

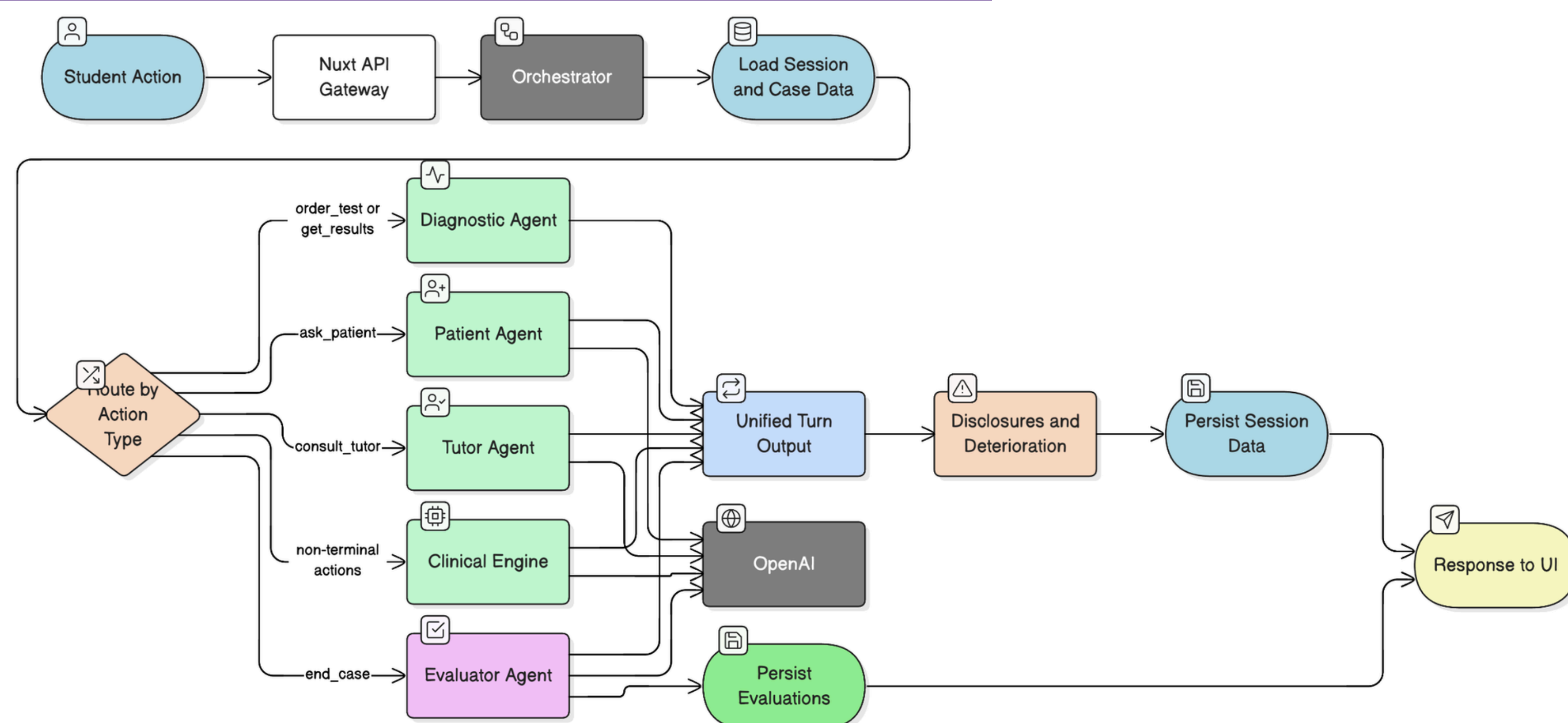
## Background

Medical students lack tools for clinical reasoning, as most resources focus on memorization over decision-making. DiseaseQuest is an **AI-powered platform** with **realistic patient simulations** that build clinical reasoning through decision-based scenarios. It promotes active learning and problem solving, offering a **revolutionary approach that replaces passive study** with interactive practice.

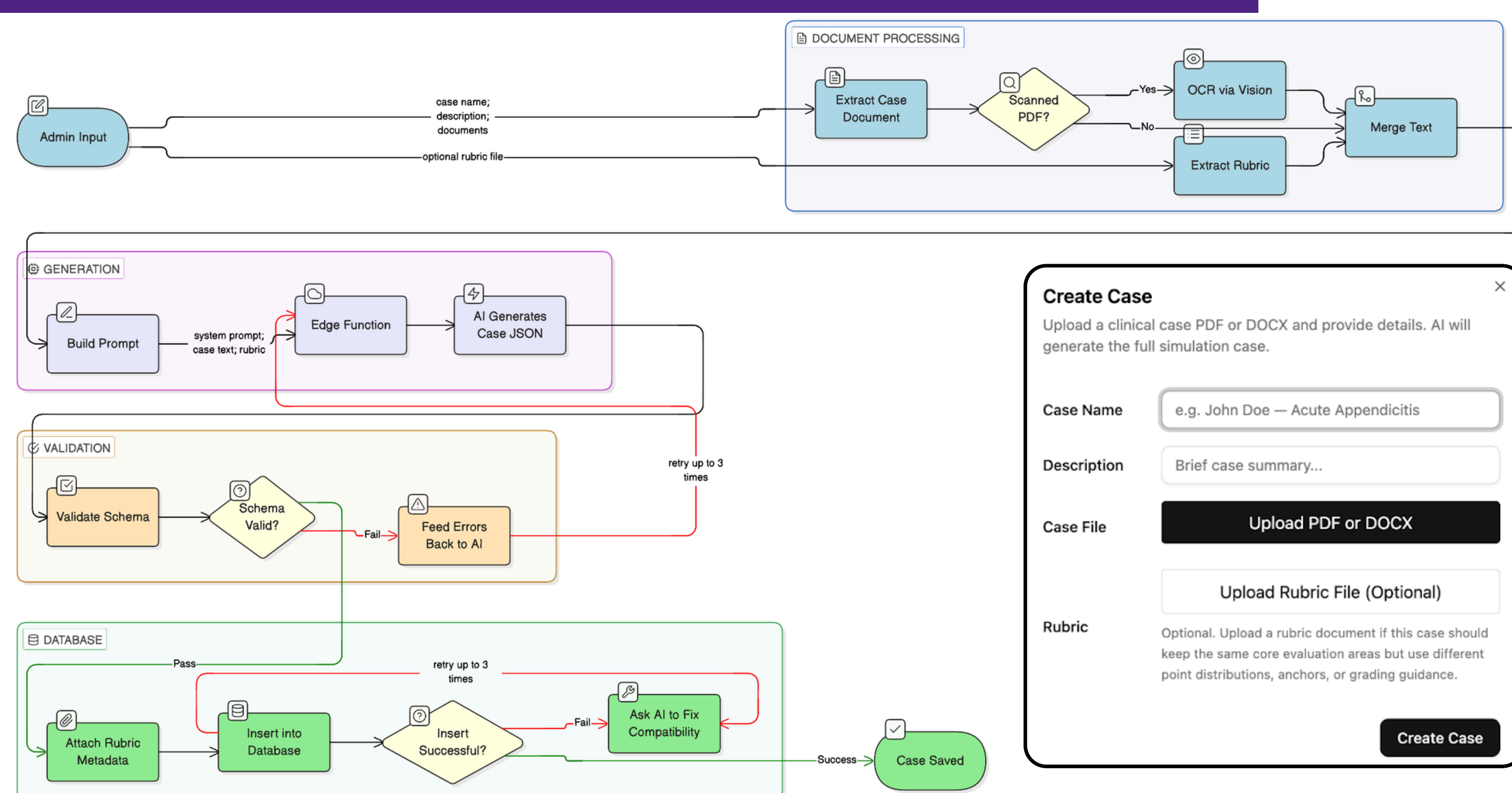
## Goals

- Focus on developing **critical thinking** instead of memorization
- Use **AI agentic simulations** to practice with **realistic scenarios**
- Enhance student engagement through **gamification**

## AI Agent Architecture



## Case Creation Architecture



## Case Flow

1. Introduction

3. Patient Conversation

5. Final Diagnosis

## 2. Mentor

## 4. Exam, Orders, Treatment, DDx

## 6. Evaluation & Feedback

## Technology Stack

Frontend: NuxtJS, TailwindCSS, Shadcn UI

Backend & AI: NuxtJS, OpenAI, Supabase Edge Functions

Database & API: Supabase, PostgreSQL, Resend, Vercel

## Platform Features

Analytics

**Assessment Score by Category**

23 attempts averaged

- History Taking and Synthesis: 63.8%
- Physical Exam Interpretation: 62.3%
- Differential Diagnosis Formulation: 57.7%
- Diagnostic Tests: 66.6%
- Management Reasoning: 61.5%
- Communication and Empathy: 64.5%
- Reflection and Metacognition: 57.6%

**Score Progress Over Attempts**

Leaderboard

**Leaderboard**

View rankings by completed cases and average scores.

Dashboard

**Dashboard**

Welcome back, Emma Williams

71% Cases completed

1 Cases in progress

14% Cases not started

1 High score

Gold Current rank

## Real Feedback

"This is a very **impressive** project and the layout was clean, **helpful**, and it was sincerely **enjoyable**. Great work!"

"I think this is a really cool platform to have a more **realistic way of practicing clinical treatment scenarios safely** as a medical student. I would like to be able to practice with more of this format going forward."

"I thought this platform was **brilliantly** made. I felt the production of the physical exam and lab findings were especially well done and **visually appealing**."

## Acknowledgements

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- **Dr. Bingyang Wei, Dr. Swapan Nath:** for their feedback, guidance, and support.
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Check out our video!

