

Portable Electric Stove

Presented by IRADUKUNDA Jean Michel

Exploring innovation in kitchen appliances



PROBLEM STATEMENT

- 01** Conventional stoves lack portability and smart features
- 02** High power consumption and safety issues
- 03** Unsuitable for small spaces and travel needs

Need for Innovation

01 Addressing limitations of current cooking appliances

Traditional stoves lack versatility and efficiency.

02 Enhancing user convenience and safety

Modern solutions can reduce cooking hazards and time.

03 Meeting environmental sustainability goals

Innovative designs can minimize energy consumption significantly.



Main Objective

To design a lightweight, energy-efficient, smart portable electric stove with an integrated oven for homes and mobile use.

SPECIFIC OBJECTIVES

01

Use sustainable materials

02

Ensure compact and durable design

03

Improve energy efficiency

04

Create ESP32-based smart control system

05

Test and validate functionality and safety

Methodology Overview

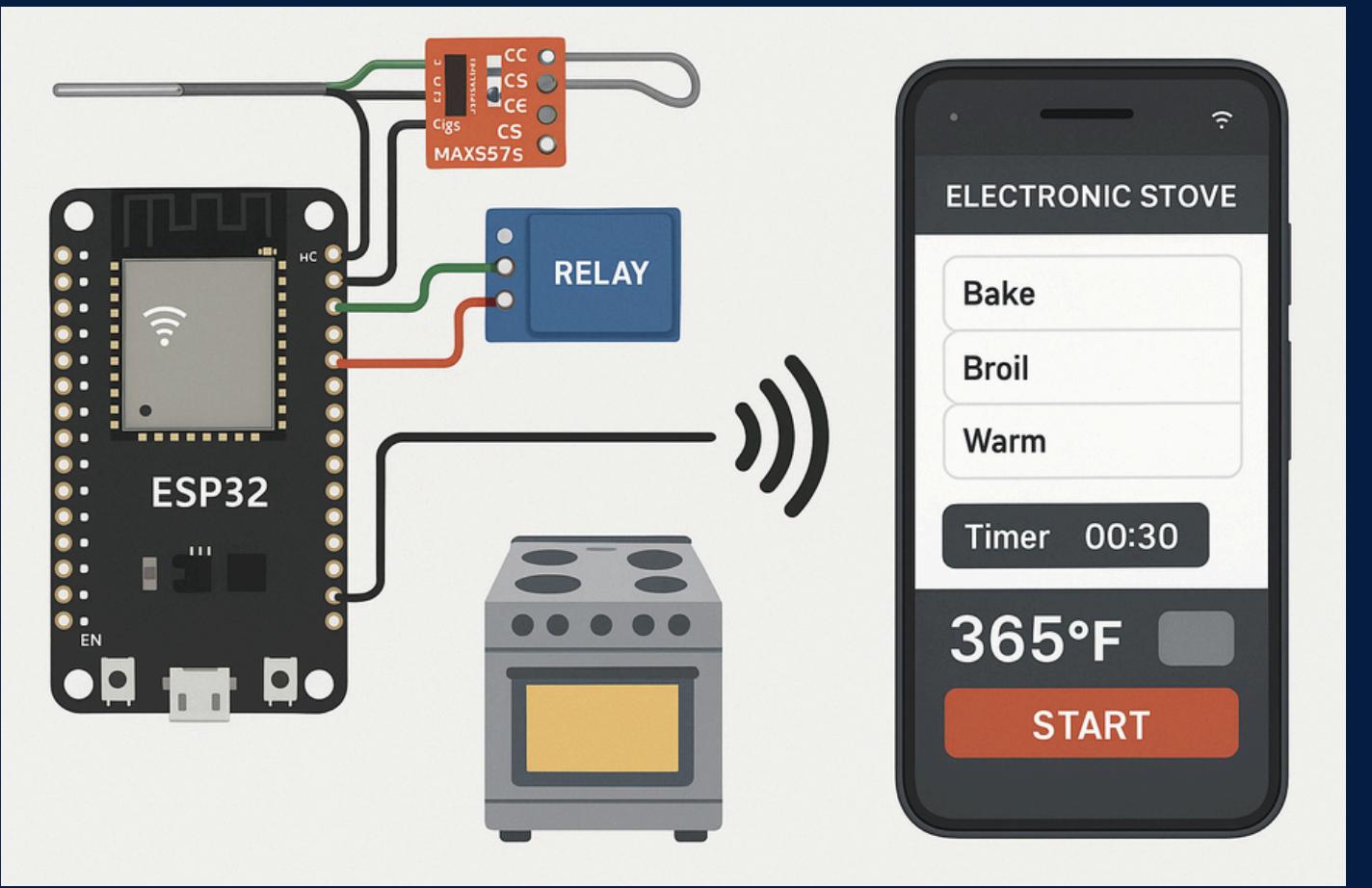
A Comprehensive Approach to Project Development Techniques and Strategies

The project employs a **systematic approach** combining various techniques to ensure the effective development of the portable electric stove and oven.



RESEARCH PHASES OVERVIEW

- 01.** Problem Identification and User Needs Analysis.
- 02.** Design and Prototyping: 3D modeling, material selection, and simulation.
- 03.** Implementation: Fabrication using locally available materials and assembly of components.
- 04.** Testing: Heating efficiency, power consumption, and control system validation.
- 05.** Refinement and Finalization: Improvements based on test results and user feedback.



Innovative Smart Features

The stove integrates **advanced technologies** for user convenience, energy efficiency, and enhanced cooking experiences.

Data Collection Methods

01 User Surveys and Interviews

Collecting **direct feedback** from potential users.

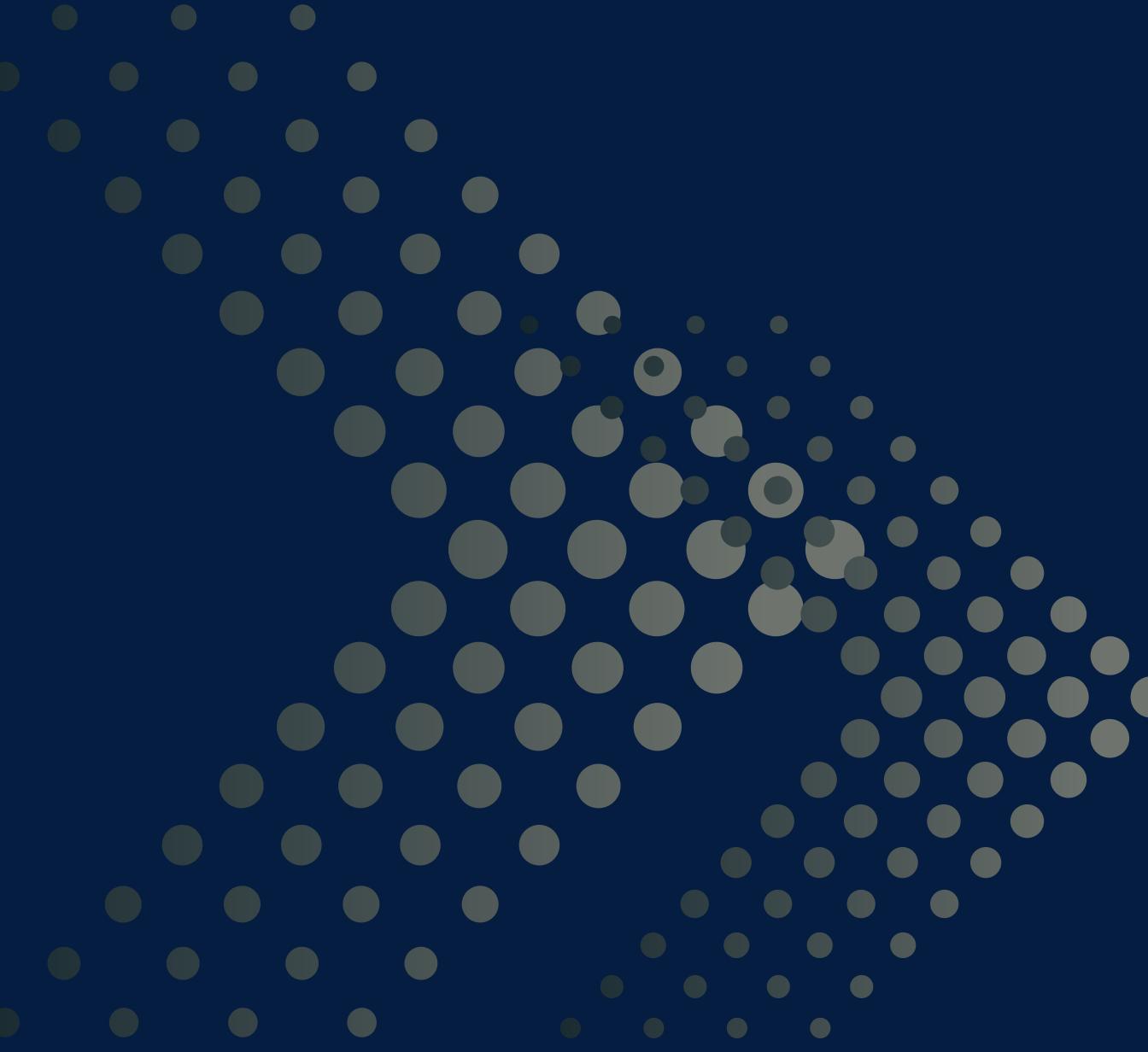
02 Performance Testing

Evaluating the **efficiency and effectiveness** of the stove.

03 Data Analytics

Analyzing usage data for **improved design insights**.

Fabrication Summary



- Cutting and shaping the metal
- Assembling the heating components safely
- Integrating the oven with stove
- Testing structural integrity and durability
- Applying heat-resistant coatings uniformly
- Installing electrical wiring and connections
- Quality assurance and safety checks
- Final assembly and packaging for delivery

Material Selection Criteria

Key factors include durability, thermal efficiency, and cost-effectiveness to ensure optimal performance of the stove.

Selected Components

Overview of critical components used in the design

1

Heating elements ensure efficient and even cooking temperatures.

2

Control systems provide user-friendly operation and temperature regulation.

3

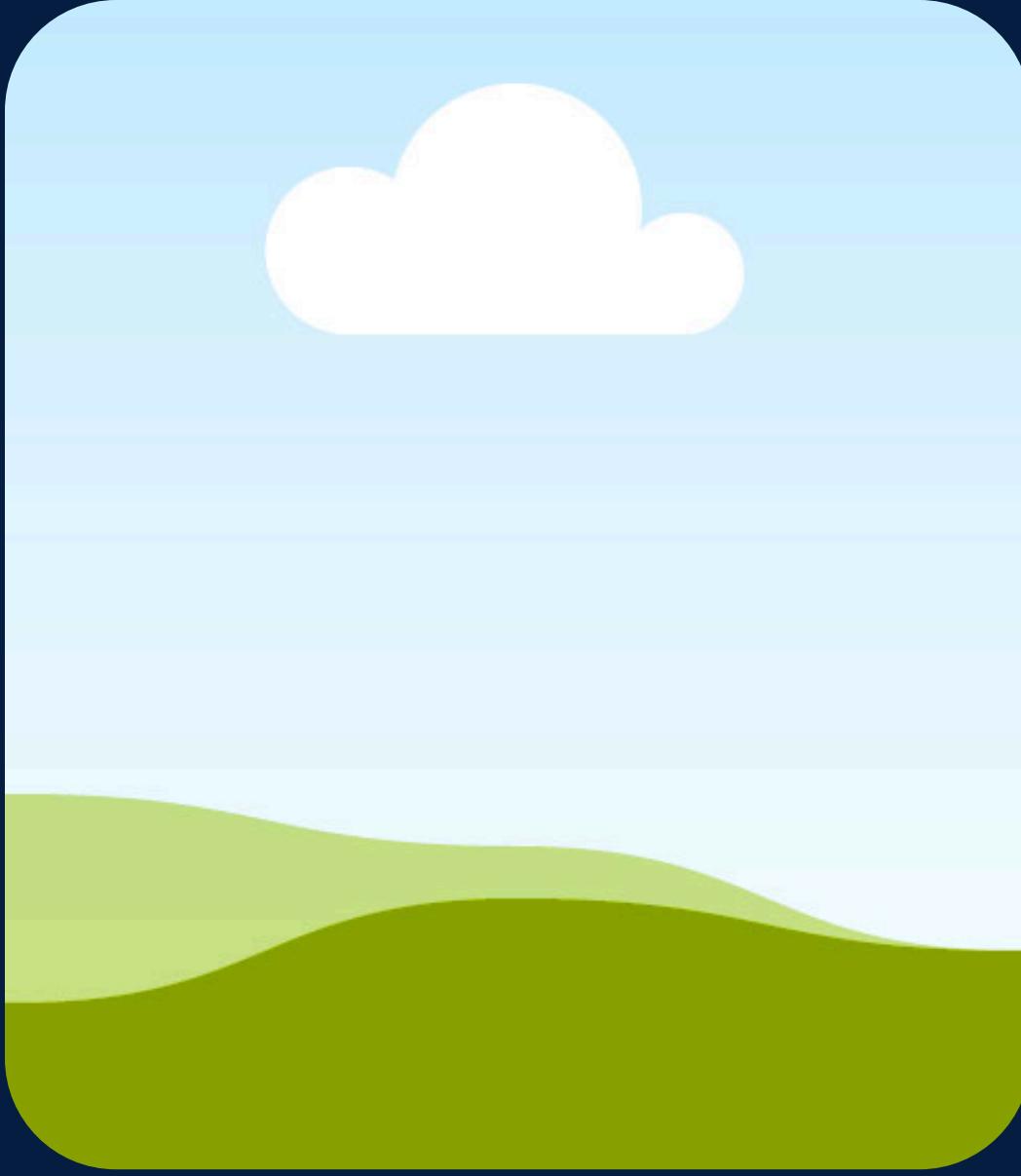
Safety mechanisms protect users from accidental hazards and overheating.

Project Outcomes

Evaluating the effectiveness and impact of the portable electric stove design

The project successfully achieved its **core objectives**, demonstrating the feasibility of a portable electric stove integrated with an oven for modern culinary needs.





Testing Results Overview

The stove's performance data shows significant improvements in **efficiency and safety** compared to traditional models.

Environmental Sustainability Impact

The design prioritizes **eco-friendliness** by utilizing efficient materials and reducing energy consumption during usage.

User Target Groups

01 Identifying key user demographics and needs

Understanding users' preferences is essential.

02 Potential market segments for the product

Targeting urban dwellers with limited space.

03 Environmental considerations for user selection

Eco-conscious consumers are increasingly important today.

Questions and Discussion

Research Insights

- Innovative design for modern kitchens
- Energy-efficient cooking solutions available
- User-friendly features for convenience

Future Considerations

- Potential for market expansion opportunities
- Ongoing research for improved technology
- Enhancements based on user feedback

Thank you !

123-456-7890

hello@reallygreatsite.com

reallygreatsite.com

