FARM TECH LEASE

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ABSTRACT

Farm Tech Lease is a digital platform designed to help farmers easily rent agricultural equipment as per their needs .It allows farmers who own equipment to list it for rent, creating an efficient and cost-effective sharing economy within the farming community.This system reduces the financial burden on small-scale farmers who cannot afford to purchase expensive equipment, while enabling equipment owners to earn extra income by renting out their idle assets. In this platform farmers(equipment renters) can register on the platform, browse and rent equipment based on their specific needs as well as view their bookings(rentals).Equipment owners can register on the platform and list their available machinery such as rental price(daily,weekly,monthly),availability period and manage their equipment.To Ensure accessibility for farmers from different regions ,the platform allows users to choose their preferred language for navigation and communication.Admins can view and manage user activities ,bookings,equipments.This system enables efficient booking process by enabling farmers to schedule rental services in just a few clicks.

1. INTRODUCTION

Farm Tech Lease is a digital platform designed to help farmers easily rent agricultural equipment as per their needs. It allows farmers who own equipment to list it for rent, creating an efficient and cost-effective sharing economy within the farming community.This system reduces the financial burden on small-scale farmers who cannot afford to purchase expensive equipment, while enabling equipment owners to earn extra income by renting out their idle assets.

Existing System

The existing systems of farm equipment rental typically operate through local rental agencies, individual private owners.Farmers visit a local farm equipment rental agency to rent machinery, such as tractors, harvesters, or tillers. Some farmers or equipment owners may rent out their own equipment to others in the community or region.This is often arranged informally via word-of-mouth, advertisement, or local networks.

Proposed System

Farm Tech Lease is an online platform that simplifies the process of renting and listing agricultural equipment.Farmers can browse and rent equipment based on their specific needs .Equipment owners can register on the platform and list their available machinery along with details such as rental price, availability period.To ensure accessibility for farmers from different regions, the platform allows users to choose their preferred language for navigation and communication.

2-LITERATURE SURVEY

The advancement of technology in agriculture has led to significant improvements in productivity and efficiency. However, small and marginal farmers often face financial challenges in accessing modern equipment. This has given rise to the need for farm equipment rental platforms that combine

affordability, accessibility, and automation. This section presents a comprehensive review of existing literature in this

domain, focusing on smart farming systems, IoT integration, multilingual support, and the role of digital

platforms.

1. Smart Farming and Machine Learning Applications

In [1], Jaybhaye et al. proposed Farming Guru, a machine learning-based system for smart farming.

The platform integrates soil data, weather conditions, and crop patterns to recommend optimal agricultural

practices. The study emphasized the role of data-driven decision-making to increase productivity and reduce manual labor. This research supports the use of intelligent features in platforms like Farm Tech Lease,

where AI/ML can recommend suitable equipment based on the farmer's crop, soil, and seasonal requirements.

2. Mechanized Agriculture and Equipment Access

Rakhra et al. [2] conducted an analytical study on the usage of various implements in mechanized agriculture.

Their findings highlight the dependency of modern farming on expensive machinery like tractors, tillers , and harvesters. However, small-scale farmers often lack the financial capacity to own such equipment.

The paper emphasizes the need for rental-based access models and suggests that a shared economy for

agricultural equipment could bridge this gap. This directly correlates with the objective of Farm Tech Lease

to provide an affordable, accessible platform for equipment rental.

3. Gaps and Contribution

While prior research has explored smart agriculture, IoT integration, and digital platforms in isolation, Few systems have holistically combined these elements for equipment rental services. Farm Tech Lease

addresses this gap by integrating multilingual accessibility, IoT-based monitoring, and a shared economy

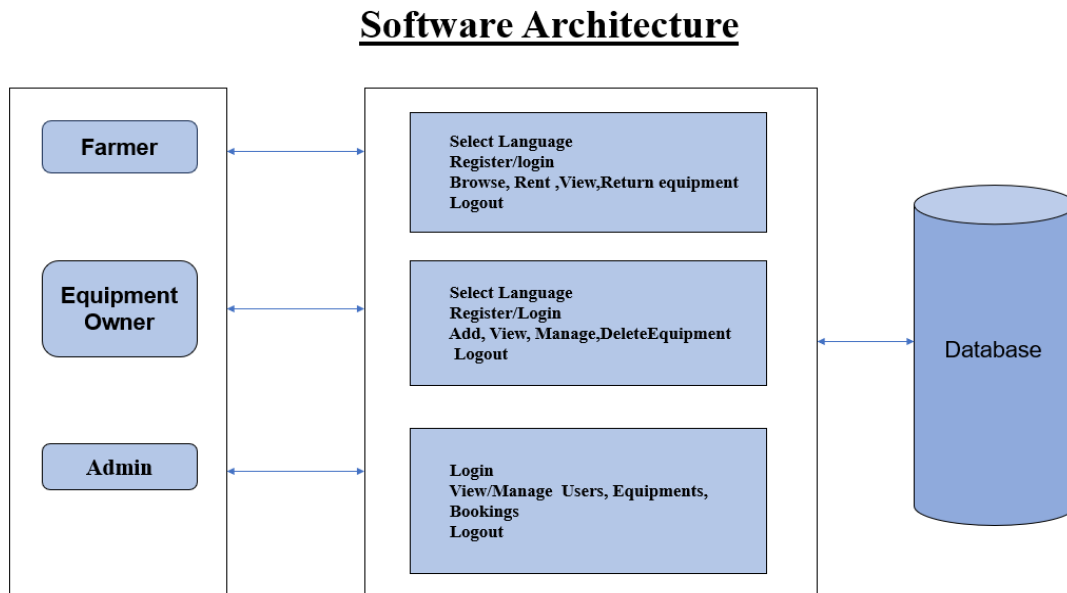model into a single, scalable platform.

SOFTWARE ARCHITECTURE

Software Architecture

Fig: Software Architecture
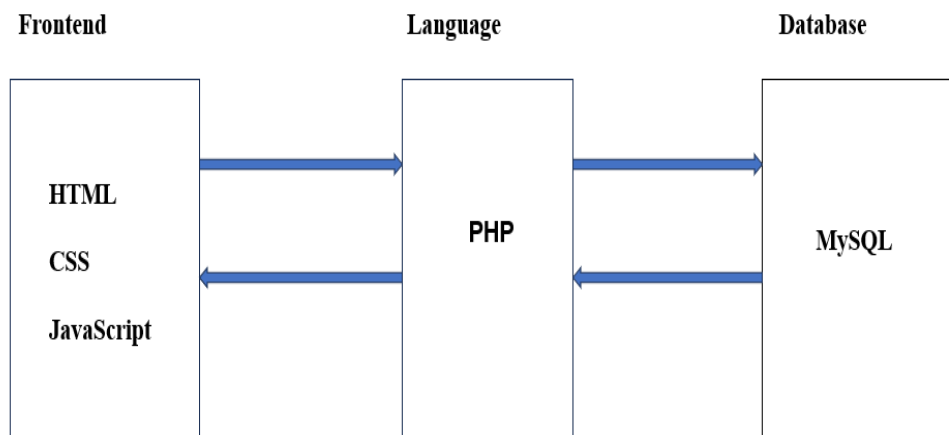
TECHNICAL ARCHITECTURE

Fig: Technical Architecture

4-IMPLEMENTATION

Farm Tech Lease is a digital platform designed to help farmers easily rent agricultural equipment as per their needs .It allows farmers who own equipment to list it for rent, creating an efficient and cost-effective sharing economy within the farming community.

1. User Interface

A responsive and intuitive user interface is developed using HTML, CSS JavaScript for

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frontend and PHP for backend logic. The interface supports

o Users can Login/Signup with secure authentication

o Dashboard for browsing, adding, renting and returning equipment.

o Admin dashboard for viewing users, equipments, bookings as well as for managing users,equipments,bookings.

1.1 TECHNOLOGIES

The following technologies were used in the implementation of the system:

Technologies Used in Farm Tech Lease

Frontend:

- **HTML** – Structure of web pages (login, rental services etc.)

- **CSS** – Styling and layout of user interfaces.

- **JavaScript** – For dynamic interactions (form validations, real-time UI updates).

  • Backend:

- **PHP (XAMPP stack)** – Core backend logic for handling user actions like login, browsing,renting,returning equipments.
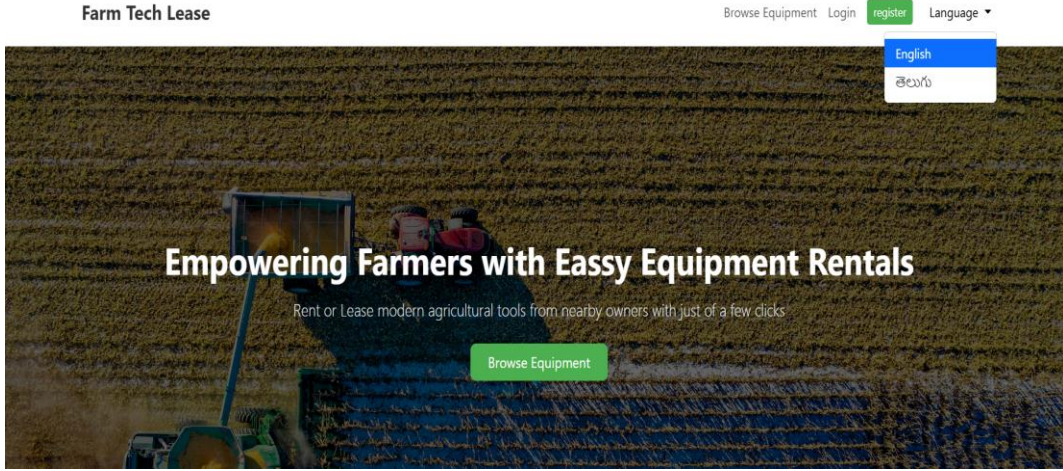
- **MySQL**

   Relational database used for storing:

o User accounts (users table)

o Bookings

o Equipments

   Categories

5-SCREENSHOTS

HOME PAGE :

REGISTER PAGE:

నమోదు చేయండి

పూర్తి పేరు

Acchu

ఇమెయిల్ చిరునామా

acchu08@example.com

పాస్వర్డ్

......

పాస్వర్డ్ను నిర్ధారించండి

......

ఫోన్ నంబర్

8074153843

చిరునామా

Saidabad, hyderabad-500059

నమోదు చేసుకోండి
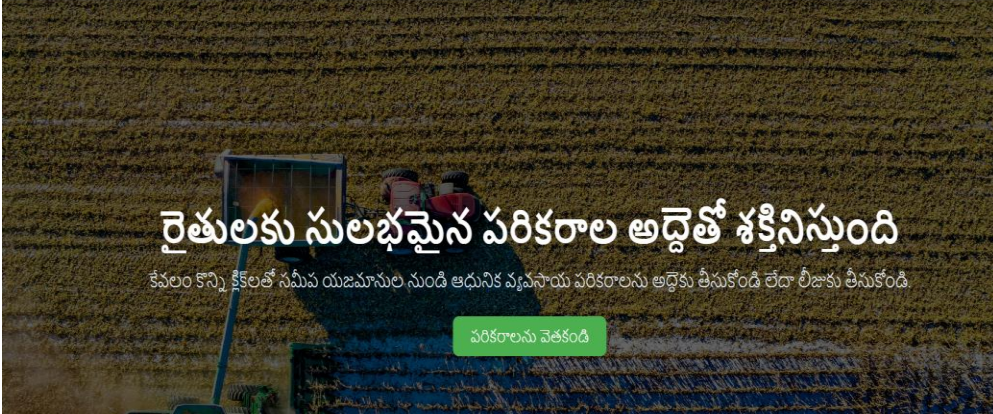
పరికరాల యజమాని

[నమోదు చేయండి]

ఇప్పటికే ఖాతా ఉందా? ఇక్కడ లాగిన్ అవ్వండి

EQUIPMENT OWNER:

Farm Tech Lease | పరికరాలను వెతకండి   మేనేజ్   నా బుకింగ్లు   ప్రొఫైల్   లాగ్ అఫ్ట్   భాష ▾

రైతులకు సులభమైన పరికరాల అద్దెతో శక్తినిస్తుంది

కేవలం కొన్ని క్లిక్లతో సమీప యజమానుల నుండి ఆధునిక వ్యవసాయ పరికరాలను అద్దెకు తీసుకోండి లేదా లీజుకు తీసుకోండి.

[పరికరాలను వెతకండి]

Farm Tech Lease | home   పరికరాలను వెతకండి   మేనేజ్   నా బుకింగ్లు   లాగ్ అఫ్ట్   భాష ▾

కొత్త పరికరాన్ని నమోదు చేయండి

పరికరం పేరు

కేటగిరి

కేటగిరి ఎంచుకోండి...

వివరణ

రోజు ఖరీదు ($)

వారం ఖరీదు ($)

నెల ఖరీదు ($)

పరికరం ఫోటో

మీ పరికరాలు

పేరు	కేటగిరి	రోజు ఖరీదు	స్థితి	చర్యలు
		కొత్త పరికరాలు లేదు		

పరికరం నమోదు చేసబడింది.

కొత్త పరికరాన్ని నమోదు చేయండి

పరికరం పేరు

కేటగిరి

కేటగిరి ఎంచుకోండి...   ▾

వివరణ

రోజు ఖరీదు ($)

వారం ఖరీదు ($)

మీ పరికరాలు

పేరు	కేటగిరి	రోజు ఖరీదు	స్థితి	చర్యలు
tractor	Tractor	$11.00	అందుబాటులో ఉంది	ఎడిట్ తొలగించు
tractor	Tractor	$11.00	అందుబాటులో ఉంది	ఎడిట్ తొలగించు

పరికరాలను వెతకండి

వెతకండి...   వెతకండి   అన్ని కేటగిరిలు   ▾

tractor
This is bought in 2024...
$11.00 /day
వీక్షించండి   యజమాని: Chithaluri Navya

---

tractor

కేటగిరి: Tractor

This is bought in 2024

రెంటల్ ధరలు

రోజు ఖరీదు	వారం ఖరీదు	నెల ఖరీదు
$11.00	$77.00	$270.00

యజమాని వివరణ

పేరు: Chithaluri Navya

సంప్రదించండి: 9618637446

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rental_requests

పరికరాలు	అద్దెదారు	DATES	TOTAL_COST	స్థితి	చర్యలు
Harvester	srikanth 9665543245	Jun 02, 2025 - Jun 05, 2025 4 days	$32.00	pending	approve reject

EQUIPMENT RENTER:

Harvester

కేటగిరి: Harvester

This equipment bought in 2020 and is given rent for 2 years.

రెంటల్ ధరలు

రోజు ఖరీదు	వారం ఖరీదు	నెల ఖరీదు
$8.00	$20.00	$60.00

యజమాని వివరణ

పేరు: Chithaluri Navya

సంప్రదించండి: 9618637446

పరికరాన్ని బుక్ చేసుకోండి

Farm Tech Lease

home · పరికరాలను వెతకండి · నా బుకింగ్లు · ప్రొఫైల్ · లాగ్ అవుట్ · భాష ▾

నా బుకింగ్లు

పరికరాలు	యజమాని	DATES	TOTAL_COST	స్థితి
Harvester	Chithaluri Navya 9618637446	Jun 02, 2025 - Jun 05, 2025 4 days	$32.00	pending

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నా బుకింగ్లు

పరికరాలు	యజమాని	DATES	TOTAL_COST	స్థితి
Harvester	Chithaluri Navya 9618637446	Jun 02, 2025 - Jun 05, 2025 4 days	$32.00	approved

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అద్దె దరఖాస్తులు

పరికరాలు	అద్దెదారు	DATES	TOTAL_COST	స్థితి	చర్యలు
Harvester	srikanth 9665543245	Jun 02, 2025 - Jun 05, 2025 4 days	$32.00	completed	-

ADMIN:

Dashboard Overview

Total Users	Total Equipment	Pending Bookings
8	2	0
View Details →	View Details →	View Details →

Recent Users — View All

Name	Email	Role	Joined
srikanth	srikanth9@gmail.com	Renter	May 31, 2025
Chithaluri Navya	chithalurinavya9@gmail.com	Owner	May 31, 2025
dinesh	dinesh08@example.com	Owner	May 31, 2025
ajay	ajay08@example.com	Renter	May 31, 2025
Acchu	acchu08@example.com	Owner	May 31, 2025

Recent Equipment — View All

Name	Owner	Category	Daily Rate
Harvester	Chithaluri Navya	Harvester	$8.00
tractor	Chithaluri Navya	Tractor	$11.00

User Management

ID	NAME	EMAIL	PHONE	ROLE	JOINED	ACTIONS
164	srikanth	srikanth9@gmail.com	9665543245	Renter ∨	May 31, 2025	🗑
139	Chithaluri Navya	chithalurinavya9@gmail.com	9618637446	Owner ∨	May 31, 2025	🗑
101	dinesh	dinesh08@example.com	8074153843	Owner ∨	May 31, 2025	🗑

Equipment Management

ID	Name	Owner	Category	Daily Rate	Status	Listed	Actions
4	Harvester	Chithaluri Navya	Harvester	$8.00	Available	May 31, 2025	👁 🗑
2	tractor	Chithaluri Navya	Tractor	$11.00	Available	May 31, 2025	👁 🗑

Booking Management

ID	EQUIPMENT	RENTER	CONTACT	DATES	STATUS	CREATED
4	Harvester	srikanth	srikanth9@gmail.com 9665543245	From: Jun 02, 2025 To: Jun 05, 2025	Completed ∨	May 31, 2025

6-

CONCLUSION

The Farm Tech Lease platform is designed to bridge the gap between farmers and equipment owners, providing an efficient and cost-effective way to lease machinery, purchase crops, and access financial support.By offering a user-friendly, secure, and scalable system, the platform ensures that farmers can improve productivity while minimizing

high capital investments in equipment.

Farm Tech Lease provides a seamless and intelligent user experience for both farmers and equipment renters.

Farm Tech Lease ensure accessibility for farmers from different regions, the platform allows users to choose their preferred language for navigation and communication.

Security and performance measures ensure user trust and platform reliability under varying loads.

Extensive testing—including functionality, usability, performance, and security—validated that the system meets the requirements for real-world deployment.

Farm Tech Lease is quite promising due to technological advancements, increasing demand for agricultural efficiency, and the evolving dynamics of rural economies.

REFERENCES

[1] N. Jaybhaye, P. Tatiya, A. Joshi, S. Kothari, and J. Tapkir, "Farming Guru: Machine Learning Based Innovation for Smart Farming," 2022 4th International Conference on Smart Systems and Inventive Technology (ICSSIT), 2022. doi: 10.1109/ICSSIT53264.2022.9716287.

[2] M. Rakhra, P. Deb, O. Dahiya, S. S. Chandel, B. Bhutta, S. Badotra, and S. Kumar, "An Analytical Study
of the Types of Implements Used by Farmers in Mechanised Agriculture," 2022 International Mobile and
Embedded Technology Conference (MECON), 2022. doi: 10.1109/MECON53876.2022.9751983.

[3] S. R., V. G., K. M., and L. J. K., "Intelligent Farming Using Delta Robot," 2020 International Conference
on Power, Energy, Control and Transmission Systems (ICPECTS), 2020. doi: 10.1109/ICPECTS49113.2020.9337002.