

Personalized AI Learning Companion for Students with Special Needs

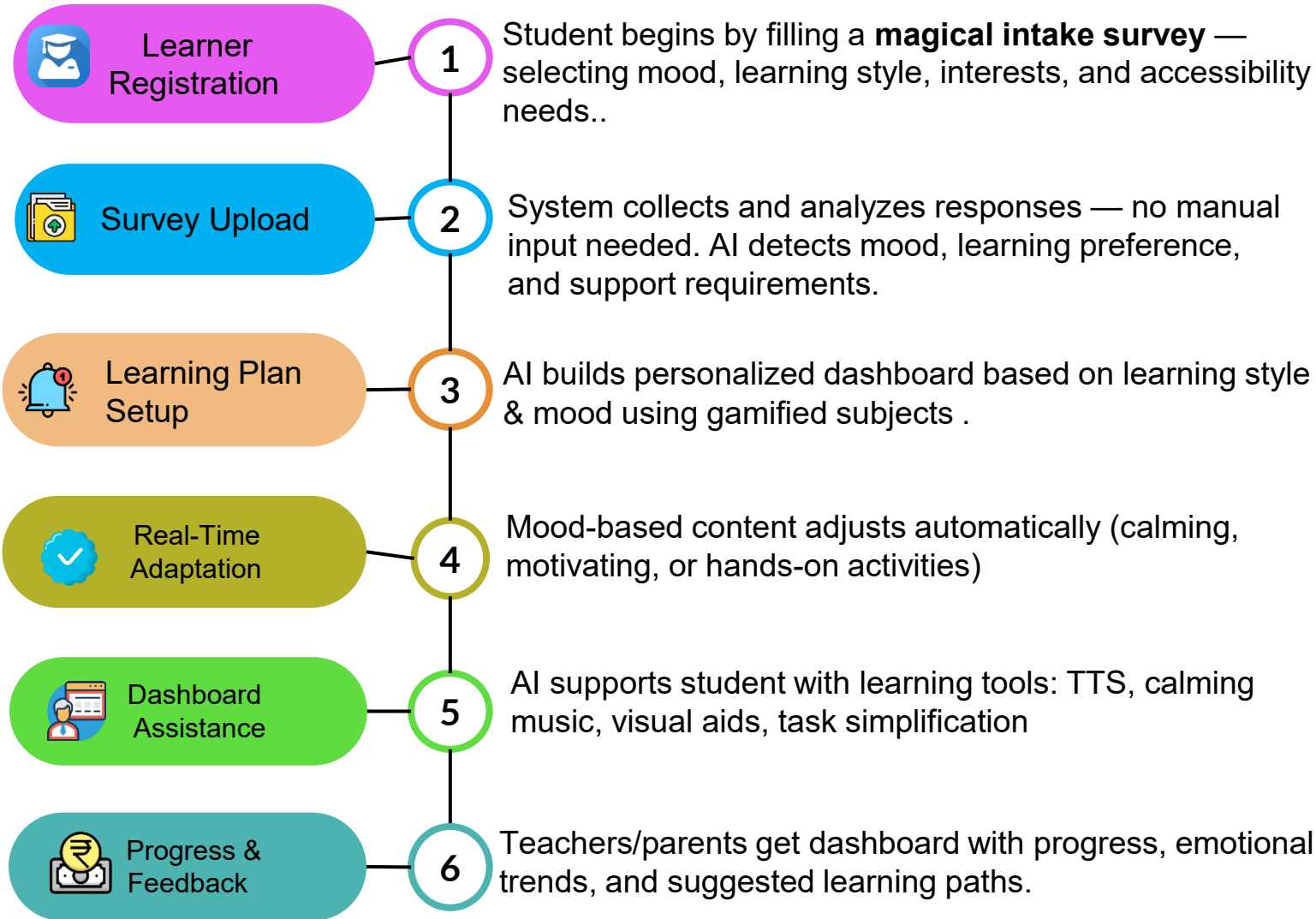
"Helping every student learn better with the help of AI that gives them exactly what they need, making it easier for those who face learning difficulties to feel included and supported."

TRIWIZARDATHON 2025

Team Members:

- Tanya goyal
- Tanisha tayal
- Vanshika gupta
- **Team Name : Team Buzz**

MoodWise Learning Hub



☐ **Magic Chat Companion**

☐ **AI-powered Mood Matching**

☐ **Gamified Reward Wheel**

☐ **Survey Retake Anytime**

Major Problem: Students with special needs face stress, slow progress, and frustration with one-size-fits-all learning.

Our Approach: A smart, mood-aware system that adapts content in real time using survey data — personalized, inclusive, and joyful learning for every student.

- [Magical Survey Page]
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- v
- [AI Analyzes Responses]
- • Learning Style → Visual | Auditory | Kinesthetic
- • Mood Detection → Happy | Sad | Frustrated
- • Interests → Gamified Subjects (Potions = Math, Spells = Reading)
- • Accessibility Needs → TTS, Font Size, Color Contrast
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- [Personalized Dashboard Unlocks]
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- |—— Subject Track → Based on Interests (e.g., Magical Creatures = Science)
- |—— Mood Mode → Calming, Motivating, or Energizing Layout
- |—— Style Matching → Videos, Audio, or Interactive Games
- |—— Smart Tools → TTS, Visual Aids, Focus Music, Font Controls
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- [Spin-to-Earn Wheel]
- • Students spin after completing tasks
- • Rewards: XP, Badges, Unlock Mini-Games
- |
- v
- [Gamified Learning Experience]
- • Confidence builds as students earn and explore
- • Parents/Teachers monitor insights on a separate dashboard

Every Child's Magical Journey

✨ *"Once upon a time, every child had to learn the same way — but not anymore."*

One day, a student enters the **Personalized Learning Portal**.

They're greeted by a friendly AI guide and asked to fill a magical survey:

"How do you feel today?"

"How do you learn best?"

"What are you curious about?"

🌈 Based on their answers, the AI creates a **dashboard just for them** — like their own enchanted classroom.

🎯 They explore subjects in fun ways, complete tasks, and earn **magical stars**.

🌀 With those stars, they **spin the Reward Wheel** — and unlock mini-games, bonuses, or surprise creatures!

📊 Teachers and parents quietly watch their progress — guided by smart insights from the background.

Whenever the student feels different — they simply retake the survey.

The system **adapts again**, like magic.

And thus, their learning journey continues — **personal, playful, and pressure-free**

Tech stack

Frontend

• React.js + Tailwind CSS

Backend

• Node.js or Python (Flask/FastAPI)

Database

• MongoDB / SQLite

Dashboard

• Power BI Embedded

Voice Support

• Google Text-to-Speech + Speech Recognition APIs

AI/ML

• TensorFlow / Scikit-learn

IMPACT AND BENEFITS

Short term impact

- ❑ Empowers Every Unique Learner.
- ❑ Real-Time **Personalized Dashboard**.
- ❑ Supports **Diverse Learning** Styles.
- ❑ **Reduces Stress, Increases Engagement**.
- ❑ Encourages **Independent** Learning.

Long term impact

- ❖ Builds **confidence and self-worth** in every learner .
- ❖ **Identifies strengths and weaknesses at an early stage** .
- ❖ Supports emotional growth through mood-sensitive learning paths.
- ❖ **Helps teachers create more flexible**, inclusive classroom environments.

“Unlock Every Child’s Potential with Personalization”



For learning experience



For emotion tracking



For personalized content



For smart dashboard insights



For accessibility



For teacher support



For inclusive impact



For adaptive learning

RESEARCH

- **Over 80%** of respondents preferred a **personalized, AI-based learning experience** over traditional one-size-fits-all models.
- **More than 90%** reported frustration with **generic content and lack of emotional understanding** in existing platforms.
- A small group expressed concerns about **fully AI-based personalization**, especially for students with complex or fluctuating needs.
- Confidence in the platform increased **after introducing features like:**
 - Mood-based dashboard updates
 - “Raise a concern” support option
 - Schedule a mentor call