

JAKOHO

AI-Powered Student Project Collaboration Platform

Unifying collaboration, code, communication, and AI in one workspace

Hackathon Submission 2025

The Problem

- ✖️ **Fragmented Toolset:** Students juggle WhatsApp, GitHub, Drive, and ChatGPT separately.
- ⚠️ **Context Switching:** No unified platform means constant loss of focus.
- </> **Beginner Struggles:** Students get stuck on debugging and documentation without guidance.
- 🤖 **AI Disconnect:** Generic AI tools don't understand the specific project context.
- 💬 **Inefficient Coordination:** Team sync becomes a chaotic manual process.



Our Solution: JAKOHO



Unified Workspace

One seamless platform for files, tasks, code, and team communication, eliminating app switching.



Context-Aware AI

Built-in AI that reads and understands your entire project structure, acting as an intelligent teammate.



Intelligent Teammate

Goes beyond a tool—proactively helps with debugging, documentation, and coordination.

AI at the Core

Deep Understanding

The AI engine reads and indexes every project file, understanding dependencies, logic, and architecture.

Predictive Insights

Predicts potential project delays and identifies technical bottlenecks before they become blockers.

Proactive Assistance

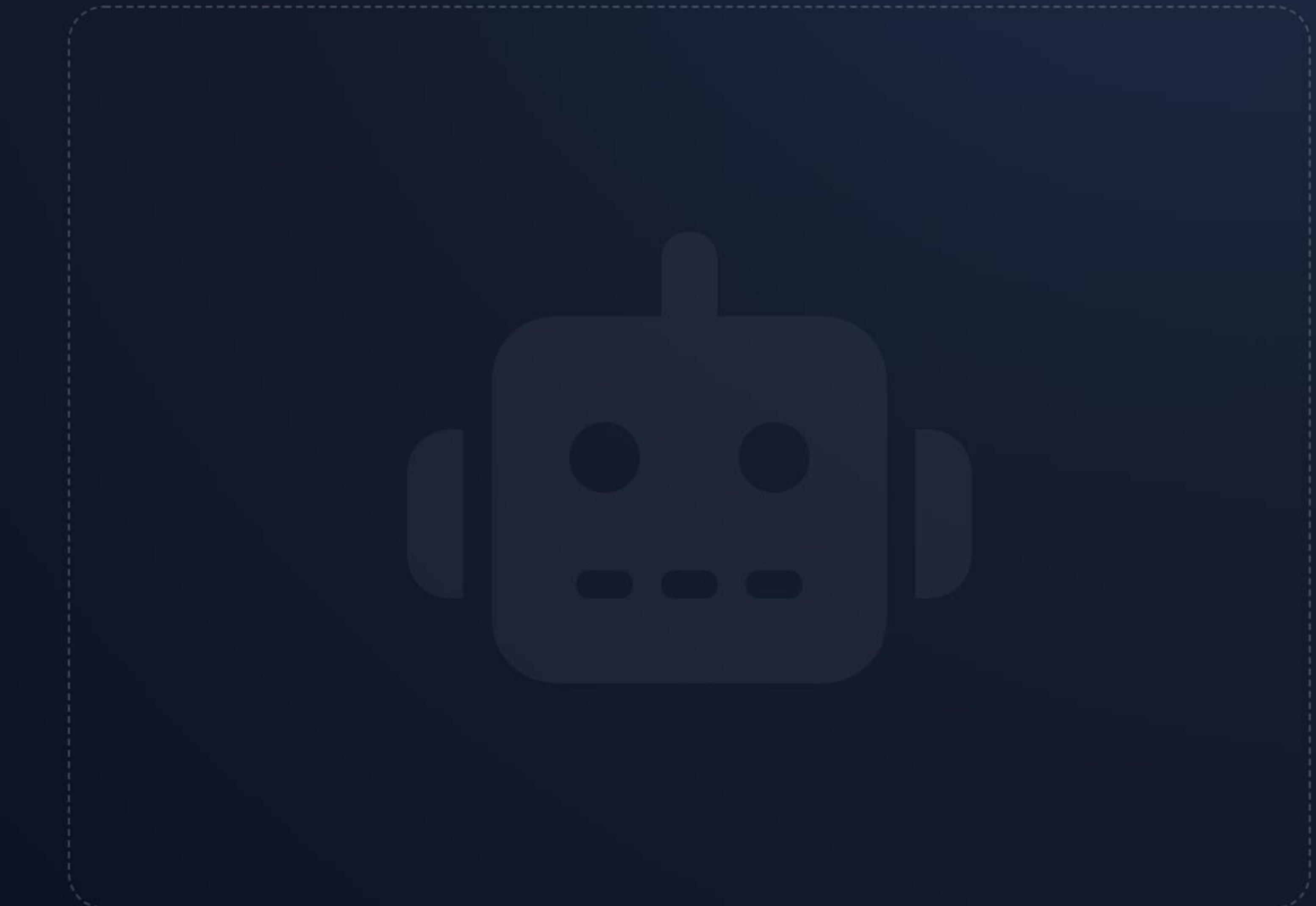
It doesn't just wait for prompts; it helps with coding, debugging, and drafting documentation automatically.

Automation

Handles repetitive tasks like boilerplate code generation and routine status updates.

AI Project Assistant

- 💬 **RAG-Based Chatbot:** A project-aware assistant that knows your code better than you do.
- 🛠 **Intelligent Debugging:** Explains bugs in plain English and suggests precise code fixes.
- 📦 **Code Generation:** Generates entire modules that fit perfectly into your existing architecture.
- 📄 **Summarization:** Instantly summarizes long discussions and technical documents.
- ❓ **Contextual Q&A:** Answers "Where is the authentication logic?" pointing to the exact file.



AI Code Intelligence

Recent files

- Basket.cs
- src\ApplicationCore\Entities\BasketAggregate\Basket.cs
- MyOrders.cshtml
- src\Web\Views\Order\MyOrders.cshtml
- CatalogItem.cs
- src\ApplicationCore\Entities\CatalogItem.cs
- .editorconfig
- .editorconfig
- eShopOnWeb.sln
- eShopOnWeb.sln
- ConfigureCookieSettings.cs
- Basket.cs

```
1@  using System.Collections.Generic;
2  using System.Linq;
3  using Ardalis.GuardClauses;
4  using Microsoft.eShopWeb.ApplicationCore.Interfaces;
5  namespace Microsoft.eShopWeb.ApplicationCore.Entities.BasketAggregate;
6
7  public class Basket : BaseEntity, IAggregateRoot
8  {
9      public string BuyerId { get; private set; }
10     private readonly List<BasketItem> _items = new List<BasketItem>();
11     public IReadOnlyCollection<BasketItem> Items => _items.AsReadOnly();
12 }
```

Semantic Search

Find code by intent, not just keyword matching.

(a) Original Buggy Code

```
ETHOD_1() {
    _1 = VAR_2.METHOD_2();
    count = VAR_1.METHOD_3();
    = 0; i < count; i++) {
    VAR_3 = METHOD_4(i);

    ang.CharSequence title = VAR_1.METHOD_5(i);
    tle == null) title = STRING_1;
    setText(title);

    ;
}
```

(b) Original Fixed Code

```
private void METHOD_1() {
    TYPE_1 VAR_1 = VAR_2.METHOD_2();
    final int count = VAR_1.METHOD_3();
    for (int i = 0; i < count; i++) {
        TYPE_2 VAR_3 = METHOD_4(i);
        if (VAR_3 != null) {
            java.lang(CharSequence title = VAR_
                if (title == null) title = STRING_1;
                VAR_3.setText(title);
            }
        }
    }
    METHOD_6();
}
```

(c) Augmented Buggy Code

```
ETHOD_1() {
    _1 = VAR_2.METHOD_2();
    count = VAR_1.METHOD_3();
    = 0; i < count; i++) {
    VAR_3 = METHOD_4(i);

    ang.CharSequence title = VAR_1.METHOD_5(i);
    = (title == null) ? STRING_1 : title;
    setText(title);

    ;
}
```

(d) Augmented Fixed Code

```
private void METHOD_1() {
    TYPE_1 VAR_1 = VAR_2.METHOD_2();
    final int count = VAR_1.METHOD_3();
    for (int i = 0; i < count; i++) {
        TYPE_2 VAR_3 = METHOD_4(i);
        if (VAR_3 != null) {
            java.lang(CharSequence title = VAR_
                title = (title == null) ? STRING_1
                VAR_3.setText(title);
            }
        }
    }
    METHOD_6();
}
```

Auto-Bug Fixes

Localizes bugs and proposes instant solutions.

```
commit @f84973f0930e838b238e0cf02080f15d793c07d (HEAD
t-branch)
Author: Glory Kim <glory@Glorys-MacBook-Pro.local>
Date:   Fri Feb 10 15:42:03 2023 -0500

readme: fix outdated information

diff --git a/README.md b/README.md
index e78b75af4..dc0cdbe 100644
--- a/README.md
+++ b/README.md
@@ -2,7 +2,7 @@

React is a JavaScript library for building user inter
-* **Declarative:** React makes it painless to create
UIs. Design simple views for each state in your appli
eact will efficiently update and render just the righ
when your data changes. Declarative views make your c
ictable, simpler to understand, and easier to debug.
+* **Declarative:** to create interactive UIs. Design
for each state in your application, and React will ef
ate and render just the right components when your da
declarative views make your code more predictable, sim
stand, and easier to deb:  
|
```

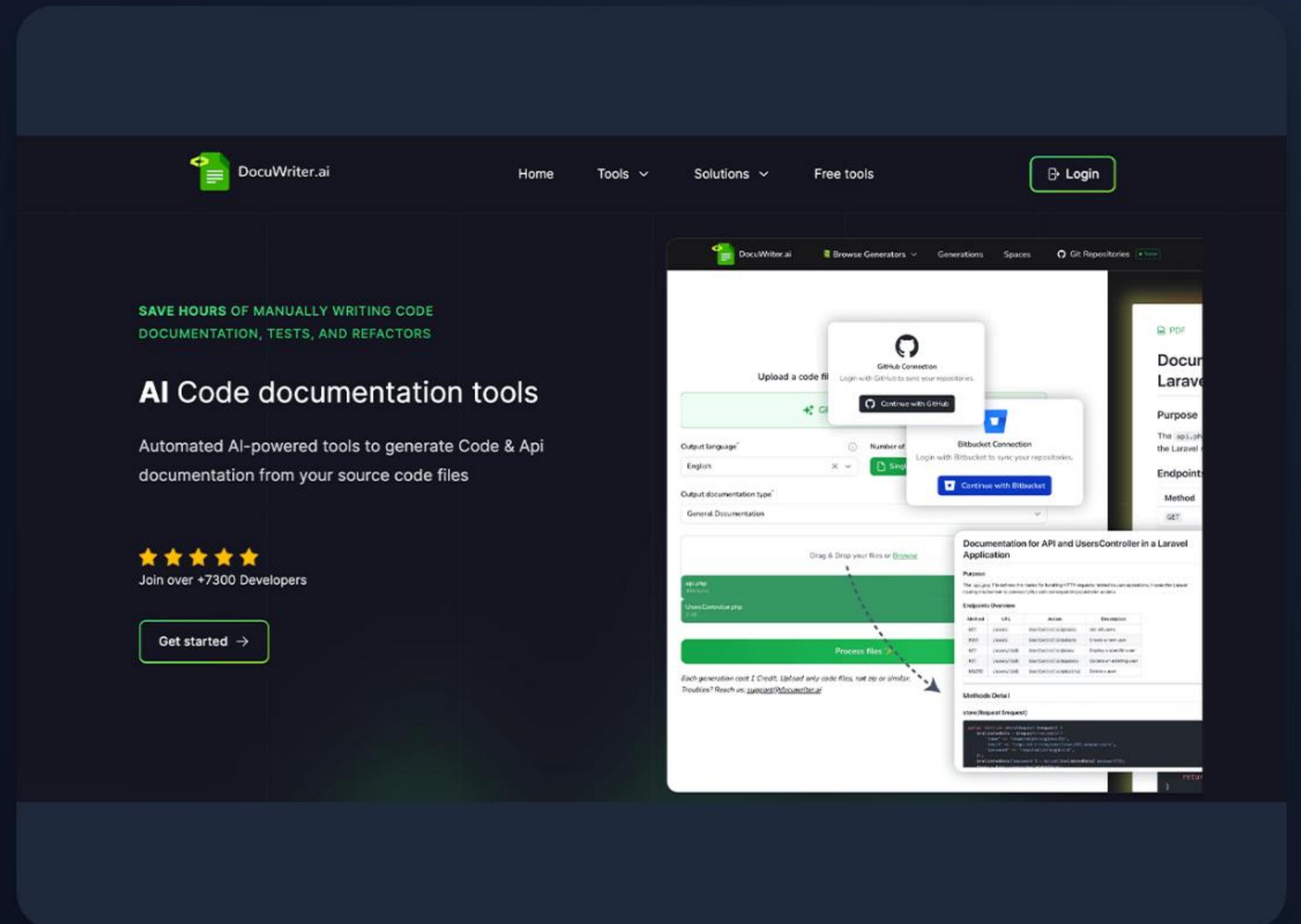
Smart Commits

Auto-generates descriptive commit messages.

AI Documentation Engine

Documentation is often neglected in student projects. Jakoho automates it entirely.

-  **Auto-README:** Generates comprehensive README files from your codebase.
-  **Technical Docs:** Creates detailed function summaries and API references.
-  **Drafts & Diagrams:** Visualizes code flow automatically.
-  **Code-to-English:** Converts complex logic into simple explanations.
- **Instant Slides:** Generates presentation decks with one click.

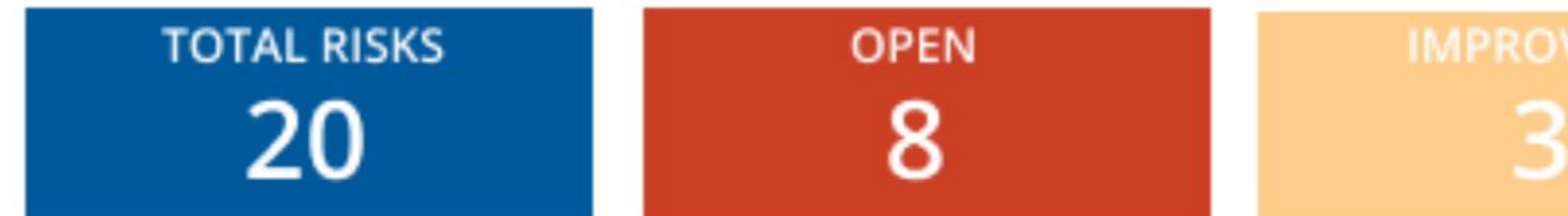


Workflow Optimization

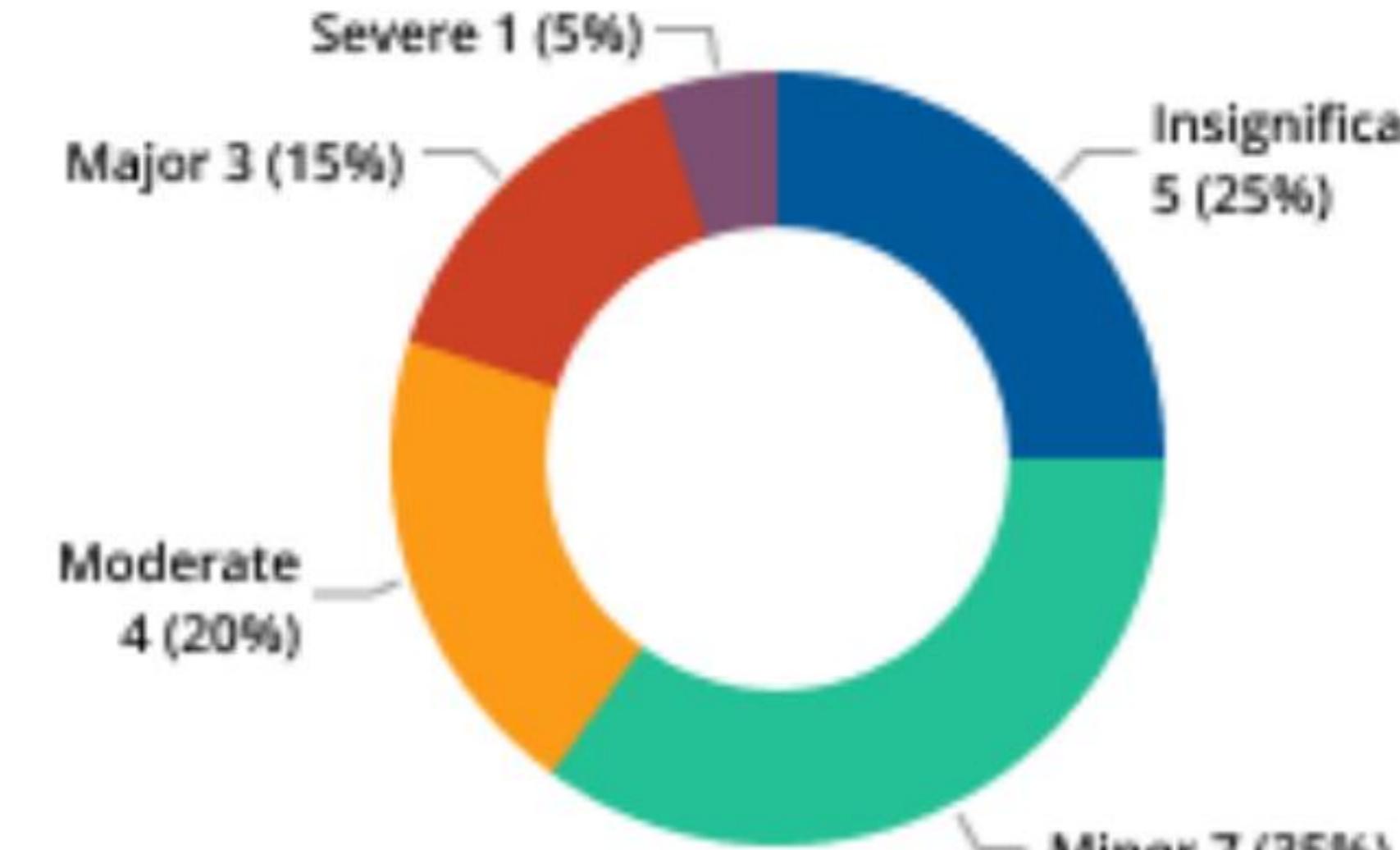
-  **Smart Team Building:** Recommends teammates based on complementary skill sets.
-  **Load Balancing:** Detects overloaded members and suggests task redistribution.
-  **Delay Prediction:** Analyzes velocity to predict if you'll miss a deadline.
-  **Process Improvement:** Suggests workflow tweaks to boost overall efficiency.

Project - MOVE IN IT

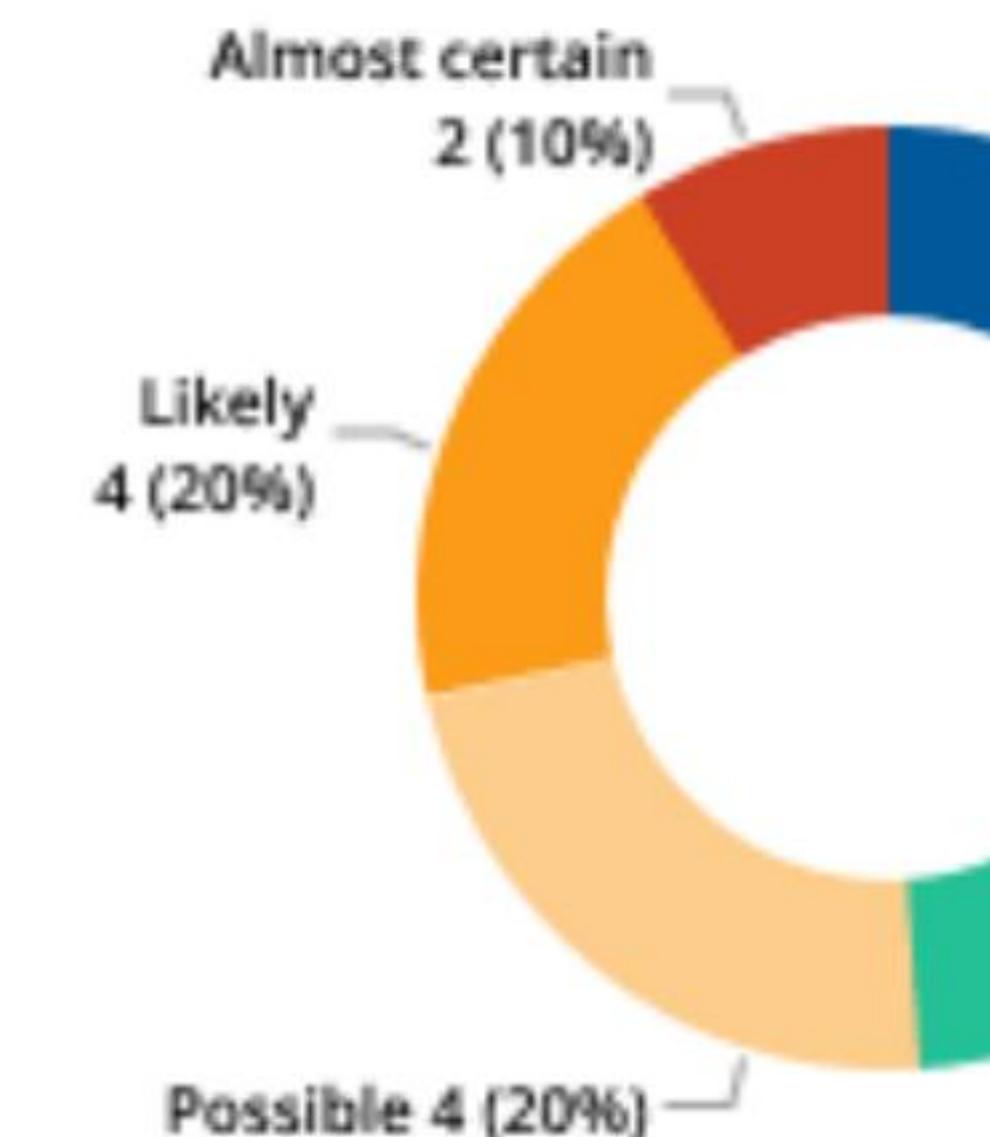
▼ Risk Information



Risk Rating Breakdown



Risk Likelihood Breakdown



Risk Asset Breakdown



Core Features Implemented

Authentication & Identity

Secure user authentication with JWT/OAuth, managing user profiles and roles within the ecosystem.

Project & File Management

Full project creation flow, team formation, and a robust file upload system managed in the cloud.

Mini Code Repository

A lightweight version control system allowing basic code storage and retrieval.

Kanban & Dashboard

Visual task management board and a central activity feed to track real-time project progress.

Upcoming AI Features



Phase 1

Real-time AI Chat Integration



Phase 2

Fully Functional AI Code
Editor



Phase 3

Automated Documentation
Engine



Phase 4

Intelligent Workflow
Prediction



Phase 5

Meeting Summaries & Smart
Alerts

Tech Stack



Frontend

React, Next.js, Tailwind
CSS



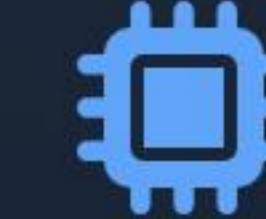
Backend

Node.js, Express



Data

PostgreSQL, S3
Storage

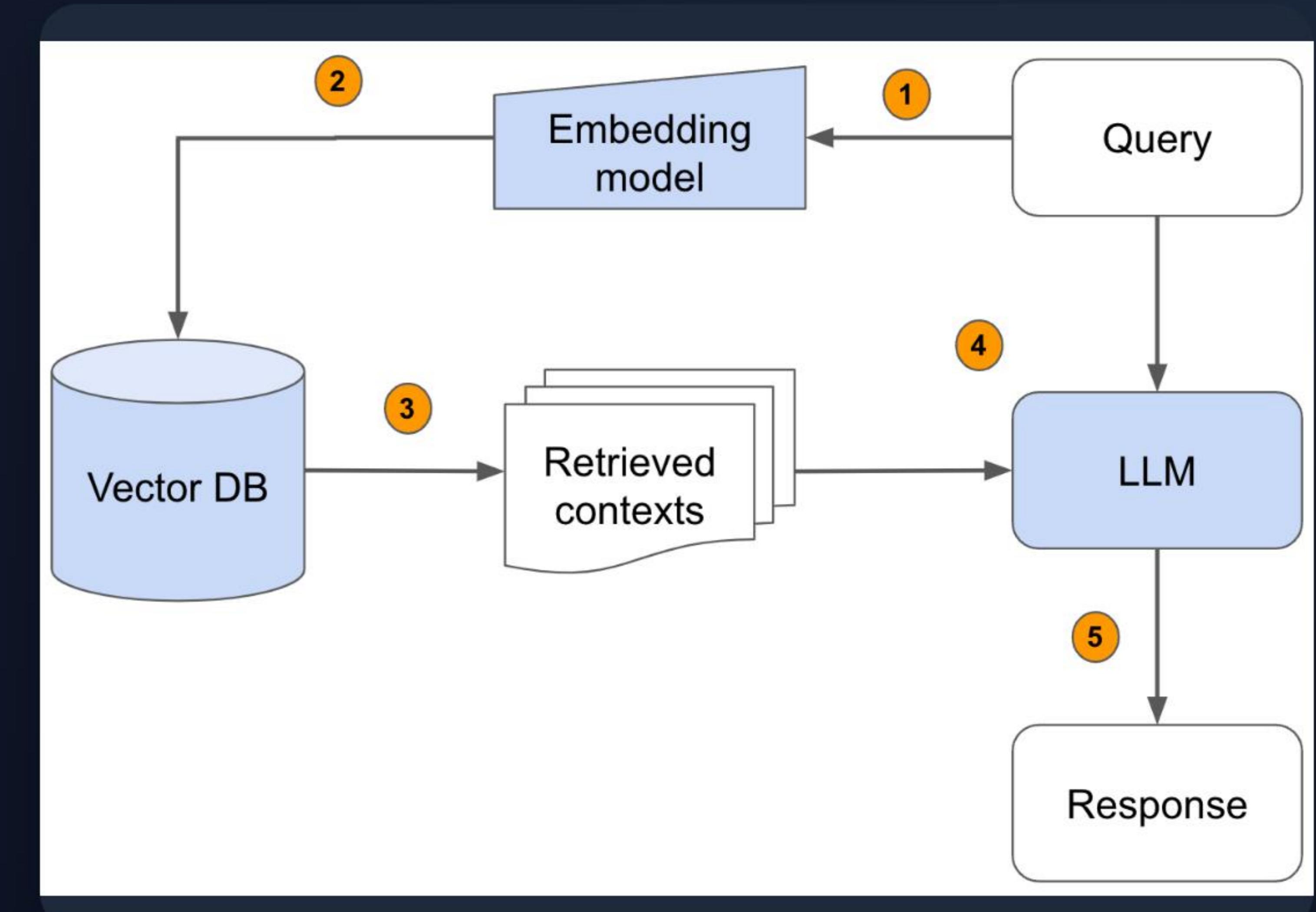


AI Layer

LLM, Embeddings,
Vector DB

AI Architecture

- **LLM Engine:** Handles complex reasoning and code generation tasks.
- **Embeddings:** Converts code and text into vector representations for semantic understanding.
- **Vector DB:** Enables high-speed, relevant context retrieval for the RAG pipeline.
- **RAG Pipeline:** Combines retrieval and generation for accurate, context-aware answers.
- **Microservices:** Modular architecture for scalable AI processing.



Impact on Students

Efficiency

Saves hours by eliminating context switching between multiple apps. Everything is in one place.

Learning

Helps beginners understand complex codebases faster through AI explanations and semantic search.

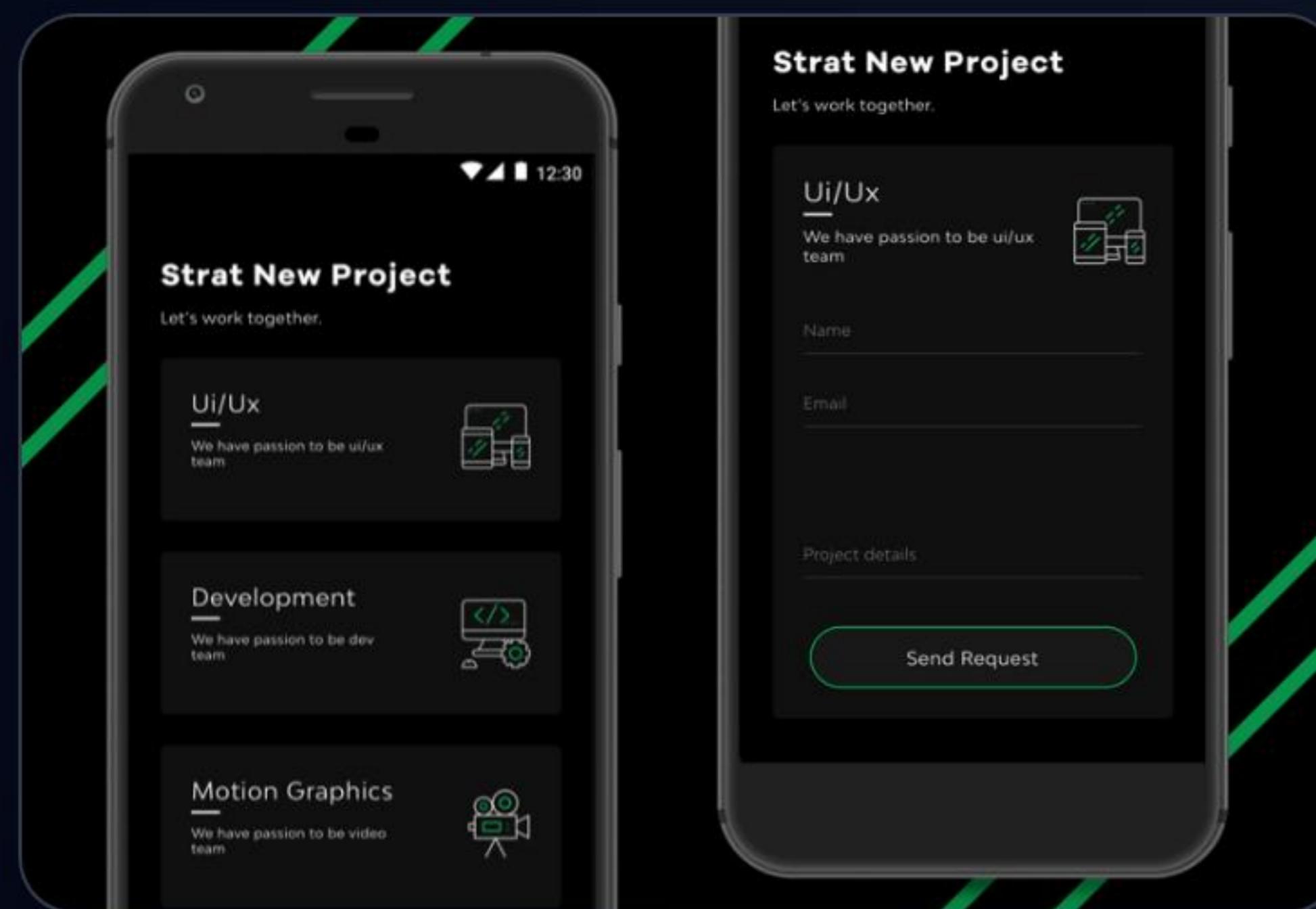
Quality

Automates documentation and testing, leading to higher quality, better-maintained student projects.

Collaboration

Boosts teamwork efficiency through intelligent task assignment and streamlined communication.

Jakoho in Action



Project Creation

The Jakoho web application dashboard titled 'Uzantion'. The interface includes a search bar, navigation tabs for 'KPI' and 'Insights', and a list of team members. The sidebar on the left provides access to various features like Dashboard, Managements, Marketings, Library, Company, and Apps (Google Calendar, Slack, AllIntegrations).

| Name | Email | Job Title |
|------------------|----------------------------|----------------------|
| Emily Thompson | emily.thompson@gmail.com | Chief Designer |
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| Jessica Williams | jessica.williams@gmail.com | Interaction Designer |
| Claire Moreau | clare.moreau@gmail.fr | Visual Designer |
| James Parker | james.parker@jakoho.co.uk | Product Manager |

Team Formation

The Jakoho 'Workspace' board view. The interface allows users to switch between 'Summary', 'Board', 'List', 'Gantt', 'Calendar', and 'Table' modes. The 'Board' mode is currently selected, showing tasks in three columns: 'To-do', 'In Progress', and 'Completed'. Each task card contains a description, an assigned team member, and progress indicators.

| Category | Description | Assigned To | Progress |
|-------------|--------------------------------------------------------|----------------|----------|
| To-do | Set up high-fidelity prototypes with conditional logic | Wireframes | 0/3 |
| In Progress | Graphic Design Edits | Graphic Design | 0/1 |
| Completed | Presentation Slide Design | UI Design | 1/1 |
| To-do | Data Entry Cleanup | Data Entry | 2/2 |

Task Tracking

The Future of Student Innovation

Jakoho is more than a tool. It's an AI-native workspace designed to empower the next generation of innovators with smart teamwork and unified collaboration.

Thank You!

Presented by **The Jakoho Team**

AI Hackathon Submission 2025

Image Sources



<https://preview.redd.it/disappointed-by-mba-13-16-512-purchase-lags-while-v0-hhwz0p75roie1.jpeg?width=640&crop=smart&auto=webp&s=c7901e10fd0e5f7d4b6518b60c428f2a241b5923>

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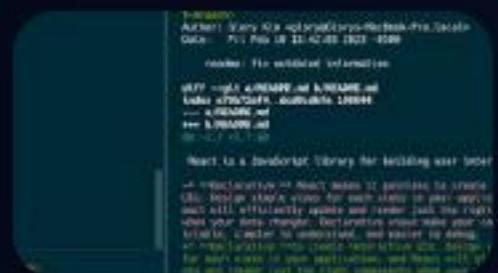
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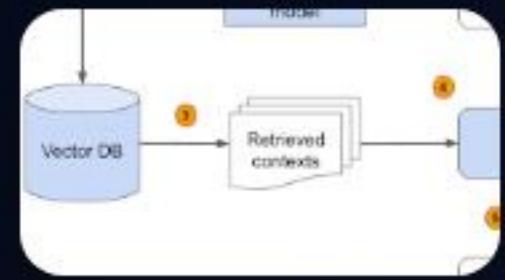
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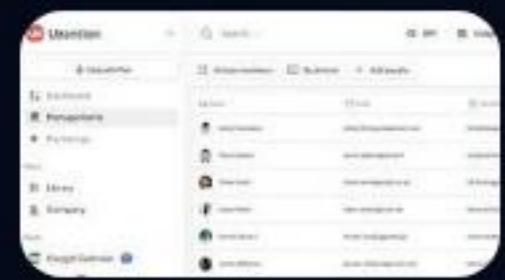
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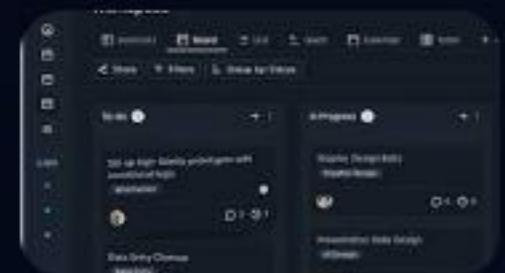
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