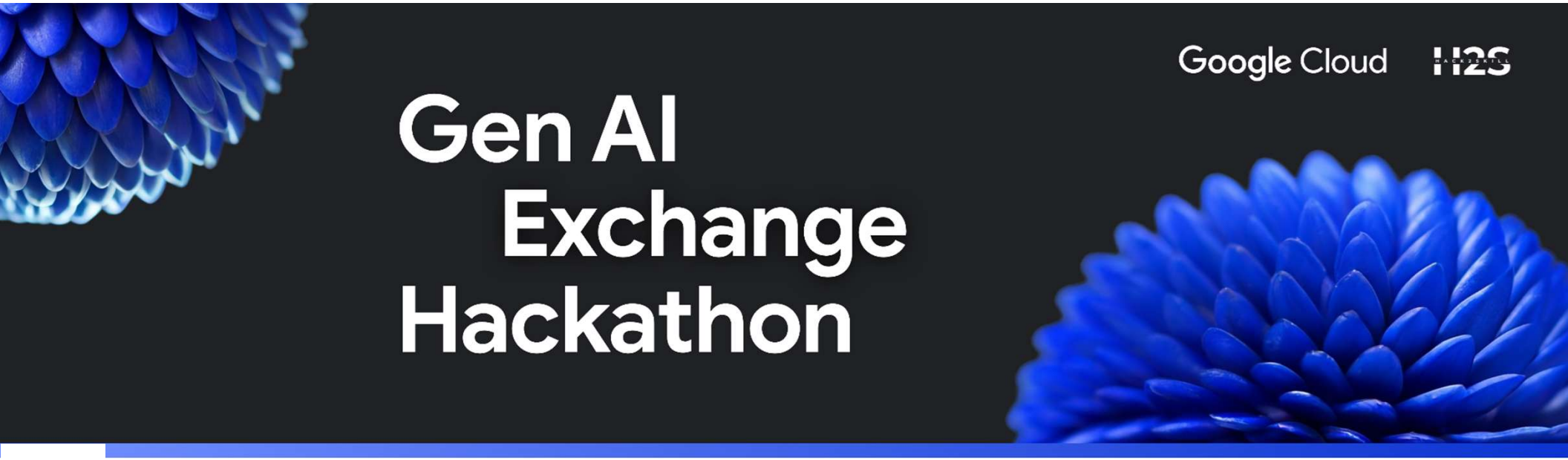

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Team Name :IIITrons

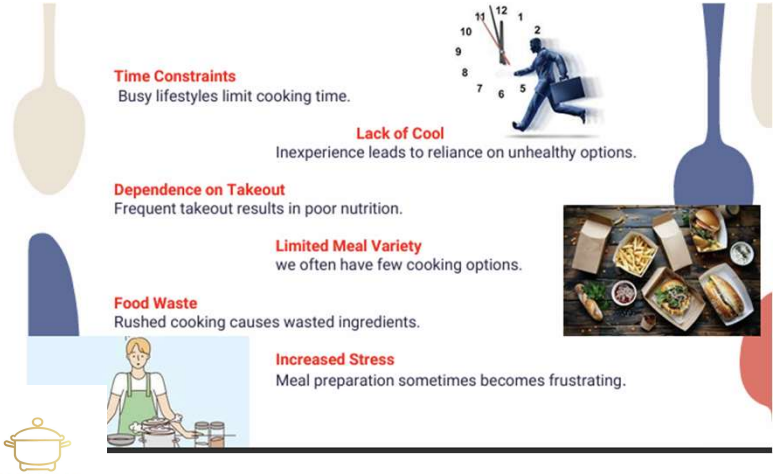
Team Leader Name : Nikhil Bansiwal

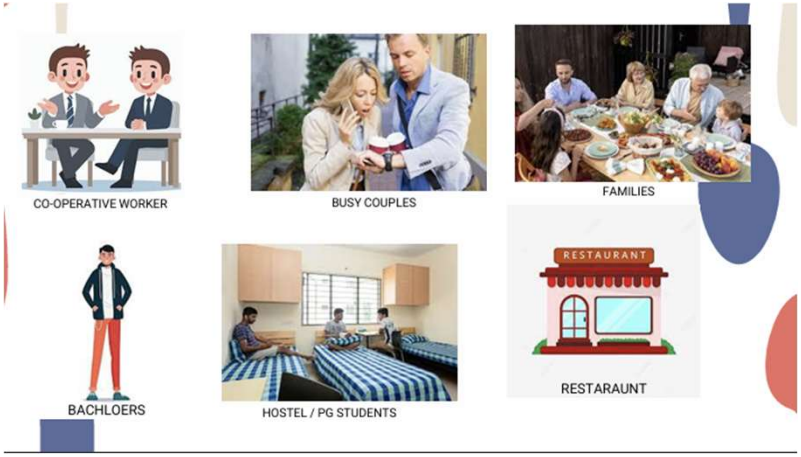
Problem Statement : In today's fast-paced world, 78% of working professionals spend less than 20 minutes preparing meals, leading to unhealthy eating habits. The global kitchen robotics market, valued at $3.66 billion in 2025, lacks true end-to-end autonomous cooking solutions. TasteTron addresses this $9.82 billion opportunity by 2033, revolutionizing how people interact with food preparation

TasteTron: The World's First Fully Autonomous AI Chef

TasteTron is a revolutionary robotic kitchen system that transforms raw ingredients into personalized, restaurant-quality meals with zero human intervention. Unlike existing partial solutions, TasteTron integrates robotics, IoT sensors, GenAI, and cloud connectivity into one seamless ecosystem.

Key Innovation: Complete meal automation from ingredient measurement to serving, powered by Google's Gemini AI for recipe optimization and personalization





How Different from Existing Solutions:-
Existing: Smart gadgets assist with single tasks (chopping, stirring)
TasteTron: Complete end-to-end autonomous cooking system

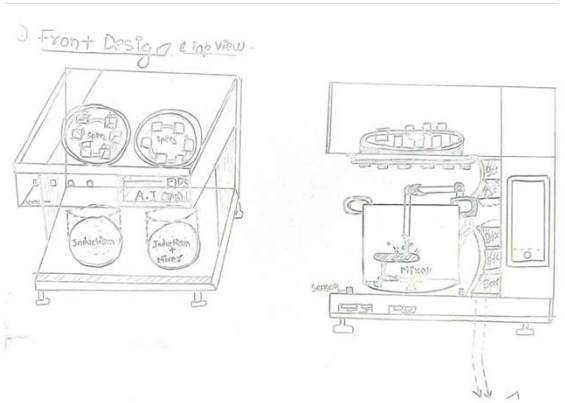
How It Solves the Problem:
Time Scarcity: Reduces 60-minute cooking to 5-minute setup
Skill Gap: AI learns and replicates professional cooking techniques
Health Concerns: Personalized nutrition-first meal planning
Fragmentation: Unified ecosystem replacing multiple devices

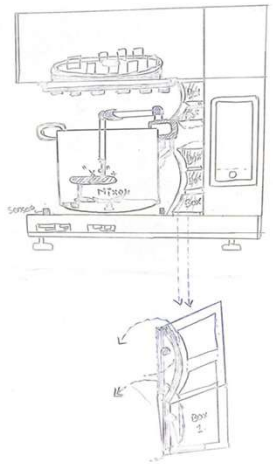
USP of Proposed Solution:
True Autonomy - Only solution with complete meal automation
AI Personalization - Learns taste preferences and dietary needs
Ecosystem Integration - Tablet, mobile, web, and cloud connectivity
Scalability - Modular design for home and commercial applications

QUALITIES	NYMBLE	UPLIANCE	TASTETRON
Multiple cooking at same time	no	no	yes
Fast cooking technology (speed and tech..)	no	no	yes
Fully automated process	partial	no	yes
AI technology	yes	yes	yes
Budget friendly(price and value)	no	yes	yes
Handle a diverse array of dish preparation tasks	partial	partial	yes
Customization Options	no	no	yes

Features List

Robotic Precision Arm - Multi-axis cooking manipulation
GenAI Recipe Engine - Powered by Google Gemini APIs
IoT Connectivity - Tablet interface, mobile app, web dashboard
Smart Sensors - Temperature, texture, and taste optimization
Real-time Learning - Adapts to user preferences continuously
Meal Planning - Weekly menu suggestions with nutritional tracking
Ingredient Management - Auto-ordering and inventory tracking
Food Safety - Hygiene monitoring and contamination prevention
Community Platform - Recipe sharing and cooking techniques
Analytics Dashboard - Cooking insights and performance metrics





User Input ⟶ AI Recipe Selection ⟶ Ingredient Verification ⟶ Robotic Preparation ⟶ Smart Cooking ⟶ Quality Check ⟶ Serving ⟶ Cleanup ⟶ Learning Update

User selects meal via tablet/app (dietary preferences considered)

AI optimizes recipe using Gemini APIs and user history

Ingredient verification through computer vision and sensors

Robotic preparation handles chopping, mixing, seasoning

Precision cooking with temperature and timing control

Quality assurance through taste and texture sensors

Automated serving and kitchen cleanup

Feedback loop updates AI models for continuous improvement

CO-OPERATIVE WORKER

BUSY COUPLES

FAMILIES

BACHLOERS

HOSTEL / PG STUDENTS

RESTARAUNT

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Three-Layer Architecture:

- User Interface Layer

Tablet Interface (Primary Control)

Mobile App (Remote Monitoring)

Web Dashboard (Analytics & Management)

- AI & Processing Layer

Google Gemini API Integration

Computer Vision (Ingredient Recognition)

Machine Learning (Taste Optimization)

IoT Device Management

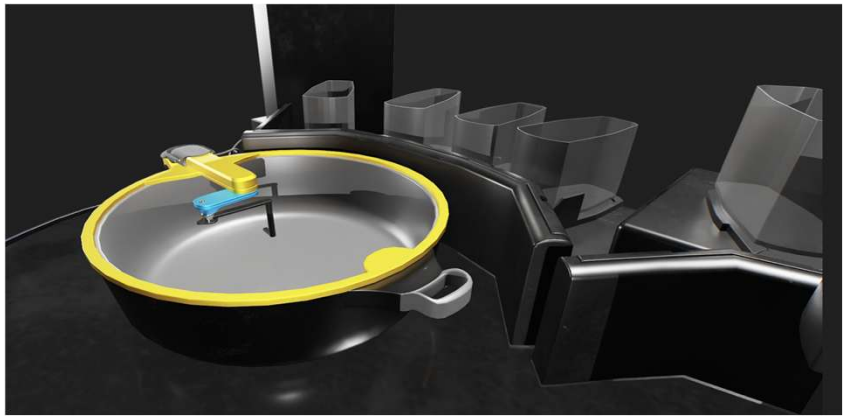
- Hardware Layer

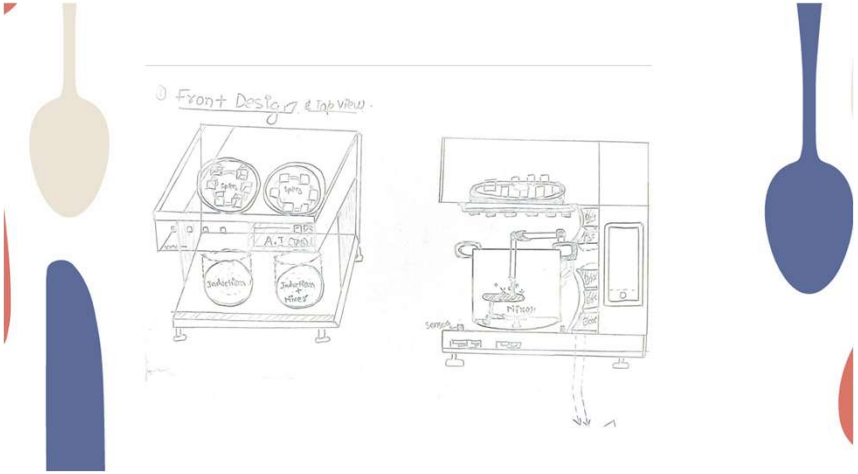
Robotic Cooking Arms

Smart Sensors (Temperature, Pressure, Chemical)

Ingredient Storage & Dispensing

Cleaning & Maintenance Systems





AI & Cloud:

Google Gemini APIs - Recipe optimization and personalization

Vertex AI - Machine learning model training

Google Cloud IoT - Device connectivity and data processing

Firebase - Real-time database and user authentication

Hardware & Robotics:

Arduino/Raspberry Pi - Microcontroller systems

Computer Vision - OpenCV for ingredient recognition

Servo Motors - Precision robotic movement

IoT Sensors - Temperature, pressure, chemical composition

Software & Mobile:

Flutter - Cross-platform mobile app development

React.js - Web dashboard interface

Python - AI model development and integration

TensorFlow - Custom ML model training

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Google GenAI Integration:

Gemini APIs for intelligent recipe optimization
Vertex AI for continuous learning and personalization
Cloud IoT for seamless device connectivity
BigQuery for cooking analytics and insights

Alignment with Google's Vision:

Hardware Innovation - Next-generation smart kitchen appliances
AI-First Approach - Practical GenAI application in daily life
Ecosystem Integration - Seamless Google services connectivity
Global Scale - Addressing worldwide food preparation challenges

Why Google Should Partner:

First-Mover Advantage in autonomous kitchen robotics
Massive Market - $9.82B opportunity by 2033
GenAI Showcase - Real-world AI application demonstration
Scalability - Platform for future smart home integration

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Development Phase (₹15-20 Lakhs)

R&D and Prototyping: ₹8 Lakhs

Software Development: ₹5 Lakhs

Hardware Components: ₹4 Lakhs

Testing & Validation: ₹3 Lakhs

Manufacturing (Per Unit)

Target Retail Price: ₹2,50,000 - ₹3,50,000

Manufacturing Cost: ₹1,50,000 - ₹2,00,000

Competitive with premium kitchen renovations

Market Opportunity:

With kitchen robotics market growing at 16.2% CAGR to $6.67B by 2029, TasteTron targets capturing 0.1% market share initially.

Closing Statement:

"TasteTron isn't just a product—it's the future of food technology. With Google's AI ecosystem powering our vision, we're ready to transform kitchens globally and make healthy, personalized cooking accessible to everyone. This is our moonshot moment!"

THANKYOU


Google Cloud
H2S
Gen AI
Exchange
Hackathon
Thank you