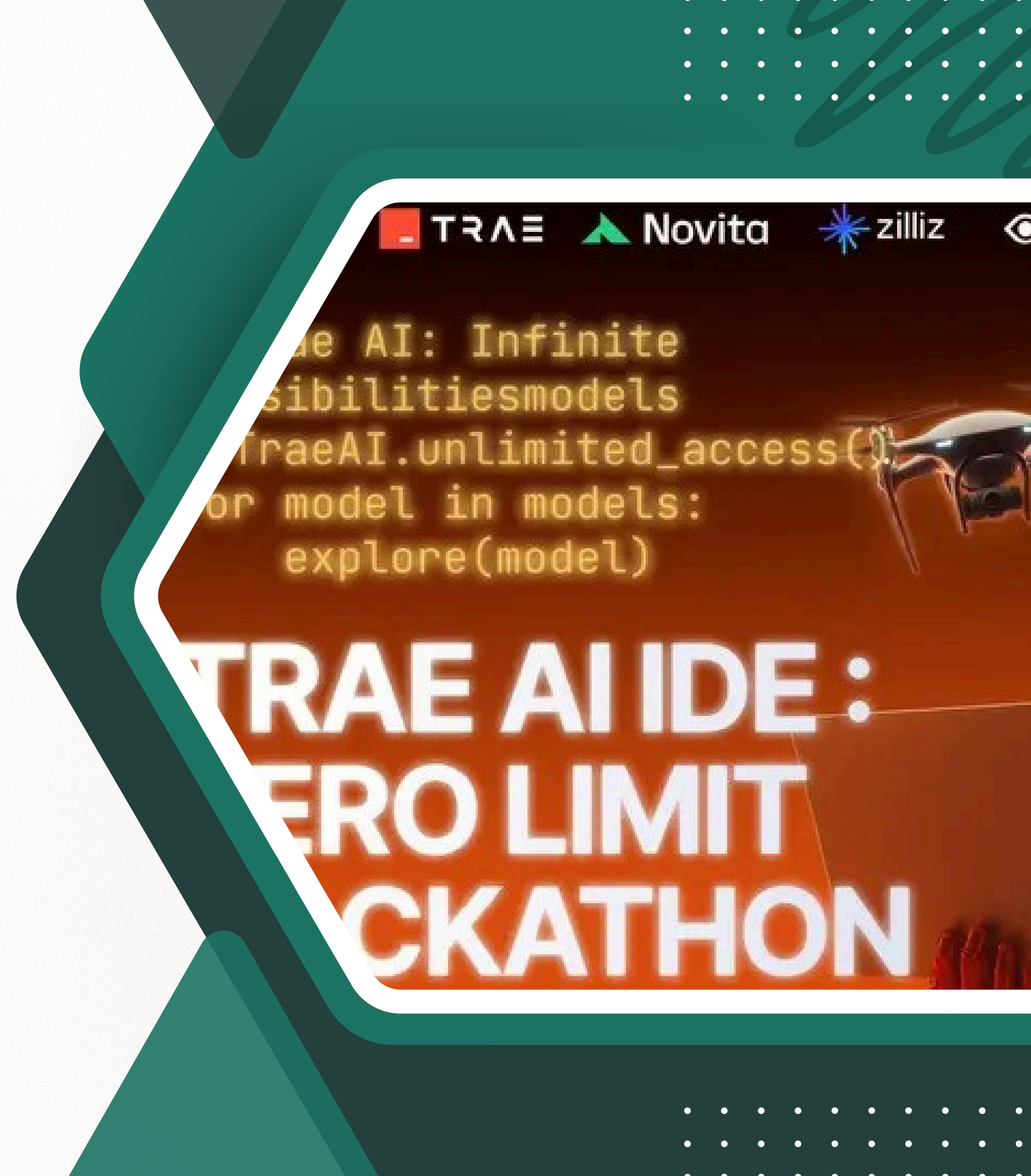


Træ AI IDE: Zero Limits Hackathon

AI POWERED CODE REVIEW ASSISTANT

TEAM MEMBERS

*SURAJ
AKSHAT GUPTA
YASH SINGH
ARSHLEEN KAUR*





AGENDA

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▶	Importance	02
▶	Tools & Technologies	03
▶	Work-Flow	04

▶	Implementation	05
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Purpose of the AI Powered Code Review Assistant

INTRODUCTION

01

⚙️ To Automate
Repetitive Tasks

03

🚀 To Accelerate
Development Speed

02

📏 To Ensure
Consistent Code
Quality

04

🔒 To Catch Bugs and
Security Issues Early



WHY IS IT IMPORTANT?

- 🕒 Manual Reviews Are Slow & Inconsistent
- 🔒 Security Can't Wait
- 💻 Developers Need Fast, Smart Feedback
- 🌐 Scalability for Large Teams





TOOLS & TECHNOLOGIES USED

▶ ⚙️ Core Platforms & Frameworks

- Trae AI IDE – For code analysis, agent orchestration, and GitHub automation
- Node.js + Express – Backend API for handling PRs and comment posting
- React + Vite – Frontend interface for viewing reviews and PR details

▶ 🧠 AI & Code Intelligence

- Novita.ai LLM (Claude 3.7) – Generates intelligent review comments
- Trae Agent System – Detects bugs, code smells, and optimization opportunities

▶ 📖 Storage & Search

- Zilliz (Milvus) – Stores vectorized code for semantic code pattern search
- SQLite – Lightweight DB to store review metadata



▶ APIs & Integration

- **GitHub + Octokit** – Pull request diff access and comment automation
- **Axios** – Smooth backend–frontend communication

▶ Deployment

- **Vercel** – One-click deployment of both backend and frontend with live demo URL
- **MIT License + Public GitHub Repo** – Fully open-source and hackathon-ready

▶ **NOTE:-**Demo data is used because of novita ai model issues.



WORK-FLOW

SmartPR – AI Code Review Workflow

Code Authoring

Code Submission Triggered

AI Model Analysis

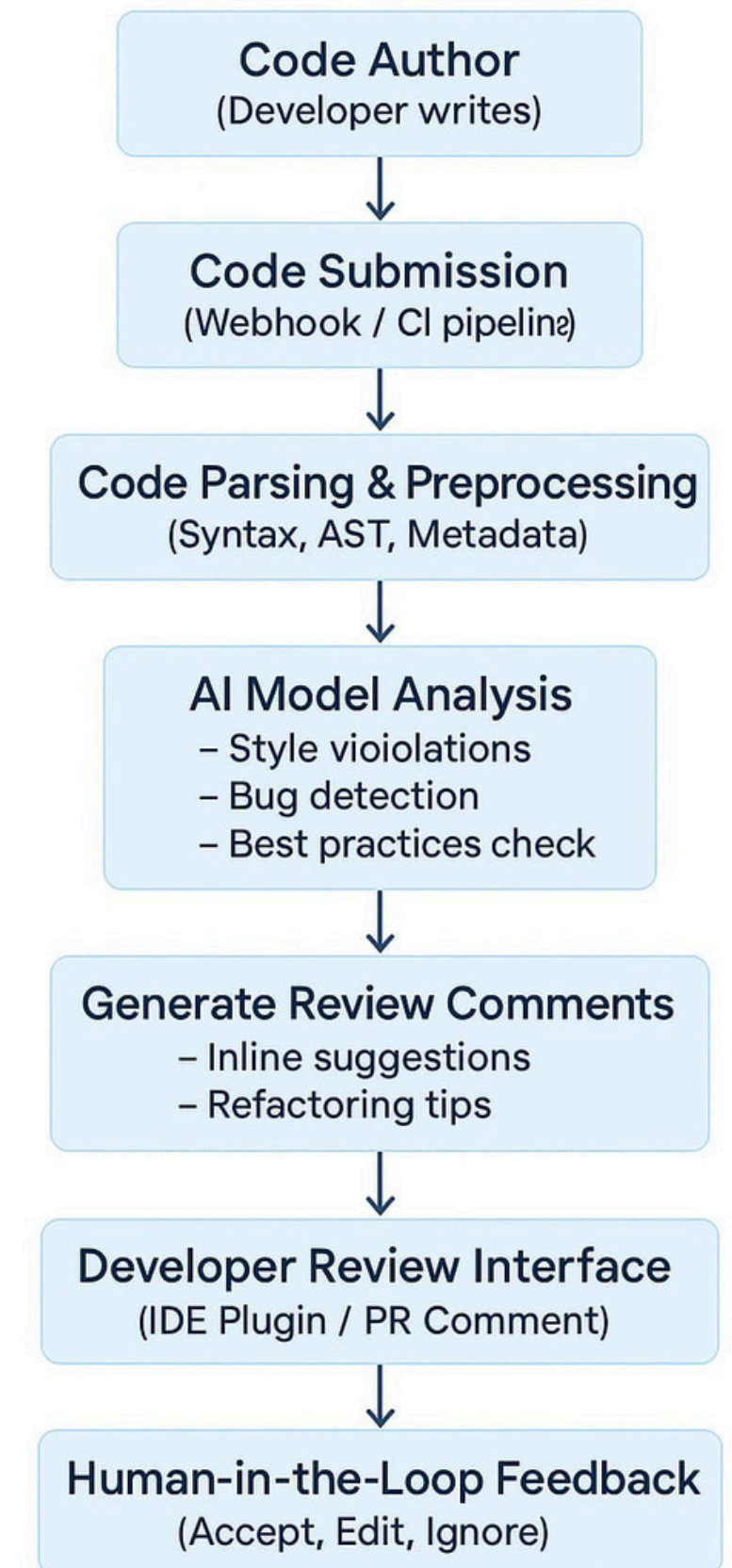
Semantic Code Search

Generate Review Comments

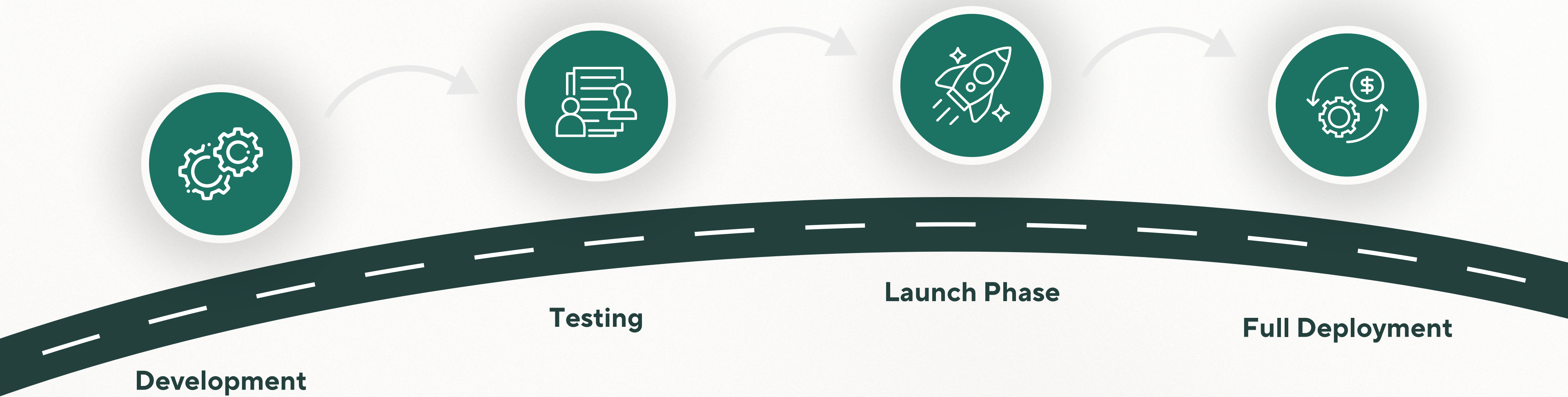
Developer Interface

Human-in-the-Loop Feedback

AI-Powered Code Review Assistant Workflow



IMPLEMENTATION



IMPLEMENTATION PLAN

SmartPR Logo

Back to Home

MAIN

Overview

Reviews

Submit Review

SETTINGS

Settings

RESOURCES

GitHub

<> Code Review

Paste your code below for instant analysis

```
img = qr.make_image(fill_color = black , back_color = white )

# Saving the image
img.save("qrcode.png")

print("QR Code generated and saved as 'qrcode.png'")
```

Analyze Code

Analysis Results

Score: 90%

Quick analysis complete. Found 0 errors, 1 warnings, and 1 suggestions. Overall code quality is good with some minor improvements possible.

<> Complexity

73% Fair

⌘ Maintainability

80% Good

✓ Test Coverage

87% Good

📄 Duplicate Code

5% Needs Improvement

CONCLUSION

SmartPR is an AI-powered code review assistant built for the Trae AI IDE: Zero Limit Hackathon. It automates the review of GitHub pull requests by detecting bugs, style issues, and best practice violations. Using Novita.ai's Claude 3.7 LLM, it generates clear, natural-language feedback, while Milvus (by Zilliz) enables semantic code search for better context. Built with Node.js, React, and TailwindCSS, and deployed on Vercel, SmartPR integrates directly with GitHub via Octokit to streamline and scale the code review process.

Call to Action

