DR.D.Y.PATIL PRATISHTHAN'S COLLEGE OF ENGINEERING
SALOKHE NAGAR.

DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is to certify that the project work entitled "Design and Fabrication of Lifting Mechanism for Submersible Pump" is carried out by:

Name	Roll No.	PRN No.
Mr. DHANANJAY URF RAJ VIJAY WADKAR	[13]	2020079153
Mr. NIKHIL AMIT DEVGONDA-PATIL	[30]	2015007666
Mr. PAVAN KIRAN KULKARNI	[06]	2018092221
Mr. OMKAR VINOD JADHAV	[27]	2018092301
Mr. HARSHVARDHAN BHAIRAVANATH NALAWADE	[08]	2020079151

Bona-fide students of DYPSN, SalokheNagar, in partial fulfillment for the award of bachelor degree in Mechanical Engineering from Shivaji University, Kolhapur during the year 2022-2023. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

Asst. Prof. S. D. Patil	**Prof. S.R. Jadhav**	**Dr. S.D.Mane**
Guide	**HOD**	**Principal**

Name of Examiners Signature with date

1. Niranjan Shinde 05/05/2023
2.

ABSTRACT

To lift the submersible pump manually from bore well required more effort and manpower, so become time consuming operation. To overcome this problem, designed the mechanism with geometric consideration in synthesis. Such as rotating drum shaft, coupling, bearing with respect to material loading conditions within bounded limit of stresses and finally fabricated all parts as per design specifications for lifting purpose.

After completion of fabrication the field test was carried out, conclude that 70% reduction time which is required for lifting the pump. Also further scope by doing some modifications, in mechanism it is used as crane in construction field.

DYP
SALOKHENAGAR

CERTIFICATE

This is to certify that ***SHREYASH AVINASH MULIK*** *of B.Tech (Mechanical) has satisfactory completed Project work entitled* ***"SOLAR OPERATED SEED SOWING AND FOGGING SPRAY PUMP MACHINE"*** *towards the partial fulfilment of Bachelor of Engineering (Mechanical Department) course as per the rules laid down by Shivaji University, Kolhapur, for year 2022 - 2023. This report represents the bonafide work carried out by the student.*

Date: 03-06-2023
Place :KOLHAPUR

Name of Guide
Prof. Suraj Patil Sir

HOD

Mechanical Department

Principal

Dr. D. Y. Patil Pratishthan's
Collegof Engineering

External Examiner
Niranjan Shinde

Seal

ABSTRACT

Today's era is marching towards the rapid growth of all sectors including the agricultural sector. To meet the future food demands, the farmers have to implement the new techniques which will not affect the soil texture but will increase the overall crop production. The aim of this project is to design and develop a solar operated seed sowing machine.

The seed sewing machine is a key component of agricultural field. The various technique used in India for seed sowing and fertilizer placement are manual, ox and tractor operator. The manual and ox operator technique are time consuming and productivity is low. Tractor is running on fossil fuel which emits carbon dioxide and other pollution every second. This evident has led to widespread air, water and noise pollution and most importantly has led to a realistic energy crisis in the near future, in order to make the development of our farmer as well as nation sustainable and cause less harm to our environment. Now the approach of this project is to develop the seed sowing machine which is to minimize the working cost and the time for digging as well as operate on clean energy.

In this machine solar panel is used to capture solar energy and then it is converted into electrical energy which in turn is used to charge 12V battery, which then gives the necessary power to a shunt wound DC motor. This power is then transmitted to the DC motor to drive the wheels. And to further reduction of labour dependency, IR sensors are used to manoeuvre robot in the field. Here 4 post sensors are used to define the territory and robot senses the track length and pitch for movement from line to line. Seed sowing and digging robot will move on different ground contours and performs digging, sow the seed and water the ground after closing

DYP
SALOKHENAGAR

CERTIFICATE

This is to certify that **Mr. Sarfaraz Aslam Patankar** of B. Tech. (Mechanical Engineering) has satisfactory completed Project work entitled **"DESIGN AND DEMONSTRATION OF VERTICAL CAR PARKING SYSTEM"** towards the partial fulfillment of Bachelor of Engineering (Mechanical Department) course as per the rules laid down by Shivaji University, Kolhapur, for year 2022-2023 This report represents the bonafide work carried out by the student.

Date:

Place: Kolhapur

Name of Guide
Prof. Suhas Jadhav

HOD
Mechanical Department

External Examiner
Niranjan Shinde

Principal

Dr. D. Y. Patil Pratishthan's
College of Engineering

Chapter 1

INTRODUCTION

A rotary parking system (RPS) is a mechanical system designed to minimize the area that is required for parking cars. On the other hand, Rotary parking is known as "robotic parking garages", however, this technology is not used a lot in traffic engineering everywhere. Nowadays, with the huge increase in number of cars it becomes difficult to find a parking place; therefore, many countries such as Germany and Japan tend to build rotary parking systems in the areas near to the buildings and markets. The concept for automated parking system is driven by two factors: 1) a need for parking spaces and 2) a scarcity of available land. However, the RPS utilizes a mechanical system to transport cars to parking spaces in order to eliminate much of the space lost in a multi-story parking garage. While a multi-story parking garage is similar to multiple parking lots stacked vertically. An RPS is more similar to an automated storage and retrieval system for cars.

History of vertical car Parking Systems:

The concept for the automated parking system was and is driven by two factors: a need for parking spaces and a scarcity of available land.

The earliest use of an APS was in Paris, France in 1905 at the Garage Rue de Ponthieu. The APS consisted of a ground-breaking multi-storey concrete structure with an internal elevator to transport cars to upper levels where attendants parked the cars.

In the 1920s, a Ferris wheel-like APS called a paternoster system became popular as it could park eight cars in the ground space normally used for parking two cars.

Mechanically simple with a small footprint, the paternoster was easy to use in many places, including inside buildings. At the same time, Kent Automatic Garages was installing APS with capacities exceedingly more than 1000 cars.

APS saw a spurt of interest in the U.S. in the late 1940s and 1950s with the Bowser, Pigeon Hole and Roto Park systems. In 1957, Pigeon Hole systems were installed, and some of these systems remain in operation. However, interest in APS in the U.S. waned due to frequent mechanical problems and long waiting times for patrons to retrieve their cars. Interest in APS in the U.S. was renewed in the 1990s, and there are 25 major current and planned APS projects (representing nearly 6,000 parking spaces) in 2012.

While interest in the APS in the U.S. languished until the 1990s, Europe, Asia and Central.

1.1 Project motivation:

The RPS take advantage of a common concept to save the area of parking spaces leaving the driver and passengers from the car before it is parked. This is fully automated RPS, the car is driven up to an entry point to the RPS and the driver and passengers will leave the car. The car is then moved automatically to its parking space place; in the following the advantages of the RPS will be summarized,

1) Space saving:-

The saved space that is provided by the RPS, compared to the multi-storey parking garage, is derived primarily from a significant reduction in space not directly related to the parking of the car; however, to save spaces through our project the following conditions are taken in consideration:

DR.D.Y. PATIL PRATISHTHAN'S COLLEGE OF ENGINEERING
SALOKHENAGAR, KOLHAPUR

DEPARTMENT OF MECHANICAL ENGINEERING

CERTIFICATE

This is to certify that the project work entitled "FAULTY PRODUCT DETECTION AND SEPERATION METHOD"

Name	Roll No.	PRN No.
Mr. Dhananjay Balasaheb Patil	31	2017108531
Mr. Om Amol Shendage	02	2019087324
Mr. Sandesh Chandrakant Patil	26	2020079154
Mr. Abhishek Lahu Dawar	23	2020079146
Mr. Pankaj Kerba Mohite	01	2018092231

Bona-fide students of DYPSN, Salokhenagar, in partial fulfillment for the award of bachelor degree in Mechanical Engineering from Shivaji University, Kolhapur during the year 2022-2023. It is certified that all corrections/suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The project report has been approved as it satisfies the academic requirements in respect of project work prescribed for the said degree.

Name of Guide

Prof. Suhas Jadhav

HOD

Mechanical Department

External Examiner

Niranjan Shinde

Principal
Dr. D. Y. Patil Pratishthan's Colleg of Engineering

DYP
SALOKHENAGAR

CERTIFICATE

This is to certify that **Mr. Sarfaraz Aslam Patankar** of B. Tech. (Mechanical Engineering) has satisfactory completed Project work entitled **"DESIGN AND DEMONSTRATION OF VERTICAL CAR PARKING SYSTEM"** towards the partial fulfillment of Bachelor of Engineering (Mechanical Department) course as per the rules laid down by Shivaji University, Kolhapur, for year 2022-2023 This report represents the bonafide work carried out by the student.

Date:

Place: Kolhapur

Name of Guide
Prof. Suhas Jadhav

HOD
Mechanical Department

External Examiner
Niranjan Shinde

Principal

Dr. D. Y. Patil Pratishthan's
College of Engineering

Chapter 1

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DYP
SALOKHENAGAR

CERTIFICATE

This is to certify that ***Mr. Shivraj Parshuram Kotekar*** *of B. Tech. (Mechanical Engineering) has satisfactory completed Project work entitled "****AUTOMATED MULTIGRAIN VENDING MACHINE.****" towards the partial fulfillment of Bachelor of Engineering (Mechanical Department) course as per the rules laid down by Shivaji University, Kolhapur, for year 2022-2023 This report represents the bonafide work carried out by the student.*

Date:
Place: Kolhapur

Name of Guide
Prof. Suraj Patil.

HOD
Mechanical Department

External Examiner
Niranjan Shinde

Principal
Dr. D. Y. Patil Pratisthan's
College Of Enggineering.

ABSTRACT

The paper approaches an " **Automated Multigrain Vending Machine**". The Public Distribution System (PDS), established by the Government of India under Ministry of Consumer Affairs, Food, and Public Distribution to distribute grocery items to poor people at fair price is facing significant threats to its very existence. These threats starts from the basic issues of renewing the ration card every year which has to be done manually by the employees to the malpractices done by the ration store dealers like diverting food grains to open market to make profits. There is another problem of irregularity in opening shops and false announcements of deficit in food grains. Hence through this paper the idea is to completely automate the rationing system. For simplicity, it is better to implement an embedded system for the same. In the proposed system, the advanced ARM8 (Advanced RISC Machine) processor is used and it is the heart of the system that controls all sub systems like sensor modules, database systems, connected across it.

The present Indian Government is making every steps to make India as "DIGITAL INDIA".

Automation plays a very important role in todays' India. Automation is the most frequently spelled term in the field of electronics. Ration Dispenser machine is used in Fair price shops, also called Public Distribution System. Earlier Public Distribution system involved lots of malpractice and there existed corruptions in the civil supply like deviation in the quantity of the supplied ration items, to stand in queue for a long time which was a major drawback and time consuming for a consumer, similarly, distribution of ration items to the people without ration card for higher value of the products (theft). In this paper, this system uses Ration distribution using RFID Technology (Radio Frequency Identification), GSM Module (Global System for Mobile Communication) and an innovative use of Voice Recognition Device, working on recognizing the voices to the preferred understandable language of users, replacing the manual intervention of human in the Public Distribution System and use of Point of Sale machines for Cashless Transactions also. By introducing this system,

transparency will be much higher as it works on the principle wherein the Aadhar Card number, Smart Card Number and Mobile card interlinked to each other.

The database of the Consumers will be processed and stored in the Arduino microcontroller.

DYP
SALOKHENAGAR

CERTIFICATE

This is to certify that **Mr.Aftab Rajmohammed Bagwan** *of B-Tech.(Mechanical Engineering) has satisfactory completed Project work entitled* **"Smart Helmet"** *towards the partial fulfillment of Bachelor of Engineering (Mechanical Department) course as per the rules laid down by Shivaji University, Kolhapur, for year 2022 - 2023. This report represents the bonafide work carried out by the student.*

Date: 06/06/2023
Place: KOLHAPUR

Name of Guide
Prof. Yogesh.D.Pawar

HOD
Prof. Suhas Jadhav
(Mechanical Department)

External Examiner

Seal

Principal
Dr. Abhijeet Mne
Dr. D. Y. Patil Pratishthan's college of Engineering

ABSTRACT

According to the investigation in India, nearly 25% of the road accidents are caused by two wheelers. The foremost causes for the fatalities are due to drunken driving, rash driving, and drowsiness due to long drive. The aim is to build an interesting smart helmet that protects us from accidents and indicates the accident prone area. Here we are using various sensors to build the smart helmet. To detect alcohol consumption of the rider we use Alcohol sensors. In order to check a rider's helmet, an infrared sensor can be used. Vibration detector is also added to the helmet to indicate the harsh hitting of the helmet during an accident. When the two wheelers slide down due to road rashes, the GPS is used to identify the location of the accident spot and quickly sends messages (location) to police stations and hospitals nearby through GSM.