**AIR ENGINE**

**A PROPOSAL REPORT**

*Submitted by*

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**BACHELOR OF ENGINEERING**

**IN**

**MECHANICAL ENGINEERING**

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**NARASU’S SARATHY INSTITUTE OF TECHNOLOGY,**

**TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY**

**AUGUST 2019**

**STUDENT PROJECT PROPOSAL**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
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|  |  |  |  | |
| 3. | Project Title | : | Air Engine | |
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|  |  |  |  | |
| 4. | Sector in which your Project | : | Engineering & Technology | |
|  | proposal is to be Considered |  |  | |
| 5. | Project Details | : | *Attached as Annexure-I* | |
| 6. | Has a similar project been carried out in your college / elsewhere? If so furnish details of the previous  project and highlight the improvements suggested in the present one | : | NO | |

**CERTIFICATE**

This is to certify that **M.MANOJ KUMAR, K.CHANDRAMOULI, D.SUDHARSANAM, P.RAGHU** are bonafide final year student of B.E. Mechanical Engineering course of our college and it is also certified that two copies of utilization certificate and final report along with seminar paper will be sent to the Council after completion of the project by the end of April 2019.

Signature of the Guide

Signature of the HOD

Signature of the Principal/ Head of the Institution

***ANNEXURE-I***

**PROJECT DETAILS**:

**ABSTRACT**

The rate depletion of conventional sources of energy are much faster than the new ones are made, which puts us in place to consider and identify the other sources of energy to drive the needs of world. Compressed air as the energy source has shown promising result in the field of automobile. Efforts are being made by many organizations to design and develop compressed air-driven vehicle which definitely going to reduce the uses of fossil fuels and its share in the environment. This study presents the methodology towards design and fabrication of vehicle equipped with pneumatic power generating concept.

**1. INTRODUCTION:**

The rate depletion of conventional sources of energy are much faster than the new ones are made, which puts us in place to consider and identify the other sources of energy to drive the needs of world. Compressed air as the energy source has shown promising result in the field of automobile. Efforts are being made by many organizations to design and develop compressed air-driven vehicle which definitely going to reduce the uses of fossil fuels and its share in the environment. This study presents the methodology towards design and fabrication of vehicle equipped with pneumatic power generating concept.

So the proposing system is to improve the farming using machine learning techniques. The issues in current scenario is, there is only very little technologies which can reach farmers directly. Most of the farmers are uneducated, so it will be difficult for them to understand the computer technologies. Therefore the system which is being proposed here is easy to use mobile application software, which is cost efficient and user friendly. For this purpose the objectives, methodology, work plan, budget and References are briefly described as follows.

**2. OBJECTIVES:**

The objective of the proposed system is follows:

* Industrial material handling effecting effectively. To save energy and reduce power consumptionsTo design simple android mobile applications related to the field of agriculture and for the benefit of farmers
* Energy input saves as in case of pneumatic vehicle after filling air in reservoir we just only recirculate in the system.
* Better speed is obtained in case of pneumatic vehicle is high compared to AG**V’s** used in industry for material handling

The proposed system provides a list of profitable crops in a particular area using decision making algorithms. The main goal of this project is to help the farmers maximize their profit margin by providing predictions on crops that will give the maximum output in a particular area.

**3. METHODOLOGY:**

The following requirements are needed for the proposed system

**Hardware Requirement:**

* Solenoid valve
* Pneumatic cylinder
* Crank
* Air tank

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**4. WORK PLAN:**

Work plan of the proposed system is divided into many categories. In initial stages this system is going to concentrate on data set collection. Data is analyzed using the machine learning algorithms. Later, comparing the results yielded from different algorithms. Finally, software will be developed, using which the farmers can learn about their soil by giving their inputs. The following table 1 depicts the work plan of the proposed system.

**Table 1:** Work plan for proposed system

**5. BUDGET**

The following Table 2 describes about the budget plan.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Budget** | **Student-1** | **Student-2** | **Student-3** | **Student-4** | **Total** | **Amount** |
| **Internet / power utilization** | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour =  720 hour | 720  hour | 2050 |
| **Hardware/ power utilization** | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour =  720 hour | 720  hour | 1200 |
| **Software Utilization** | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour = 720 hour | 3 months ×  30 days ×  8 hour =  720 hour | 720  hour | 1160 |
| **Man power** | 6 months ×  30 days ×  8 hour = 1440 hour | 6 months ×  30 days ×  8 hour = 1440 hour | 6 months ×  30 days ×  8 hour = 1440 hour | 6 months ×  30 days ×  8 hour =  1440 hour | 5760  hour | 6000 |
| **Stationeries** | | | | | |  |
| **Pen** | 1 | 1 | 1 | 1 | 4 | 40 |
| **Pencil** | 1 | 1 | 1 | 1 | 4 | 40 |
| **Eraser** | 1 | 1 |  |  | 2 | 10 |
| **Sharper** | 1 | 1 |  |  | 2 | 10 |
| **Work sheet** | 50 | 50 | 50 | 50 | 200 | 200 |
| **Total** | | | | | | 10410 |

**Table 2:** Budget for proposed system

**6. REFERENCES:**

1 .Cai, Yaping, Kaiyu Guan, Jian Peng, Shaowen Wang, Christopher Seifert, Brian Wardlow, and Zhan Li. "A high-performance and in-season classification system of field-level crop types using time-series Landsat data and a machine learning approach." Remote Sensing of Environment 210 (2018): 35-47.

2. Padilla, Washington R., Jesús García, and José M. Molina. "Improving Forecasting Using Information Fusion in Local Agricultural Markets." In International Conference on Hybrid Artificial Intelligence Systems, pp. 479-489. Springer, Cham, 2018.

3. Chlingaryan, Anna, Salah Sukkarieh, and Brett Whelan. "Machine learning approaches for crop yield prediction and nitrogen status estimation in precision agriculture: A review." Computers and Electronics in Agriculture 151 (2018): 61-69.

4.Shadrin D, Somov A, Podladchikova T, Gerzer R. Pervasive agriculture: Measuring and predicting plant growth using statistics and 2D/3D imaging. In2018 IEEE International Instrumentation and Measurement Technology Conference (I2MTC) 2018 May 14. IEEE.