



Google Developer Groups  
On Campus • Techno Main Salt Lake

# TechSprint



Leveraging the power of AI



## Team Details

- a. Team name: CacheCrew
- b. Team leader name: Aritra Saha
- c. Problem Statement: Open Innovation
- d. Domain: AI Ed Tech



# PROBLEM STATEMENT

## THE PROBLEM

**Most EdTech platforms still operate on a static model. Students, with their unique learning styles and paces, are forced into a uniform system. This leads to declining engagement, poor knowledge retention, and ultimately, ineffective learning outcomes.**

## OUR SOLUTION

**Cognify** is an AI-powered, gamified EdTech platform designed for truly personalized learning experiences. We leverage AI-driven performance analysis to dynamically adapt content difficulty, learning pace, and reinforcement, making education engaging, adaptive, and outcome-focused!!



# Opportunities, Differentiation, and Problem-Solving

1

## Rising Demand

A growing market for personalized and AI-driven educational solutions.

2

## Engagement Gap

Addressing widespread student disengagement in traditional EdTech platforms.

3

## Data for Educators

Providing actionable, data-driven insights to empower educators.

### AI Personalization + Gamification

A unique blend of adaptive AI and engaging game mechanics, including a Pokémon-style MCQ battle system.

### Dynamic Adaptation

Real-time difficulty adjustments based on individual performance, ensuring optimal challenge.

### Weak-Point Detection

AI-generated summaries and intelligent identification of learning gaps.





# Core Features: Student & Educator Experience



## For Students (MVP)

- Gamified Learning Environment
- AI-Based Learning Personalization
- Content viewing optimization
- Difficulty modifier
- Personalized reinforcement timelines
- AI summarization & weak-point identification
- AI Assistant

## For Educators

- Custom Game Editor (auto-generates gamification)
- Content Editor (text and video)
- Student Tracking Dashboard
- AI summaries & performance statistics
- Identification of common roadblocks
- Custom Certification (AI-based auto-generation)



## Google Technologies used in the solution



### Frontend: Flutter

Cross-platform development for seamless user experience.



### Backend: Golang

High-performance and scalable server-side operations.



### Database: Firebase

Real-time data storage and robust authentication.



### AI & Analytics

Gemini (AI Assistant & Summarization), Vortex AI (Personalization), BigQuery (Performance Insights).

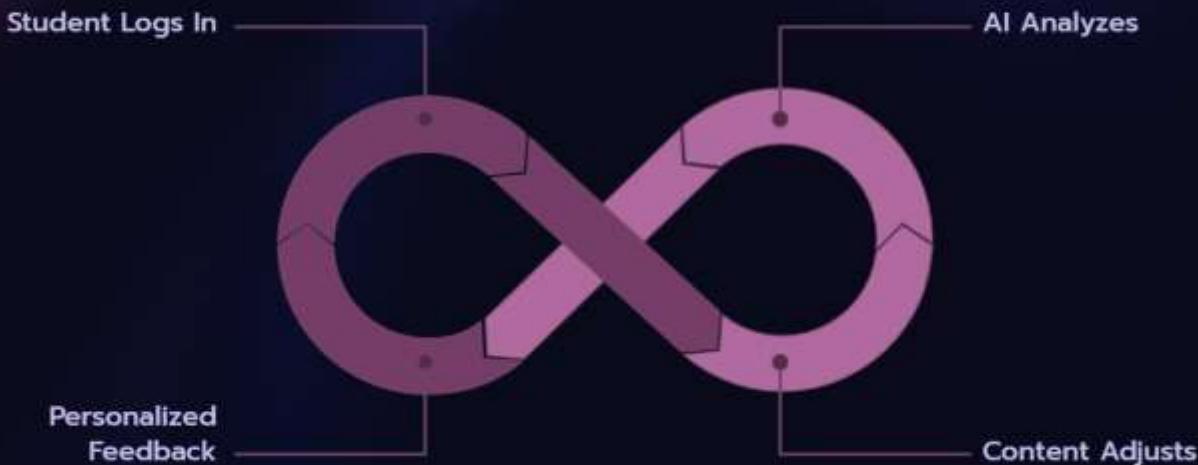


### Hosting: GCP

Reliable and scalable infrastructure with Google Cloud Platform.

# Cognify: The Adaptive Learning Loop

Our process ensures a continuous cycle of engagement, assessment, and adaptation.



This dynamic flow ensures that each student's learning journey is uniquely tailored and constantly optimized.



# Visualizing the Cognify Experience

Here's a glimpse into the key interfaces that power personalized learning and teaching.

The image shows a composite screenshot of the Cognify platform. On the left, a dark-themed login screen features a teal header with the word "COGNIFY" and the tagline "Level Up Your Mind". It includes fields for "Email" and "Password", a large blue "ENTER THE REALM" button, and links for "Don't have an account? Sign Up" and "Are you an Instructor? Login here". In the center, the "Instructor" dashboard for "Dr. Educator" is displayed. It shows various metrics: 234 Total Students, 5 Active Courses, 78% Completion Rate, and 85% Avg. Score. There are sections for "ACHIEVEMENTS" (with icons for "Crown Win", "1 Day Boss", "Speed Demon", and "Perfect Score") and "STATISTICS" (with icons for "Buffed Up", "3 Chances", and "100%"). Below these are "QUICK ACTIONS" buttons for "Create Course", "Add Questions", "View Analytics", and "Certificates". At the bottom of the dashboard are navigation tabs for "Dashboard", "Courses", "Analytics", "Certs", and "Profile". On the right, a "Community" feed is shown with posts from users "FlutterNewbie" and "CertSeeker". The post by "FlutterNewbie" asks about managing state in Flutter, while the post by "CertSeeker" asks for tips on passing the Flutter certification. Both posts have engagement counts (39 and 84 respectively) and a "Reply" button.



Provide links to your:

1. GitHub Public Repository - <https://github.com/U9D3RTAK3R/Cognify>
2. Demo Video Link (3 Minutes) - <https://youtu.be/qfJpO4ETuLw>
3. MVP Link - <https://cognify-deploy.vercel.app>



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Thank you! ←