANCIAL GRANT FROM THE COLLEGE

1. Title of the Project: Wheelchair Cum Stretcher for Smart Health Care

2. Name of the Faculty: Dr.P.Ranjith Kumar

3. Designation & Department: Associate Professor/ECE

4. Objectives of the Proposed Project:

- Developed stretcher cum wheel chair is capable to transfer patient easily from bed to stretcher and vice versa by attendant or nurse. Mobility in both positions as on wheel chair as well as stretcher is possible very easily.

- Providing detachable stretcher which will make it easy for shifting the patient. ϖ After the stretcher is detached, the usefulness of the base as wheelchair.

- Making a prototype model using limited materials and scarps. Therefore, reduction in cost.

Project Summary:

Wheelchair and stretcher are very commonly used in the hospitals, airports, railway station, shopping malls, etc. This design here, is a modified wheel chair cum stretcher depending on the needs. This machine can be used to convert the wheel chair into a stretcher according the requirements. This can be accessed manually. The chair gets converted into a stretcher when the levers are engaged. The stretchers can be detached from the main frame according to the convenience of the patient as well the doctors, making it easier to access the patient with less effort and transporting. The folding mechanism makes it easier to store large number of stretcher put into the form of chairs in comparatively less space. The number of patients in world is increasing day by day. So in hospitals patients need to be shifted from wheelchair to stretcher, stretcher to beds, bed to wheelchair, or vice versa; which creates unsafe conditions for patients.

There is a need for a Wheelchair cum stretcher to facilitate the disabled patient's mobility and to provide novel medical equipment for use in the hospitals.

Expected Outcome:

The conventional wheelchair cum stretcher has numerous drawbacks and its expensive too. The available wheelchair doesn't provide the provision for stretcher. So to overcome all this drawbacks, this new model of wheelchair cum stretcher is designed. When the patient is required to transfer from bed to wheel chair from one place to hospital or any other place it becomes very difficult by nursing staff as well as patient also. Due to the transferring from bed to wheel chair or vice versa, stresses are developed in the body of patient and as well as nursing. The above problems which are generated at the timing of patient transferring from bed to wheel chair can be eliminated by developing new design of stretcher cum wheelchair

Detailed Budget:

S.NO	List of components	Amount (in Rs)
1.	Chassis	910
2.	Gas sensor	2700
3.	Casters	5,549
4.	Bolt and Nut	56
5.	Main base structure	2024
6.	Bearing	22
7.	Rack and Pinion Gear	425
8.	Stationary & Printing Charges	2000
9.	Conference Publication Charges	2000
	Total	15686
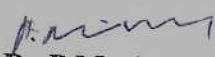
Work Plan

S.NO	PROCESS	Duration (in Months)
1	Problem Identification	3
2	Preparation	2
3	Component collection	2
4	Design & Fabrication	2
5	Implementation	1
6	Publication	3

Signature of the Faculty

Recommended / Not Recommended by

Dr.K.Valarmathi

Professor/ECE

Dr.P.Marichamy

Professor/ECE

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626 140.
Tamilnadu State

DNV·GL

ISO 9001:2008

SANCTION ORDER FOR FINANCIAL GRANT

Date: 08.08.2018

Name of the Faculty	:	Dr.P.Ranjith Kumar
Designation & Department	:	Associate Professor/ECE
Department	:	ECE
Title of the Project	:	Wheelchair Cum Stretcher for smart Health Care
Amount Sanctioned	:	15000
Academic Year	:	2018 - 2019

Signature of the Finance Officer/Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.

P.S.R. ENGINEERING COLLEGE
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Sevalpatti (P.O), Sivakasi – 626140.
Tamilnadu State

BUDGET EXPENDITURE & UTILIZATION CERTIFICATE
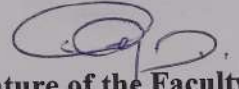## FOR FINANCIAL GRANT

Date: 06.08.2019

Name of the Faculty   : Dr.P.Ranjith Kumar
Designation & Department   : Associate Professor/ECE
Title of the Project   : Wheelchair Cum stretcher for smart Health Care

Amount Sanctioned   : 15000
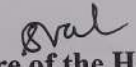Amount Utilized   : 14878

EXPENDITURE DETAILS

S.No	Particulars	Quantity (Units)	Amount per Unit	Amount in Rs.
1	Chassis	1	850	850
2	Gas sensor	5	540	2700
3	Casters	5	1110	5550
4	Bolts and Nuts	-	56	56
5	Main base structure	1	1800	1800
6	Bearing	1	22	22
7	Rack and Pinion Gear	1	400	400
8	Stationary & Printing Charges	-	1500	1500
9	Conference Publication Charges	-	2000	2000
			Total Amount Utilized in Rs.	14878

I, __Dr.P.Ranjith Kumar__ of _____ECE_____ department certify that I have utilized a sum

of Rs. __14878__ out of Rs. __15000__ for the In-house R&D projects which was sanctioned by
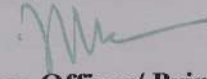
the management during the academic year 2018-2019.

Signature of the Faculty

Forwarded by

Signature of the HoD

Signature of the Finance Officer/ Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626 140.

Tamilnadu State

ISO 9001:2008

SANCTION ORDER FOR FINANCIAL GRANT

Date: 04.08.2017

Name of the Faculty : Mrs.K.Ramalakshmi

Designation & Department : Assistant Professor/ECE

Department : ECE

Title of the Project : Implementation of Wireless Power Transfer System using FPGA for Charging Electric Vehicles

Amount Sanctioned : 20000

Academic Year : 2017 - 2018

Signature of the Finance Officer/Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.

P.S.R. ENGINEERING COLLEGE
(An Autonomous Institution, Affiliated to Anna University, Chennai)
Sevalpatti (P.O), Sivakasi – 626140.
Tamilnadu State

DNV·GL

ISO 9001:2008

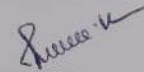## BUDGET EXPENDITURE & UTILIZATION CERTIFICATE
FOR FINANCIAL GRANT

Date: 10.08.2018

Name of the Faculty : Mrs.K.Ramalaksmi
Designation & Department : Assistant Professor/ECE
Title of the Project : Implementation of Wireless Power Transfer System using FPGA for Charging Electric Vehicles

Amount Sanctioned : 20000
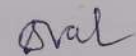Amount Utilized : 18580

EXPENDITURE DETAILS

S.No	Particulars	Quantity (Units)	Amount per Unit	Amount in Rs.
1	FPGA	1	7250	7250
2	Opto coupler	3	10	30
3	Inductive Loop	2	2250	4500
4	Dc-Dc converter	2	500	1000
5	Object sensor	2	50	100
6	IC 555 Timer	1	20	200
7	Battery	1	450	3000
8	Stationary & printing Charges	-	1500	1500
9	Conference Publication charges	-	1000	1000
			Total Amount Utilized in Rs.	**18580**

I, __K.Ramalakshmi__ of _____ECE_____ department certify that I have utilized a sum of Rs. __18580__ out of Rs. __20000__ for the In-house R&D projects which was sanctioned by the management during the academic year 2017-2018.

Signature of the Faculty

Forwarded by

Signature of the HoD

Signature of the Finance Officer/ Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.

DNV·GL

ISO 9001:2008

Date: 18.07.2017

PROPOSAL SANCTIONED FOR FINANCIAL GRANT FROM THE COLLEGE

1. **Title of the Project: Implementation of Wireless Power Transfer System using FPGA for Charging Electric Vehicles**

2. **Name of the Faculty: Mrs.K.Ramalakshmi**

3. **Designation & Department: Assistant Professor/ECE**

3. **Objectives of the Proposed Project:**

Transmission of electrical energy from a power source to an electrical load without interconnecting wires. In this method the electric vehicles are charging automatically. When the power is reduced the vehicle gets charge by means of inducting coupling.

Project Summary:

Electric vehicles will become a component of the future generation intelligent transportation system. In this project, electric vehicles are charged using wireless power transfer. The wireless power transmission is the transmission of electrical energy without the wires. Charging time and power transfer efficiency are the main challenges of wireless transfer for electric vehicles. This project based on VHDL coding. Due to non-radiative feature we are using inductive coupling for wireless power transmission in charging station. Transmitting coils are set up on the surface where a vehicle containing a receiving coil and battery is placed for charging. Power is selectively supplied to the coil upon which the vehicle is passing at the moment. A system to automatically control the transmitting output power was developed, because it is necessary to supply a constant voltage to the vehicle. In real time application, we can fix the charging station for every 2000mtrs or 5000mtrs (2km or 5km). Our extensive experiments on Xilinx ISE 12.1 show the effectiveness of our charging solutions.

Expected Outcome:

Today most of the vehicle run by petrol and diesel, but in future due to scarcity of fuel we cannot run the system properly for that we introduce the electric vehicle but in case of major problem occur by using electric vehicle is to charged the device, so we also implement the process of wireless power transmission to charge the electric vehicle, for this proposal the output will be executed in atleast in the remote car batteries in the range of 100 m. if the project will succeeded it will implement the range more than 5 kms.

Detailed Budget:

S.NO	List of components	Amount
1.	FPGA	9000
2.	Opto coupler	30
3.	Inductive Loop	6000
4.	Dc-Dc converter	1000
5.	Object sensor	100
6.	IC 555 Timer	200
7.	Battery	3000
8.	Stationary & printing Charges	2000
9.	Conference Publication charges	1000
	Total	22,330
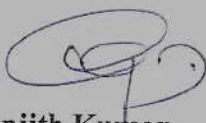
Work Plan
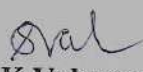
S.NO	PROCESS	Duration (in Months)
1	Problem Identification	2
2	Preparation	1
3	Component collection	2

4	Design & Fabrication	2
5	Implementation	2
6	Publication	3

Signature of the Faculty

Recommended / ~~Not Recommended~~ by

Dr.P.Ranjith Kumar

Associate Professor/ECE

Dr.K.Valarmathi

Professor/ECE

Dr.P.Marichamy

Professor/ECE

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626 140.

Tamilnadu State

GL | ISO 9001
GL Systems Certification

SANCTION ORDER FOR FINANCIAL GRANT

Date: 07.08.2015

Name of the Faculty	: Mr.R.Arun Kumar
Designation & Department	: Assistant Professor/ECE
Department	: ECE
Title of the Project	: Enabling Accessible Shopping for Visually Impaired People Using RFID and IOT
Amount Sanctioned	: 14500
Academic Year	: 2015 - 2016

Signature of the Finance Officer/Principal

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626140.
Tamilnadu State

DNV·GL
ISO 9001:2008

BUDGET EXPENDITURE & UTILIZATION CERTIFICATE
FOR FINANCIAL GRANT

Date: 05.08.2016

Name of the Faculty : Mr.R.Arun Kumar

Designation & Department : Assistant Professor/ECE

Title of the Project : Enabling Accessible Shopping for Visually Impaired People using RFID and IOT

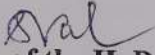Amount Sanctioned : 14500

Amount Utilized : 14320

EXPENDITURE DETAILS

S.No	Particulars	Quantity (Units)	Amount per Unit	Amount in Rs.
1	IOT Board	1	1200	1200
2	GSM Modem	1	1320	1320
3	GPRS Modem	1	1900	1900
4	LCD Module	1	200	200
5	PIC 16F877A	1	400	400
6	Voice Play back Module	1	800	800
7	RFID Reader	1	4500	4500
8	Speaker	1	1,000	1,000
9	Stationary & printing Charges	-	2000	2000
10	Conference Publication charges	-	1000	1000
	Total Amount Utilized in Rs.			**14320**

I, __Mr.R.Arun Kumar__ of _____ECE_____ department certify that I have utilized a sum of Rs. __14320__ out of Rs. ___14500_ for the In-house R&D projects which was sanctioned by the management during the academic year 2015-2016.

Signature of the Faculty

Forwarded by

Signature of the HoD

Signature of the Finance Officer/ Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626140.
Tamilnadu State

PROPOSAL SANCTIONED FOR FINANCIAL GRANT FROM THE COLLEGE

1. **Title of the Project: Enabling Accessible Shopping for Visually Impaired People using RFID and IOT**

2. **Name of the Faculty: Mr.R.Arun Kumar**

3. **Designation & Department: AP/ECE**

3. **Objectives of the Proposed Project:**

An intelligent RFID(Radio Frequency Identification) checkout to facilitate access and payment, to assist visually impaired people and improve market strategy. To avoid saturated queues which we used to see in conventional remote identification of the customer and items is used to purchase later. RFID technology represents an alternative to automatic identification system and needs improvements to cost effectiveness, besides rather than wasting millions on various traditional advertising strategies. This technology stands out as an attractive and successful option for fighting stores to sell their products in the highly competitive way. In this system we use RFID reader and RFID tag to detect a particular product. The blind people identify the product and it's a cost with a help of voice module. The system database stores product and its cost. The data is send to the database with a help of raspberry pi and Internet of things (IoT).

Project Summary:

RFID's most and attractive offerings is its fundamental attribute of not requiring line-of-sight when reading RFID tags. RFID scanners can communicate to tags in milliseconds and have the ability to scan multiple items simultaneously RFID promises to help automate the billing to unprecedented levels, leading to labour reduction throughout the counter. The reliability of RFID tags is an issue that could make or break their widespread success. RFID tags can be read at much greater distance; an RFID reader can pull information from a tag at distance up to 300 feet. RFID readers can interrogate; or read RFID tags much faster; read rates of forty or more tags per second are possible. Barcodes have no read/write capability; that is, you cannot add to the information written

on a printed barcode. RFID tags, however, can be read/write devices; the RFID reader can communicate with the tag and alter as much of the information as the tag design allow. Line of sight requirements also limit the ruggedness of barcodes well as the reusability of barcodes. With the increasing prevalence and affordability of radio frequency identification (RFID) tags in everyday authentication system, RFID hold great promise in the retail world for both customers and stores in inventory control, convenience, and cost savings. This project utilized these RFID tags to automate the checkout process by building a system that could read the RFID signals of all the objects that would be placed in proximity to an antenna platform. This eliminated the need for barcode scanning of each individual item, making checkout significantly faster experience. The tags are very small in size and hence can be pasted on products.

Expected Outcome:

This Project creating an easy accessible shopping for visually impaired people which is based on the principle of RFID technology and IOT. The high performance of our approach can be judged from the features and advantages. We have also made many tests for success in evaluating and implementing the technology. The obtained results provided comparative overview of strengths and weaknesses of various scenarios which can be met in our system.

Detailed Budget:

S.NO	List of components	Amount (in Rs)
1.	IOT Board	1258
2.	GSM Modem	1400
3.	GPRS Modem	1923
4.	LCD Module	200
5.	PIC 16F877A	400
6.	Voice Play back Module	800
7.	RFID Reader	5000
8.	Speaker	1,000
9.	Stationary & printing Charges	2000

10.	Conference Publication charges	1000
	Total	14981
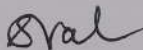
Work Plan
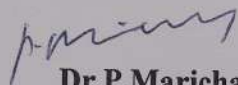
S.NO	PROCESS	Duration (in Months
1	Problem Identification	2
2	Preparation	2
3	Component collection	1
4	Design & Fabrication	3
5	Implementation	1
6	Publication	3

Signature of the Faculty

Recommended / ~~Not Recommended~~ by

Dr.P.Ranjith Kumar

Associate Professor/ECE

Dr.K.Valarmathi

Professor/ECE

Dr.P.Marichamy

Professor/ECE

Date: 07.07.2014

PROPOSAL SANCTIONED FOR FINANCIAL GRANT FROM THE COLLEGE

1. Title of the Project: Segmentation of SAR Image using Fuzzy C Means with Non Local Spatial Information

2. Name of the Faculty: Mrs.R.Meena Prakash

3. Designation & Department: Associate Professor/ECE

3. Objectives of the Proposed Project:

The Segmentation of the Images refers to extracting the needed region from the image based on some specified methodologies. Thresholding Approach, Model-based Approach, Level Set Approach are some of the segmentation methodologies. The clustering methodologies can provide accurate results for most of the cases. As the number of clusters separated from the image increases, the segmentation accuracy also increases. The fuzzy c means is one of the clustering based methodologies. It has been extensively used for segmentation of images. Even FCM has some drawback. The main drawback is that the performance is degraded by noise. This problem can be overcome by Fuzzy C Means with Non Local spatial Information which can be derived from the pixels with similar neighborhood configuration to the current pixels so that impact of Noise level in the Image is reduced.

Project Summary:

The major problem for SAR image segmentation is sensitive to noise due to the presence of speckle noise. This problem is addressed in this work by segmentation of SAR Image using Adaptive Non Local Spatial Information. First, Non Local Spatial Information is constructed and then the Fuzzy C Means segmentation is applied. In Non Local method, for every Pixel in an Image, there are many pixels having a similar neighborhood configuration. When compared to using the adjacent pixels, it is reasonable to utilize pixels with similar neighborhood configuration to this pixel to obtain the required spatial Information
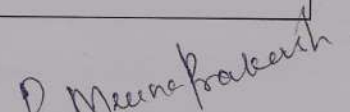
Expected Outcome:

This work proposes the Fuzzy C Means with Non Local spatial Information for Segmentation of SAR Images. Fuzzy C Means segmentation is sensitive to noise. Hence, in the segmentation of SAR images, the segmentation accuracy is poor due to the presence of speckle noise. To overcome this drawback of FCM, Non Local spatial Information is incorporated in segmentation. The proposed method will be tested on SAR images and the efficiency will be improved.

Detailed Budget:

S.NO	Components	Amount (in Rs)
1.	Data Collection & Travel	10,000
2.	Stationary & Printing Charges	10,000
3.	Conference Publication Charges	5,000
	Total	25,000

Work Plan
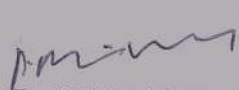
S.NO	Proposed Work	Duration(in Months)
1	Literature Review	3
2	SAR Data Collection	1
3	Algorithm & Coding	2
4	Implementation of this Project	3
5	Publication	3

Signature of the Faculty

Recommended / ~~Not Recommended~~ by

Dr.P.Ranjith Kumar

Associate Professor/ECE

Dr.K.Valarmathi

Professor/ECE

Dr.P.Marichamy

Professor/ECE

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)

Sevalpatti (P.O), Sivakasi – 626 140.

Tamilnadu State

GL | ISO 9001
GL Systems Certification

SANCTION ORDER FOR FINANCIAL GRANT

Date: 06.08.2014

Name of the Faculty   : Mrs.R.Meena Prakash

Designation & Department   : Associate Professor /ECE

Department   : ECE

Title of the Project   : Segmentation of SAR Image using Fuzzy C Means with Non

                                                Local Spatial Information

Amount Sanctioned   : 22500

Academic Year   : 2014 - 2015

Signature of the Finance Officer/Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.

P.S.R. ENGINEERING COLLEGE

(An Autonomous Institution, Affiliated to Anna University, Chennai)
Sevalpatti (P.O), Sivakasi – 626140.
Tamilnadu State

BUDGET EXPENDITURE & UTILIZATION CERTIFICATE
FOR FINANCIAL GRANT

Date: 14.08.2015

Name of the Faculty : Ms.R.Meena Prakash
Designation & Department : Associate/ECE
Title of the Project : Segmentation of SAR Image using Fuzzy C Means with Non
Local Spatial Information
Amount Sanctioned : 22500
Amount Utilized : 21250

EXPENDITURE DETAILS

S.No	Particulars	Quantity (Units)	Amount per Unit	Amount in Rs.
1	Data Collection & Travel	-	8500	8500
2	Stationary & Printing Charges	-	7750	7750
3	Conference Publication Charges	-	5000	4230
	Total Amount Utilized in Rs.			21250

I, R.Meena Prakash of ECE department certify that I have utilized a sum of Rs. 21250

out of Rs. 22500 for the In-house R&D projects which was sanctioned by the management

during the academic year 2014-2015.

Signature of the Faculty

Forwarded by

Signature of the HoD

Signature of the Finance Officer/ Principal

PRINCIPAL
P.S.R.ENGINEERING COLLEGE
SIVAKASI-626 140.