Optimal design of Silo for bulk storage of Rice

Project Proposal

Submitted in the partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE WITH SPECIALIZATION IN

ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

Submitted by:

Y.Aadi Shankar	21BCS8261
Puneeth	21BCS10566
A.Satwika	21BCS6568
Syed.Fakruddin	21BCS6927

Under the Supervision of:

Alankrita Agarwal

CHANDIGARH
UNIVERSITY
Discover. Learn. Empower.

CHANDIGARH UNIVERSITY, GHARUAN, MOHALI - 140413,

PUNJAB

August,2023

DEPARTMENT OF APEX INSTITUTE OFTECHNOLOGY

Project Proposal

Project Title:- Golden fiber Storage to Silo Storage.

Project Scope:-

The purpose of this project is to create the best silo possible for rice storage in bulk. The main objective is to develop a storage method that maximizes the efficacy, security, and preservation of rice while taking into account elements like capacity, structural integrity, cost-effectiveness, and environmental impact.

Not only in early days till now we use jute bags or gunny bags which are made up of golden fiber for the storage and transportation of many commodities mainly paddy seeds.By performing some processes like cleaning, hulling ,husking and milling the paddy will be converted into the form of rice grains .From here based on the requirement polishing will be done once or twice .

The big deal is to store the paddy seeds in an efficient way so that the cost of storage will be minimum and it is secure.Instead of using godown's with proper air ventilation systems let's use silo tanks.These are not just the tanks the process to enter the paddy grains into it and until they come out as rice it will follow some steps and tries to minimize the cost as much as possible.The air ventilation based upon the surface area of silo tank ,the layers will be divided and according to it the flow of air will be monitored.

The specific heat will be transferred, humidity ratio will be maintained to maintain the grains at good condition.The cost reduces based upon the structure of the silo.It comes at bottom in the shape of "V" to increase the force.From here Trasportation can be made using the conveyer belts.

Requirements

Hardware Requirements

- Silo tanks
- A machine with proper process allocated
- Conveyor belts
- 3D modeling

Soft ware Requirements

- CFD simulation software
- CAD software
- Structural analysis software
- Version control
- 3D simulation of whole process
- Airodynamics software

STUDENTS DETAILS

Name	UID	Signature
Amulothu Satwika	21BCS6568	
Puneeth	21BCS10566	
Syed.Fakruddin	21BCS6927	
Y.Aadi Shankar	21BCS8261	

APPROVAL AND AUTHORITY TO PROCEED

We approve the project as described above, and authorize the team to proceed.

Name	Title	Signature (With Date)
Dr. Alankrita Aggarwal	Supervisor	