

# HackVisionVault



**Track Title:** BRIDGING AI AND IOT FOR A NEW ERA IN ROBOTICS

**Theme:** AI Innovation

**PS Category:** Software

**Team Name:** Vizcureot

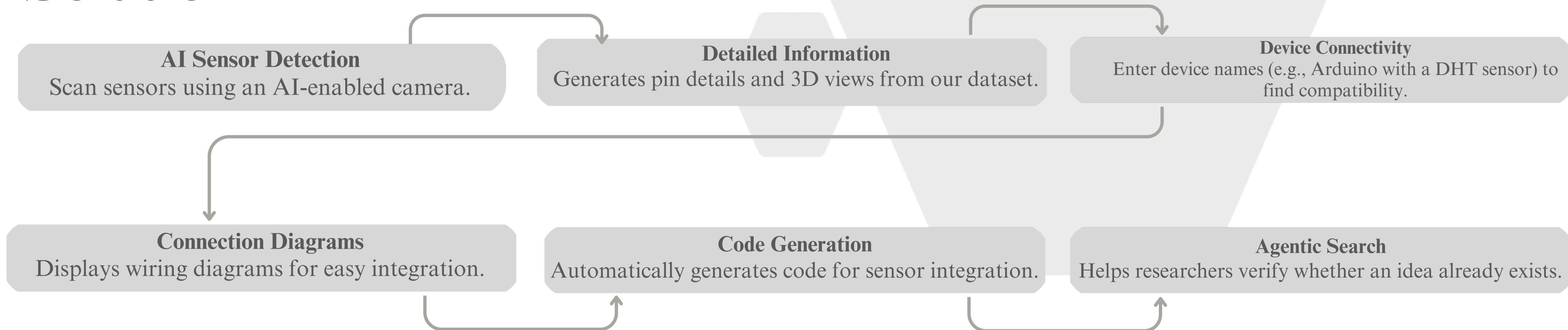
**Team Members:** • Kashish • Rohit

# IDEA TITLE

## Problem

We live in the era of AI, robotics, IoT, and sensors, but software engineers and web developers often struggle to enter this field due to complex wiring, heavy coding, and other challenges. Electronics students also face difficulties with the vast number of sensors available. Additionally, there is a lack of resources on YouTube and online platforms to simplify learning. This is where Vizcureot comes in, bridging the gap and making IoT development more accessible.

## Solution



# TECHNICAL APPROACH

## Programming Language

- Python
- JavaScript
- Html
- CSS

## Framework

- Django
- Crewai
- Langchain(RAG)
- YOLO(For Sensors detection)

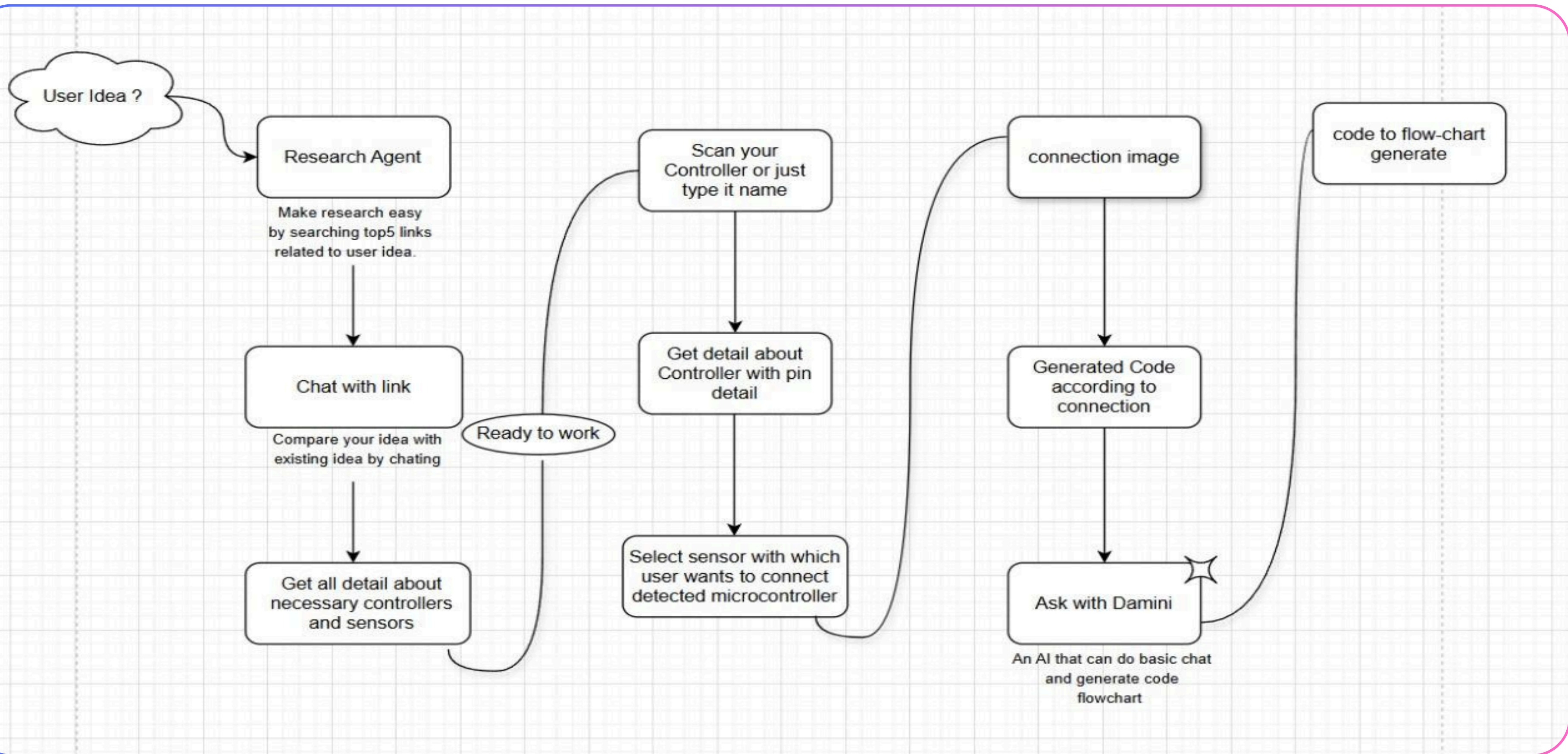
## Database

- Firebase(RTDB)
- MongoDB(Vector Store)

## Workflow



# Workflow



Demo:- <https://youtu.be/N0AOiC7RIG8?si=O5kWu8LpeniEbtProject workflowZh>



vizcureot

OverviewTeamServiceProductContact

Vizcureot

AI Agent for Seamless IoT

Just Integrate and Automate  
Let's make the Hardware easy

GET STARTED


Vizcureot Workflow

IdeationScan ControllersBuild ConnectionsGet CodeAsk with Damini

World's First AI that makes Robotics and IoT easy!!

Enter your idea here without any worry...

SEND



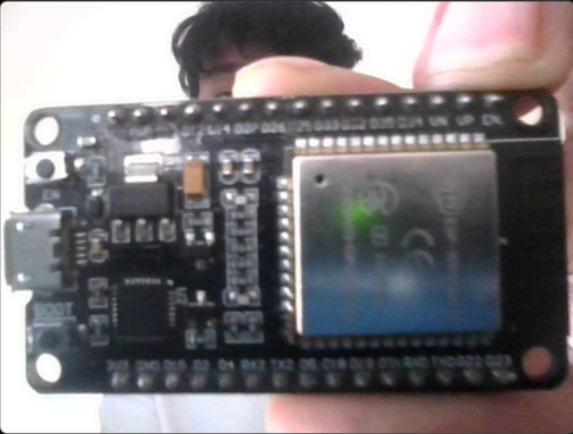
VIZCUREOT

SCAN

SENSORS


WORKSPACE

TRY DAMINI



Research Agents

SEND



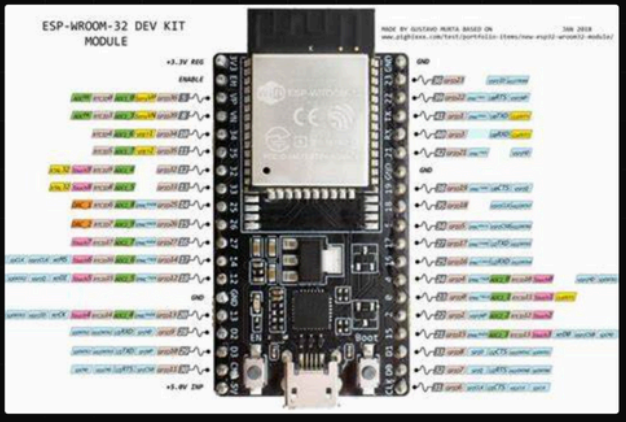
VIZCUREOT

SCAN

SENSORS

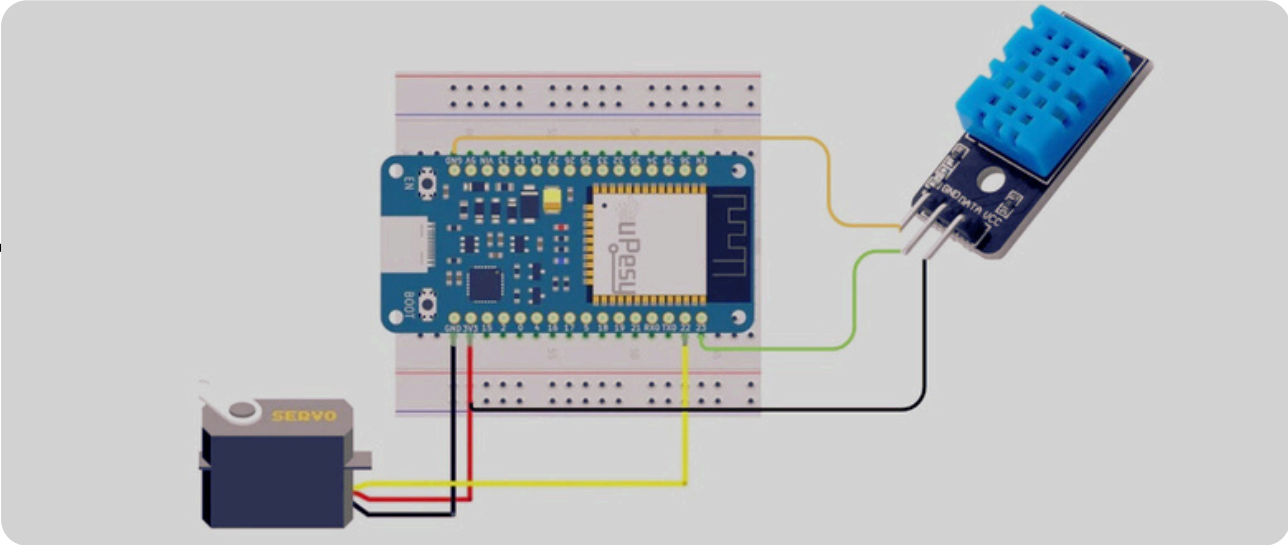
WORKSPACE

TRY DAMINI



Research Agents

SEND



YOU WANT TO CONNECT WITH ANY SENSOR



Servo,DHT

SHOW SENSORS

Research Agents

SEND

```
// Define the servo pin
const int servoPin = 14; // Replace with your chosen pin (PWM capable)

// Create a servo object
Servo myservo;

void setup() {
  Serial.begin(115200);

  // Attach the servo to the pin
  myservo.attach(servoPin);

  Serial.println("Servo initialized");
}

void loop() {
  // Sweep the servo from 0 to 180 degrees
```

amini

HomeFeatures

DAMINI

Fastest ai built for fast development

<https://patents.google.com/patent/CN104852989A/en>

[https://www.researchgate.net/publication/354898393\\_Identification\\_of\\_Promising\\_Smart\\_Farm\\_Technologies\\_and\\_Development\\_of\\_Technology\\_Roadmap\\_Using\\_Patent\\_Map\\_Analysis](https://www.researchgate.net/publication/354898393_Identification_of_Promising_Smart_Farm_Technologies_and_Development_of_Technology_Roadmap_Using_Patent_Map_Analysis)

<https://www.sciencedirect.com/science/article/abs/pii/S0952197623000830>

<https://www.mdpi.com/2071-1050/13/19/10709>

Detected Class Name: Based on the provided context, I can help you understand the patent CN104852989A, titled "A smart agriculture monitoring system based on Web of Things".

This patent describes a system for monitoring agricultural processes and optimizing crop growth using the Internet of Things (IoT) technology. The system includes several components:

1. **Sensors**: The system uses various sensors to collect data on environmental factors such as temperature, humidity, light, and soil moisture. These sensors are connected to a network and transmit the data to

techstack in CN104

# FEASIBILITY AND VIABILITY

## Feasibility

Currently, no dedicated model focuses on IoT, despite its high demand. Sensors, wiring, and C-embedded programming are complex, making IoT adoption difficult.

VizcureOT simplifies this for students, researchers, and R&D teams, just like ChatGPT did for software engineers.

### Why It Works?

- Bridges the gap between software and IoT.
- Reduces complexity with AI-powered automation.
- Faster prototyping with auto-generated code & diagrams.
- Scalable & adaptable across industries.

## Major Challenge

The biggest challenge we observe right now is the lack of IoT data on the internet. However, this can be our unique selling point—by building a comprehensive IoT dataset using **Data Augmentation** Technique, we can become the go-to platform for IoT solutions.

# IMPACTS AND BENEFITS



## Potential Impact on Target Audience

**VizcureOT will revolutionize IoT adoption across:**

- College Students – Simplifies learning IoT without deep hardware knowledge.
- STEM & Atal Labs – Enhances hands-on experimentation with AI-driven assistance.
- R&D Departments – Accelerates innovation with faster prototyping and automated solutions.
- IoT-Based Companies – Reduces development time and hardware failures, improving efficiency.

## Benefits of the Solution

- Social Impact – Enable engineers to enter IoT by removing cost and complexity barriers.
- Economic Impact – Cuts cost by preventing sensor/controller damage from wiring mistakes.
- Environmental Impact – Reduces e-waste by minimizing hardware failures.
- R&D Acceleration – Agentic Search speeds up idea validation and innovation.



# Plans / Market Potential

## Pro Plan:

- Multi-sensor detection (up to 5 sensors)
- Advanced pin details with extended 3D sensor views
- Comprehensive AI-generated connection diagrams
- Expanded device compatibility (Arduino, Raspberry Pi, ESP32, etc.)
- Real-time connectivity suggestions and solutions
- Full access to online web compiler for direct code testing

## Enterprise Plan:

- Unlimited sensor detection and connection
- Custom 3D visualizations and AI-based pin mapping
- Collaboration features for team-based IoT projects
- Cloud-based storage for past projects and codes
- AI-driven troubleshooting for real-time connectivity issues
- Advanced integrations for IoT platforms and industrial sensors
- Premium support and real-time consulting for large projects

The global Internet of Things (IoT) market size was valued at USD 595.73 billion in 2023. The market is projected to grow from USD 714.48 billion in 2024 to USD 4,062.34 billion by 2032, exhibiting a CAGR of 24.3% during the forecast period.

Source: <https://www.fortunebusinessinsights.com/industry-reports/internet-of-things-iot-market-100307>