



LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING

(AUTONOMOUS)

Accredited by NAAC & NBA (CSE, IT, ECE, EEE & ME)

Approved by AICTE, New Delhi and Affiliated to JNTUK, Kakinada

L.B.Reddy Nagar, Mylavaram-521230, Krishna Dist, Andhra Pradesh, India

DEPARTMENT OF MECHANICAL ENGINEERING

Report on Dassault Systemes Project of the year 2020



Dassault Systems and Andhra Pradesh State Skill Development Corporation (APSSDC) have signed a Memorandum of Understanding to set up a 3D EXPERIENCE center to make students industry ready in the field of Aerospace, Defence, Automotive, and Shipbuilding on the 3D EXPERIENCE platform with built-in industry solution experiences. Dassault systems Mind Box center in Mechanical Department was inaugurated by Sri Challa Madhusudhan Reddy on 10th October 2019. All the mechanical students from III-sem to VIII-sem have undergone training in this lab by the trainers. The trained students are participated in various competetions conducted by APSSDC and Dassault Systemes. Dassault systemes conducted a Global Contest Project of the Year 2020 during May-June 2020. It is an international competetion and students all over the world are eligible to participate in this competetion.

To take part, each Participant must create one or more specific Projects (the "Project" or "Projects") using one or more of the following 3DS solutions:

1. 3DEXPERIENCE platform
2. CATIA
3. SIMULIA (including sub-brands ABACUS, CST, XFLOW)
4. SOLIDWORK

The winners can win

1. 10 Winners will be chosen by votes from Facebook users (top 10)
2. 4 brands projects will be chosen: these will be awarded to the best 3DEXPERIENCE project, CATIA project, SIMULIA project and SOLIDWORKS project, selected by a dedicated Dassault Systèmes jury.
3. 1 Jury prize winner will be chosen by a jury at Dassault Systèmes headquarters in Paris.
4. 1 Sustainability prize winner will be chosen by a jury at Dassault Systèmes.
5. 1 Instagram prize rewarding the most liked Instagram project showcased on our page @3DSAcademy.

Across 27 countries a total of 1000+ students are participated and exhibited 250+ projects. At last 17 students stood as winners in the project of the year 2020. Out of 17 students, 6 students are from our Mechanical Department. Total 6 teams are participated in this contest and 2 teams got the prizes. One is first prize in instagram and other is 9th prize in facebook fan vote contest. The following are the projects done by our Mechanical students.

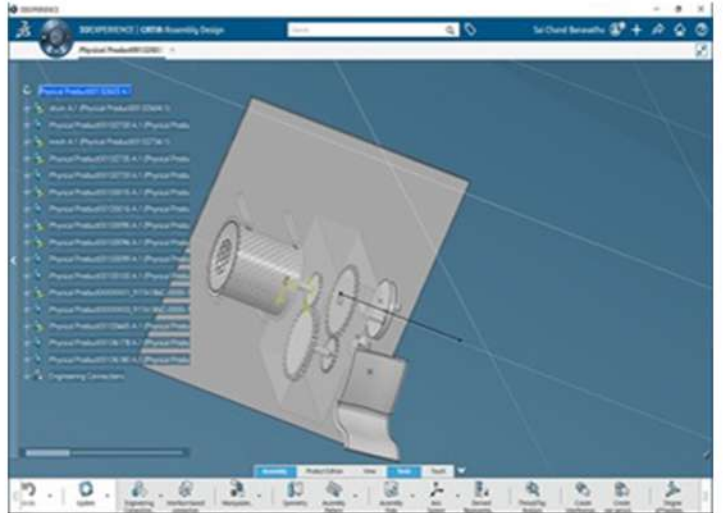
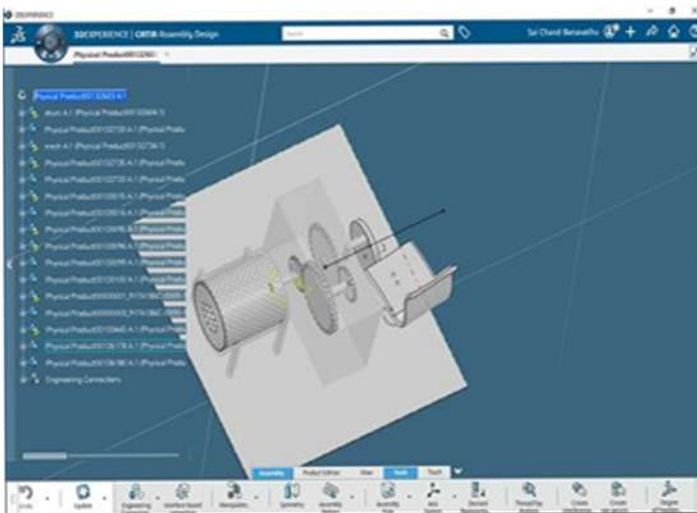
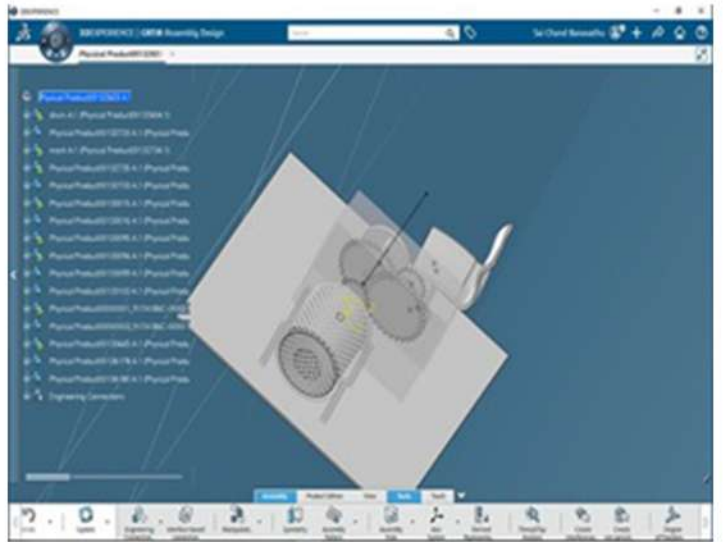
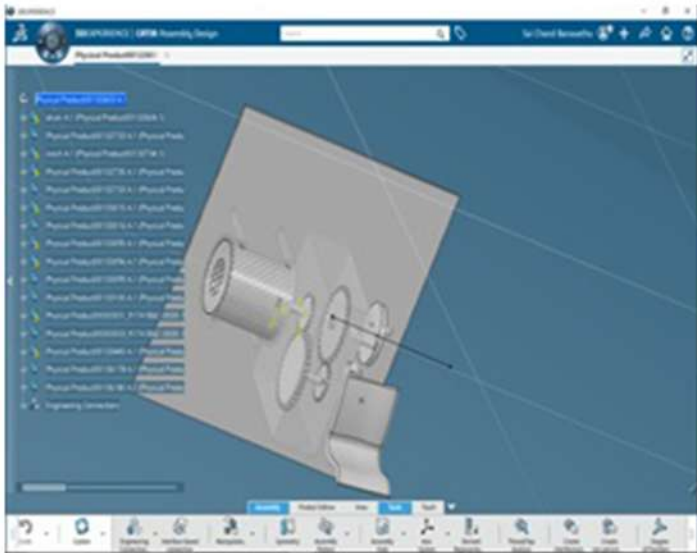
Project 1

Title: **HEALTHY WASHING MACHINE** (Instagram first prize winner)

Team Details

Leader- **Dwarapudi Kalyan(18765A0306)**

Members- **K.Surya Sai Kumar(17761A0325)**



Description:

This project is about washing machine which is operated through peddling. Due to the pedaling the gears transmit power to the main shaft. This model will tie up with zyms for this process. It is get into market in low cost. we are estimated that this product will be up to 3000-4000 cost.

Project 2

Title: **POWER HUMP** (9th prize in Facebook fan vote contest)

Team Details

Leader- **Ijju Naveen**(16761A0377)

Members- **Vinnakota Ramana Nagu**(17765A0326),
Rachabathuni Murali Krishna(17765A0322),
Velishala Ramabrahma chari(16761A03B0)



Description

In the present scenario power becomes major need for human life. Due to day –to-day increase in population and lesser of the conventional sources, it becomes necessary that we must depend on non-conventional sources for power generation. While moving, the vehicles possess some kinetic energy and it is being wasted this kinetic energy can be utilized to produce power by using a special arrangement called “POWER HUMP”. The energy of moving vehicles can be converted into mechanical energy of the shaft through rack and pinion mechanism. This shaft is connected to the electric dynamo and it produces electrical energy proportional to traffic density. The estimated cost of this project is 1,25,000-1,50,000.

Project 3

Title: **SMART VILLAGE**

Team Details

Leader- **Shaik khadarbasha**

Members- **Sreelakshaman**



Description

Our project is to develop the rural villages which are technologically backwards our idea is to collabrate the technology in existing village without effecting the culture, to make the villagers lifes easier and channelize their minds towards innovation. in our project we will develop the village by providing facilities like solar panel for the generation of solar power and can give supply to the whole village. we use wastage from cattle and humans.

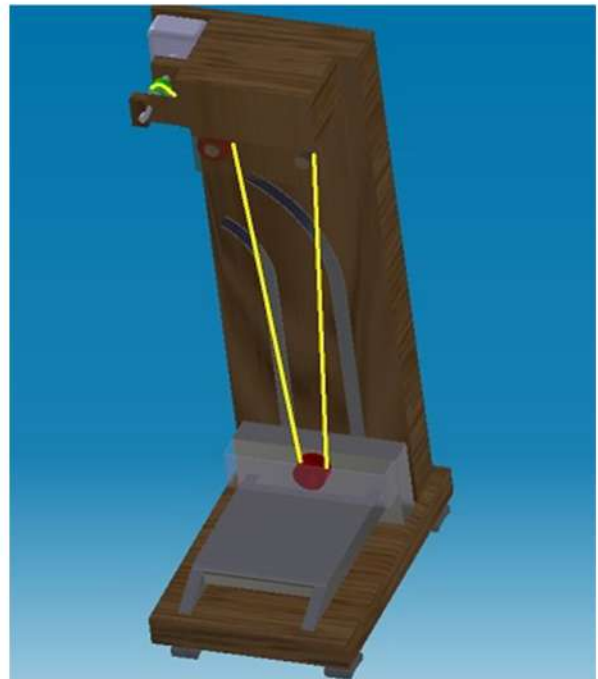
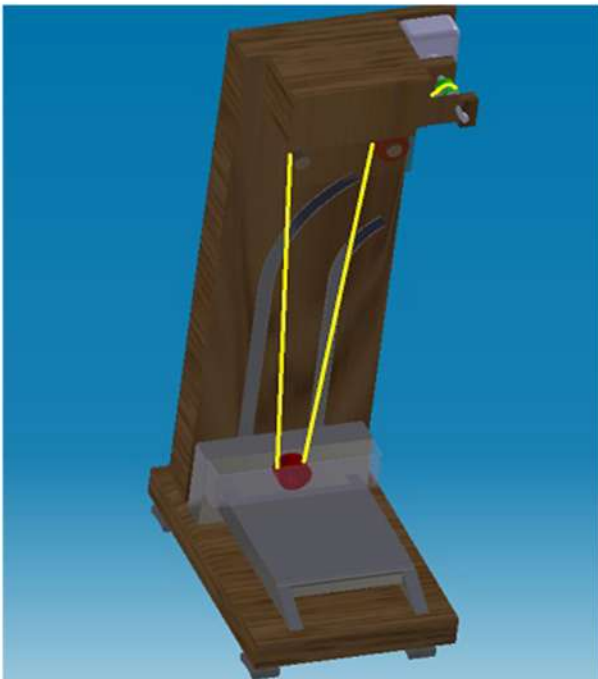
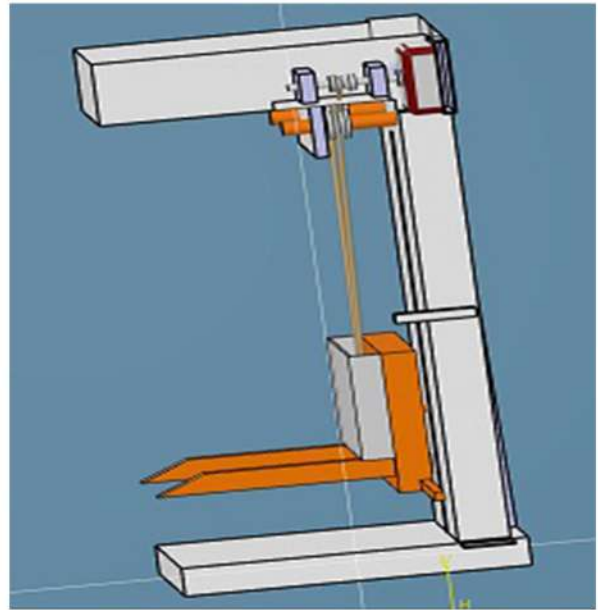
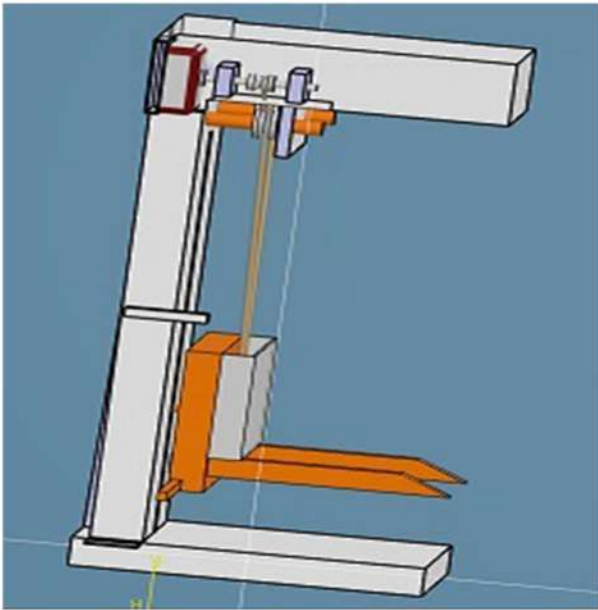
Project 4

Title: SMART LOAD LIFTER

Team details:

Leader: Somisetty Thirumalesh

Members- Sreeram



Description

Project is about load lifting which operates through a small rope- pulley mechanism where motor winds the rope which will be useful to lift the weight up to certain height where it can be unloaded easily. As this was easy mechanism we can complete it with a very low cost. Range of cost will be approximately 8000-9000

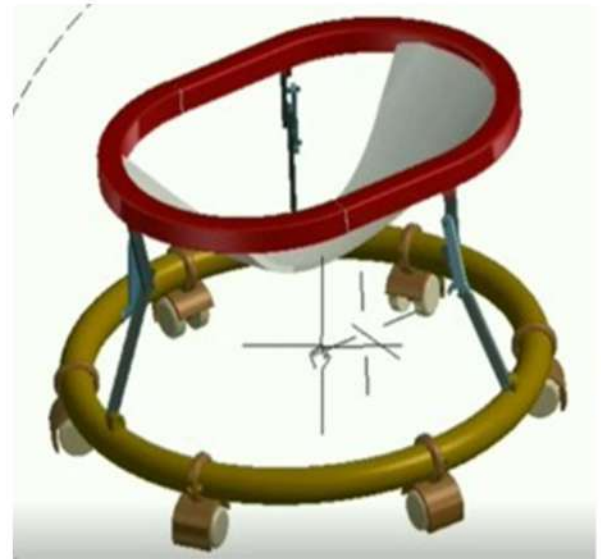
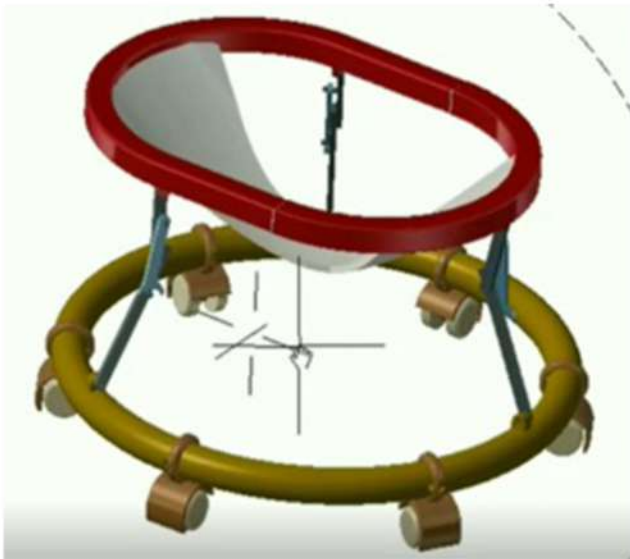
Project 5

Title : TODDLERS ELITE

Team Details:

Leader- N V S Sahithi Chunduru

Members- Kowsik Yendluri



Description

Toddlers elite is a infants product where infant can learn to walk as well as sleep. To convert it into beg ,telescopic mechanism is used and wheels are turned up using the grooves provided. my product is novel due its economic nature handy and can be used in two ways another novel feature is that cost can be reduced and barrier 9is provided on either sides for the baby safty.

Project 6

Title : **Switching suspension**

Team details:

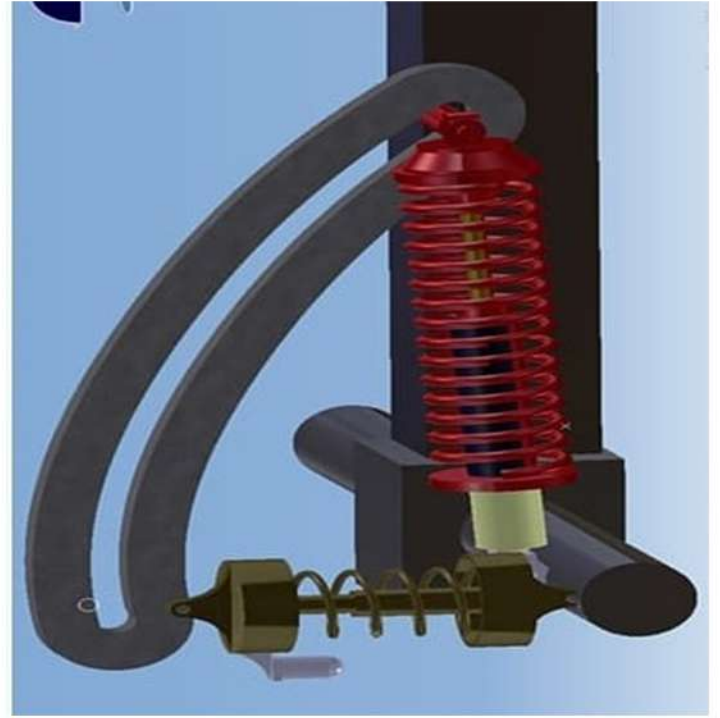
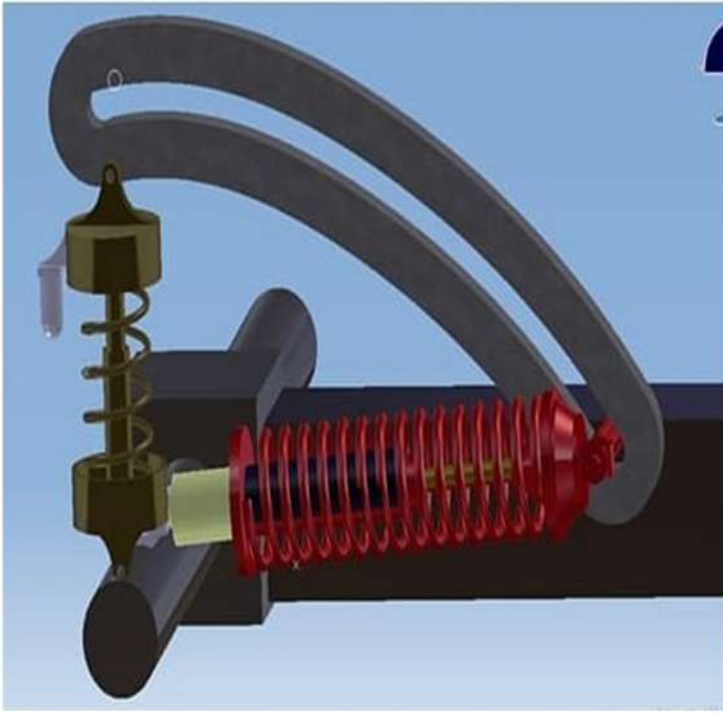
Leader- **Karimulla shaik**

Members- **Suchith samuel K**

prithvi VT

Ramdas nayak B

Rohith R



Description

Our project is switching suspension system it is the mechanism which convert suspension system of an On- Road vehicle to the that of an off- road vehicle & Vice versa. the reason behind the idea is solve the problems faced by on-road vehicle in terrain areas due to the dependent susepensor.

Main Project

Title: **Design, Fabrication and Performance evaluation of Electric Car from Scrap**

Team Details:

Leader - **P. Koteswara rao**

Members - **M. Shanmuka. Praneeth**

S. Sandeep

K. Venkata Ajay

Guide- **Dhanunjay Kumar Ammisetti**



Maruthi 800 , gasoline scrap car



Before dismantling engine



After Dismantling engine



Motor , Controller and Peddle throttle



: Assembled view in the bonnet



Modified Electric Car

Description

An electric car is an automobile that is propelled by one or more electric motors using energy stored in rechargeable batteries. Gasoline cars are proved to be the efficient ones in the present market but the problem is that the gasoline combusts, it releases the end product of carbon dioxide, carbon monoxide, and nitrogen oxides, which contribute to the climate change negatively. So to counter this effect, the alternative is to replace gasoline engines into electric motors in vehicles. Electric vehicles have been identified as being a key technology in reducing emissions in the automobile sector. The focus of the project is to convert a gasoline vehicle into an electric one. An IC engine will be replaced with BLDC (Brushless Direct Current) motor with the inclusion of controller, battery, switching, gear system, etc. the main goal will be to increase the efficiency, reduce emissions, reduce the vehicle cost to make it available to all the sections of the society. The said electric car has produced the desired output with a speed of 40 kmph, and a mileage of 64 km per single charge. It produced a torque of 19.2 Nm. The practical efficiency of the motor was found to be 69 %.