

**DEPARTMENT OF COMPUTER SCIENCE**  
**IGDTUW**



**PROJECT ABSTRACTS**  
**M.Tech -First Year**

**Compiled by**

**Zeenat(PhD Scholar), Manasi, Amrita Srivasatava, Amrita Joshi, Jithu,**

**Nicy, Kirti (MTech-MPC)**

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# MULTIMEDIA STATION

Submitted by: (GROUP1) Chetna Rustagi, Rashmi, Vibhuti Sharma

Under the guidance of

Dr. S.R.N Reddy

Associate Professor & HoD, CSE Dept

## ABSTRACT

Now a days we come across a lot of technologies to comfort us and increase our efficiency in day to day tasks. We are therefore designing a product for a small organizations or classroom. This module will help us to display information from one central location to other remote locations which will not only help students to get the information remotely but also the faculty(in classroom module) when he is not available at the required location. It can also help in displaying information via multiple screens to multiple people sitting at a single place. Modules like Pinet which is available open source for helping schools set up and manage a Raspberry Pi classroom. It has been developed alongside teachers with feedback from over 15 countries across the world where any student can sit down at any Raspberry Pi and login but that requires every system to have RPi module embedded in it which comes out to b expensive, therefore it is required to have one system and multiple screens only. Byrne's innovative, new media sharing solution allows up to six users to plug in and share a single screen – in just seconds. With DropShare, you can connect iPads and other media sharing devices via HDMI and/or VGA cables to any display you choose It's the perfect way to quickly share team information and really get the ideas flowing. But that limits to only few users (6 in this case).Therefore it is required to come up with these shortcomings to a new better product.

**KEYWORDS: Raspberry Pi, Pinet, Dropshare**

# **RASPILEARN**

Submitted by: (GROUP2) P.Sai Sheela, Rashika Joshi, Shweta Sharma

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

## **ABSTRACT**

RaspiLearn is a product for small kids. It aims to make their first interaction with knowledge a very enjoyable and interactive experience. We want it to be their first introduction to technology in a manner that helps them utilise the abundance of time in their formative years productively. There exist several gadgets that cater to the kids segment. Many apps have been developed that provide a learning source. These apps can be accessed via Google store, xbox etc. which requires internet connection. Moreover these apps can run via smart phone, tablets and other such electronic gadgets. Eg: Little Lady Purse Laptop, intelligent touching tom etc. which requires internet connection. We propose to develop a product specifically for kids using Raspberry Pi 2 and populate the product with child friendly apps. It would be a customized product that requires no internet connectivity but provides an option to share apps via bluetooth or other wireless transfer techniques. We do not intend to make an App. Ours is a fully customized product. The user would be able to add new apps to the device and ample storage for the apps would be provided and designed the Kid friendly UI. It uses the sensors like accelerometer, bluetooth. Our product will be touch interfaced hence we intend to use TFT screen.

**KEYWORDS: Raspberry Pi 2, Bluetooth, Accelerometer, TFT LCD Screen, Kids product, Raspbian OS**

# **SMART ATTENDENCE SYSTEM**

Submitted by: (GROUP 3) Swati Rani, Mansi Pruthi, Deepika Wadhwa, Aditi Jha, Kashish Sharma

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

## **ABSTRACT**

The goal of this project is to design and develop a fully functional automated class attendance system, including hardware, firmware and application software. It was shown that an effective attendance register system can be implemented with the help of new and emerging technologies. In traditional methods, the attendance was recorded manually by the tutor. The conventional method of taking attendance by calling names or signing on paper is very time consuming and insecure, hence inefficient. Therefore, computer-based student attendance management system is required to assist the faculty and the lecturer for this time-consuming process. For this project, RFID based systematic student's attendance management system can provide much convenient method to take attendance. Radio-frequency identification (RFID) is a technology that uses communication via electromagnetic waves to exchange data between a terminal. The main parts of an RFID system are RFID tag (with unique ID number) for the purpose of identification and tracking and RFID reader for reading the RFID tag.

**KEYWORDS:** automatic attendance system, RFID.

# **SMART WIRELESS ROBO CAR**

Submitted by: (GROUP 4) Bhawna, Priti Kumari, Rishbha Yadav

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

## **ABSTRACT:**

This project deals with smart wireless car monitoring system using Intel Galileo Gen2. It uses wireless technologies (eg. Bluetooth / WLAN) to send control signals to the vehicle (small car). There are many problems related to explore a limited place which is not accessible by humans. Eg. Places having harsh weather conditions, industries with chemical emissions, etc. For monitoring and surveillance of such a place, there can be a wireless robot car for remote security purposes. It is a secured network; no one can access it other than authorized user. The proposed system captures images and videos and transmits it via WLAN / Zigbee where a Galileo Gen2 user is located. In this system images can be captured and sent to the user. This system can be used for remote security purposes and modified versions can be used to access the areas where humans are not able to reach.

**KEYWORDS: Ultrasonic Sensors, Bluetooth**

# **VEHICLE SURVEILLANCE AND MONITORING SYSTEM**

Submitted by: (GROUP 5) Garima Khanna, Manisha Bindal,  
Yamini Pandey, Swati Gahlaut

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

## **ABSTRACT**

In today's scenario everybody owns a vehicle and security of the same becomes a big issue. Recently there is an increase in the number of vehicle thefts and no separate device is available to keep track of it. No help service is provided for rescuing people in accidents. So, here is a system which can not only keep check on the security of the vehicle at theft prone areas but also act as a multipurpose tool to monitor its cleaning quality.

**KEYWORDS : Multipurpose tool, theft prone areas**

# **SMART SURVEILLANCE SYSYTEM**

Submitted by: (Group 6) Sakshi,Nancy,Aashima,Dharna

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

## **ABSTRACT**

This project deals with the design and implementation of Smart surveillance monitoring system using Raspberry pi. It uses wireless technology to provide essential security using surveillance system. The proposed security system captures information and transmits it via a WiFi to a static IP, which is viewed using a web browser from any smart device. Raspberry pi controls a video camera for surveillance. It streams live video and records the motion detected parts in the cloud and/or in the windows shared folder for future playback. The cameras automatically initiate recording when motion is sensed and the Raspberry pi device stores it in a secured folder. Similarly, recordings from multiple places will be collected and transmit.

**KeyWords: IOT,PIR Sensor,Drop-box,Wi-fi,Raspberry Pi**

## **Pi-NOSE SYSTEM**

Submitted by: (GROUP 7) Sweta Swain (009)<sub>2</sub> Ankita Jain (010)<sub>2</sub> Nisha Sharma (017)

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

### **ABSTRACT**

A “Pi-Nose” is a device presented in this paper that can perform real time estimation of a gas source. This detection technology has drawn attention due to the wide possibilities of potential applications such as industries, household and security. Unlike traditional systems, a single sensor used which has high sensitivity to low concentrations. Potential advantage of this prototype is to detect enormous no. of gases. In Pi-Nose, as gas comes in contact with the sensor; the sensor gets energized which allows its resistance to be measured and as a result, gas detected and alert the user. Compared to all other gas detection methods, Pi-Nose is quite simple and economical.

**Keywords: Pi-Nose, Gas, Sensor, Alarm system.**

## **Pi APM – a Smart Purifier**

Submitted by: (GROUP 8) Manorama Gupta, Sweta Sagar, Komal Dhingra, Renuka Lakhanpal

Under the guidance of

Dr. S.R.N Reddy  
Associate Professor & HoD, CSE Dept

### **ABSTRACT:**

Planning and management of environmental standards are among the most important topics now-a-days. As the population increases and technology advances, the degree of usage of natural resources, emissions from road vehicles, Factories and automation(minimizing the man power) in the almost all sectors also increases. Thus leading to degradation of quality of air day by day, therefore an effective air monitoring and purifying system is needed. In this project we are proposing an Air quality monitoring system, whose results can be used to automatically control any air purifier. In this project we have made use of various weather sensors, Gas sensors and Wi-Fi with Raspberry Pi 2. This project would serve as an add-on to existing air purifiers and reduce the power consumption and the cost involved as the air purifier would only turn on when the pollutants level exceed the threshold.

**KEYWORDS:** Air Pollution Monitoring, Automatic Air Purifier, Sensors, Wi-Fi, Raspberry Pi 2