Visvesvaraya Technological University
"JnanaSangama"
Belagavi: 590018
Karnataka, India.
Tele: 0831-2498225 ,2405454

VTU Sponsored Student Project Proposal Format

01	Academic Year :	2020-2021	
02	Semester :	8th semester	
03	Name of the College :	Sri Sairam College Of Engineering,Bengaluru	
04	Branch:	Electronics And Communication Engineering	
05	Project Title:	MEDICAL ASSISTANCE DROID	
06	Project Discipline:	Health	
07	Principal	Name:	DR.B.SHADAKSHRAPPA
		Contact No:	9900545101
		Email id:	principal@sairamce.edu.in
08	HOD	Name:	Prof.SIVAPRAKASH
		Contact No:	9865183970
		Email id:	hod.ece@sairamce.edu.in
09	Project Guide	Name:	Dr. T.N.PRABAKAR
		Contact No:	7010576716
		Email id:	prabakar.ece@sairamce.edu.in
11	Project Committee coordinator (Identified by the college) :	Name:	Prof.ARUNA R
		Contact No:	98445056716
		Email id:	arunar.ece@sairamce.edu.in

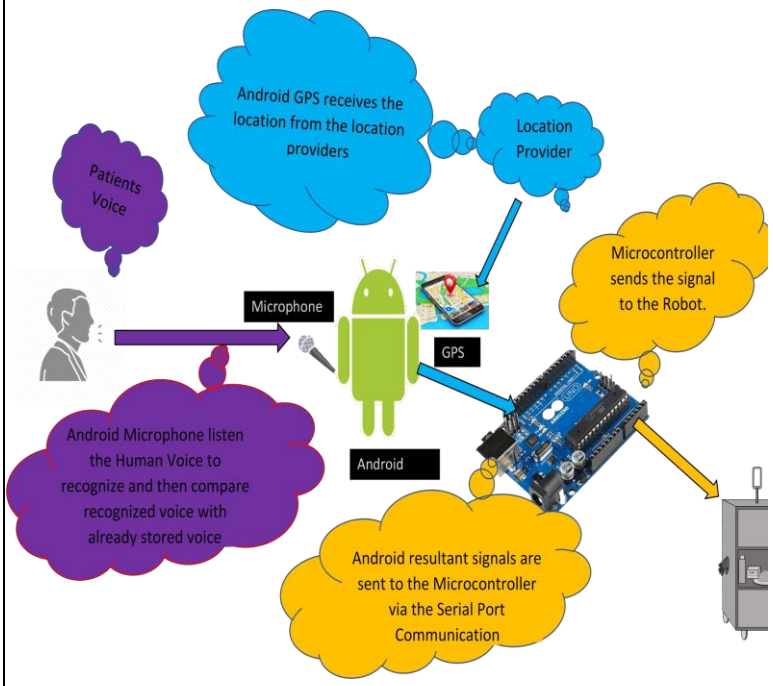
<table>
<tr><td rowspan="14">12</td><td colspan="2">Name of project group Members</td></tr>
<tr><td colspan="2">1.Group leader and Member</td></tr>
<tr><td>Name:ABILASH S</td><td rowspan="3">  </td></tr>
<tr><td>USN No. :1SB17EC003</td></tr>
<tr><td>Contact No: 7338766772</td></tr>
<tr><td>Email id:sce17ec051@sairamtap.edu.in</td></tr>
<tr><td colspan="2">2.Member</td></tr>
<tr><td>Name: SWATHI S</td><td rowspan="3">  </td></tr>
<tr><td>USN No. :1SB17EC053</td></tr>
<tr><td>Contact No:8072847642</td></tr>
<tr><td>Email id:sce17ec049@sairamtap.edu.in</td></tr>
<tr><td colspan="2">3.Member</td></tr>
<tr><td>Name:SYED APSANA</td><td rowspan="3">  </td></tr>
<tr><td>USN No. :1SB17EC054</td></tr>
<tr><td>Contact No:8147778559</td></tr>
<tr><td>Email id:sce17ec032@sairamtap.edu.in</td></tr>
<tr><td colspan="2">4.Member</td></tr>
<tr><td>Name:SWATHI BALAN</td><td rowspan="3">  </td></tr>
<tr><td>USN No. :1SB17EC052</td></tr>
<tr><td>Contact No:8754384721</td></tr>
<tr><td>Email id:sce17ec053@sairamtap.edu.in</td></tr>
</table>

13	Scope / Objectives of the project:	To design a Droid that assists the patients with mental disorder, to be specific – patients with cerebral palsy. The activities of these patients needs to be continuously monitored to ensure their safety and comfort. ● To assess and provide necessary support and help the patients using their facial and vocal expressions. ● To evaluate and pacify their dynamically swinging mood changes . ● To monitor their day to day activities and to take remedial actions in case of emergency an android based smartphone is deployed. ● To design a system that monitors and keeps track on the heart rate and physical activities of patients. ● To guide the patients to walk in predetermined path in and around the house.

14	**Methodology of work:** **(Including diagram, flow chart and design calculations)**	The design process of the proposed system consists of three major divisions: Mechanical, electrical and electronics. ● **MECHANICAL DESIGN:**This involves a movable mechanism .The mechanical design of the robot is a box shape. The box weighs around 60Kg. The height is 3 ft, breadth and width is 1.5 ft. There are 3 compartments for keeping the power supply, electronics board and storage container The robot has the adjustable neck which holds an Android mobile. And the robot is fitted with rubber hand to hold the patient's hand. The motorized wheels are fitted on the robot for mobility purpose. ● **ELECTRICAL DESIGN:** This involves the design of drivers for the system.The robot is fitted with wheels front and back on 4 wheels. The wheels are connected to the 2 DC encoder motors to control the front and back wheels. The system will also have containers for food and water, which will be brought out automatically based on the inputs from the patient. This container door is controlled by the stepper motor . The power supply for the whole system is given by a car/bike battery. ● **ELECTRONICS DESIGN:**The electronics division provides the smartness to the total system.The electronics module has the 2 sub modules, which are processor module and controller module. Processor uses the Android Technology and Controller uses the Raspberry pi board. The system provides water, snacks and food to the patient automatically. In-built storage container holds food, water, and snacks which are served at the patient's discretion. ● **ANDROID TECHNOLOGY:** With minimum training the patient's facial and vocal expressions are decoded to mean various requirements and to detect any abnormal

behaviour.

Their feel of thirst and hunger are decoded dynamically by employing facial and voice recognition algorithms and based on the inference.



15	Expected Outcome of the project:	A system device which looks similar to a human assisting robot but with less complications(from a usual robot)in the design with listed features such as ● guiding patients to walk in predetermined path in and around the house. ● monitoring and keeping track on the heart rate and physical activities of patients. ● System enables to detect the mood sings as well as theirs physical health constantly. ● Acts as support system during unavailability of care takers.
16	Application of the project :	● The project proposed is relevant to the society of mentally retarded people(cerebral palsy) where the patients can be monitored and assisted for their day to day activities in the absence of human care. ● This proposed project would mostly benefits the cerebral palsy and ADHD patients ● The senior citizens , visually impaired people could also be benefited with assistance of our proposed system.

<table>
<tr><td>17</td><td>Budget details with Materials required:</td><td colspan="2"><table>
<tr><th>Budget</th><th>Amount</th></tr>
<tr><td>a) Materials / Consumables
1) ELECTRONICS:
● Micro controller, Arduino UNO,Bluetooth module,GPS.
● Motors ,Sensors and other accessories
● Android mobile

2) MECHANICAL:
● Chassis
● Labour
● Travel
● Wheels</td><td>Rs.2,000.00
Rs.6,000.00
Rs.7,000.00
Rs.7,000.00
Rs.3000.00
Rs.1000.00
Rs.2000.00</td></tr>
<tr><td>b) Report</td><td>Rs.2,000.00</td></tr>
<tr><td>C) Miscellaneous</td><td>Rs.2,000.00</td></tr>
<tr><td>Total</td><td>Rs.32,000.00</td></tr>
</table></td></tr>
<tr><td>18</td><td colspan="2">Date of commencement of the Project :</td><td>30-11-2020</td></tr>
<tr><td>19</td><td colspan="2">Probable date of completion of the project :</td><td>15-7-2021</td></tr>
<tr><td>20</td><td colspan="2">Duration of project work :</td><td>7 MONTHS</td></tr>
<tr><td>21</td><td colspan="3">Pert chart for completion of the project in said duration as per</td></tr>
</table>

	planned activities:

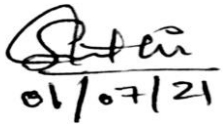
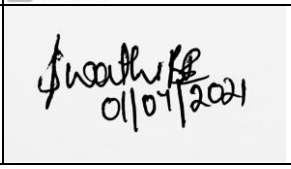
Sl.No	Activities Planned	Dec 2020	JAN 2021	FEB 2021	MAR 2021	APRIL 2021	MAY 2021	JUNE 2021
01	Literature review							
02	Planning/ Designing							
03	Assembly/ Fabrication work.							
04	software development and electronic circuit designing							
05	Integration							
06	Final Testing and validation							
07	Preparation of Report & Submission							

DECLARATION BY THE STUDENTS

We, the project group members hereby declare that the details enclosed in the project proposal are true and correct to the best of our knowledge. We undertake to inform VTU, of any changes there in the project title, students name will be intimated immediately. In case, any of the above information is found to be false or untrue or misleading, we are aware that we may be held liable for it.

We are aware that the project group has to exhibit / demonstratethe project for evaluation in the VTU Regional centre and for exhibition at VTU, Belagavi. If the project group fails to attend the evaluation in Regional centre and for Exhibitionin VTUBelagavi, the sponsored project amount will be returned back to VTU immediately

We also hereby, enclose the endorsement form to VTU, Belagavi.

SL.No	Name of the Student	Signature with date
01	ABILASH S	
02	SWATHI S	
03	SYED APSANA	
04	SWATHI BALAN	

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Sai Leo Nagar, Anekal, Bengaluru - 562 106. Tel : +91 - 80 - 2783 0221 / 2784 0631 www.sairamce.edu.in

Accredited by NAAC
NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

ENDORSEMENT

This is to certify that

1] ABILASH S

2] SWATHI S

3]SWATHI BALAN

4]SYED APSANA

Are bonafide students of Department of Electronics and Communication Engineering in of our institution. If the project proposal submitted by these students under VTU Sponsored Student Project Proposal is selected by VTU, we will provide the required laboratory/Computer/infrastructure support in our college/Institution. Further we also take necessary steps that the project group will exhibit / demonstrate their project in the regional centre and for exhibition at VTU, Belagavi. If the student group fails to attend the evaluation in regional centre and exhibition at VTU Belagavi, the supported project amount will be returned back toVTU immediately.

Signature of Project Guide with date	Signature of HOD with Seal and date	Signature of Principal with seal and date
5/7/21	5/7/2021	05/07/2021
Dr. T N Prabakar	Prof. C. Sivaprakash	Dr. B. Shadaksharappa

Head of the Department
Dept. of Electronics & Communication Engineering
Sri Sairam College of Engineering
Anekal, Bengaluru - 562 106.

PRINCIPAL
Sri Sairam College Of Engineering
Sai Leo Nagar, Guddanahalli Post,
Anekal, Bengaluru - 562 106

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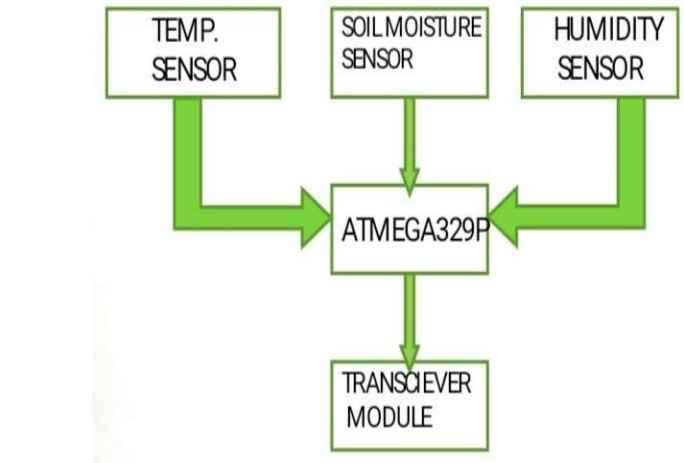
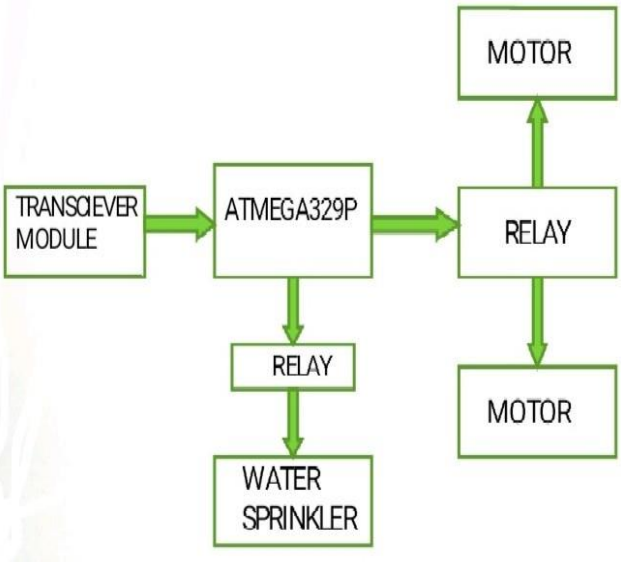
VTU Sponsored Student Project Proposal Format

01	Academic Year :	2020-21	
02	Semester :	8th	
03	Name of the College :	Sri Sairam College of Engineering , Anekal	
04	Branch:	Electronics & Communication Engineering	
05	Project Title:	**SMART IRRIGATION WITH ROBOT**	
06	Project Discipline:	**Automation or new concepts in agriculture**	
07	Principal	Name:	Dr B Shadaksharappa
		Contact No:	9448480620
		Email id:	principal@sairamce.edu.in
08	HOD	Name:	Prof. SivaPrakash C
		Contact No:	9865183970
		Email id:	hod.ece@sairamce.edu.in
09	Project Guide	Name:	Prof. SivaPrakash C
		Contact No:	9865183970
		Email id:	hod.ece@sairamce.edu.in
10	Project Committee coordinator (Identified by the college) :	Name:	Harish Babu L
		Contact No:	9036527118
		Email id:	harishbabu.mech@sairamce.ed u.in

11	Name of project group Members	
	1.Group leader and Member	
	Name: Yashaswini A L USN No. : 1SB17EC056 Contact No: 8618982814 Email id: yashaswinial2000@gmail.com	
	2.Member	
	Name:Sushma V USN No. :1SB17EC051 Contact No: 96868 11398 Email id: sushmamvs123@gmail.com	
	3.Member	
	Name: Supriya K USN No. :1SB17EC050 Contact No: 7349740597 Email id: supriyasuprithgeetha.123@gmail.com	
	4.Member	
	Name: Tejashwini M USN No. : 1SB17EC055 Contact No: 8105442972 Email id: mtejuammu@gmail.com	
12	Scope / Objectives of the project:	The goal of smart farming incorporation of robotics into agriculture irrigation is to suspend the dependence upon manual labour and boost efficiency, product quality and output. To ground a decision making support system for farm management. To help farmers in irrigation by automated or smart irrigation system To prevent wastage or leakage of water To conserve the water/ground water too.

13	Methodology of work: (Including diagram, flow chart and design calculations)	□ Smart farming agriculture irrigation involves integration of advanced technologies into already persisting agricultural practices with a view to boost production quality and efficiency for farming products. It helps in automated farming with the collection of data for analysis to provide the robotic operator with accurate information for better decision making to gain high quality outputof the product. A technically advanced farming management system rooted on observing, measuring and responding to inter and intra-field variableness in products. □ Our proposed system uses a robot with a single sprinkler that moves through the field with a water tank that moves throughout the field spraying water all over it. It is like a moving water tank that automatically moves all over the field spraying water through it. □ Consider a field of 4*4 feet, we will be placing soil moisture sensors on 1*1 feet field, placing total of 4 sensors for example. When the sensors sense the moisture content and if the content is low then, it will send signal to the robot in the side to sprinkle water in that area after which the robot will become standstill again. This communication will happen

		through RFID transmission  

<table>
<tr><td>14</td><td>Expected Outcome of the project:</td><td>

A system that optimises and examines how high-tech farming can aid the production output as well as focuses on the preservation of resources.
The Imminent use of technology has positively managed to minimize the riskand waste experienced so far by thetraditional farming methods.
Patterns and trends can be detected easily by the critically analysed data aggregated by the sensors.
Farmers can now diagnose the areas detecting the fertility and conditions to carefully predict the possibility of the future yields.

</td></tr>
<tr><td>15</td><td>Application of the project :</td><td>

Irrigation robot is used in Poly houses , Green houses and Nurseries.
It is used in agriculture land of small area.
It can also be used in gardening areas , parks or roof-top gardening.

</td></tr>
<tr><td>16</td><td>Budget details with Materials required:</td><td>
<table>
<tr><th>Budget</th><th>Amount</th></tr>
<tr><td>a)Components</td><td>19,900</td></tr>
<tr><td>b) PCB Design</td><td>1,750</td></tr>
<tr><td>c) Labor</td><td>2,750</td></tr>
<tr><td>d) Travel</td><td>2,300</td></tr>
<tr><td>e) Report</td><td>4,500</td></tr>
<tr><td>f) Motors</td><td>1,380</td></tr>
<tr><td>g) Drivers</td><td>1,150</td></tr>
<tr><td>h) Battery</td><td>1,750</td></tr>
<tr><td>i) Water tank</td><td>785</td></tr>
<tr><td>j) Sprinkler</td><td>1,100</td></tr>
<tr><td>k) Miscellaneous</td><td>2,500</td></tr>
<tr><td>Total</td><td>39,865</td></tr>
</table>
</td></tr>
<tr><td>17</td><td colspan="2">Date of commencement of the Project : April 5th 2021</td></tr>
</table>

18	Probable date of completion of the project :	July 20th 2021
19	Duration of project work :	4 Months
20	Pert chart for completion of the project in said duration asper	

planned activities:

Sl.No	Activities Planned	April	May	June	July
01	Literature review				
02	Planning/ Designing				
03	Assembly/ Fabricationwork				
04	Final Testing				
05	Result & Calculation/ Conclusion				
06	Preparation of Report & Submission				

DECLARATION BY THE STUDENTS

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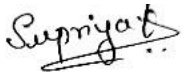
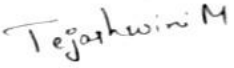
SL.No	Name of the Student	Signature with date
01	YASHASWINI A L	
02	SUSHMA V	
03	SUPRIYA K	
04	TEJASHWINI M	

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Accredited by NAAC

ENDORSEMENT

This is to certify that

1] YASHASWINI A L

2] SUSHMA V

3] SUPRIYA K

4] TEJASWINI M

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Signature of Project Guide with date	Signature of HOD with Seal and date	Signature of Principal with seal and date
5/7/2021		05/07/2021
Prof. C. Sivaprakash	Prof. C. Sivaprakash	Dr. B. Shadaksharappa

Head of the Department
Dept. of Electronics & Communication Engineering
Sri Sairam College of Engineering
Anekal, Bengaluru - 562 106.

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Sai Leo Nagar, Guddanahalli Post,
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