

AI Study Focus Companion (Study Oasis)

TL;DR

An AI-driven web application that helps students reduce screen time and distractions when doing homework. Users upload assignments, which are automatically categorized; the solution tracks errors and uncertainties while enforcing a focus mode where only AI-guided discussion is allowed—no easy answers, just hints. After completing work and uploading proof, students receive analytics on focus and performance, and the system helps plan reviews and future study, creating a positive, game-like and supportive experience. MVP will prioritize upload, AI chat, web-based focus lock, and focus analytics.

Goals

Business Goals

- Increase active and engaged student users with consistent study streaks
- Reduce off-task behaviors and screen switching during study sessions
- Demonstrate measurable improvements in focus and learning efficacy
- Build a unique homework/error database for model and product enhancement
- Integrate with mainstream education management systems (e.g., Canvas)

User Goals

- Stay focused and minimize distractions during homework sessions
- Seamlessly categorize assignments and errors—no manual sorting required
- Improve independent problem-solving with AI guidance, not direct answers
- Receive personalized review plans, reminders, and positive feedback
- Experience a sense of support, care, and enjoyment during learning

Non-Goals

- Not targeting entertainment, social, or non-study use cases
- MVP will not include full error extraction or RAG-based recap (future update)
- Will not directly provide answers or enable academic dishonesty

User Stories

Student (Primary Persona):

- As a student, I want to upload my assignments so they're automatically categorized, reducing my admin workload.

- As a student, I want to enter a locked focus mode so I'm not tempted to switch tabs and lose concentration.
- As a student, I want to ask the AI for hints as I work, so I can learn independently rather than copy answers.
- As a student, I want to unlock focus mode by uploading my finished work, keeping me accountable.
- As a student, I want analytics on my focus, time spent, and errors, so I can understand and improve my habits.

****Parent/Teacher (Future Expansion):****

- As a parent or teacher, I want visibility into my child's focus time, progress, and error trends for better support.

Functional Requirements

- Assignment Upload & Management (High Priority)
 - Upload support for PDF/Word/images
 - Automatic parsing and categorization of assignment content
 - Syllabus/Canvas integration & search for task info
- AI Focus Chat (High Priority)
 - Screen lock that restricts navigation (as with locked video players)
 - Only AI chat box and assignment content visible in focus mode
 - AI provides hints/process—not outright answers—guiding student reasoning
 - AI logs pain points and questions for future recap (RAG phase)
- Focus Analytics (High Priority)
 - Log total focus time, page switch count, error rate, answer speed and consistency across similar tasks
 - Auto-generate focus/performance report each session
- Streaks, Gamification, Reminders (Medium/Future Priority)
 - Daily and weekly study streaks (Duolingo-style)
 - Quick Questions/Quizzes for spaced repetition
 - Proactive, kind nudges—not harsh or punitive—to keep students coming back
- Error Logging & Review Planning (Future Phase)
 - Automatic error extraction by comparing user and correct answers
 - Personalized review plans based on exam dates and weaknesses

User Experience

****Entry Point & First-Time User Experience****

- Students access the product via web or designated school portals
- Optional onboarding: link course data via Canvas or upload syllabus

****Core Experience****

- **Step 1:** Upload assignment files
 - Clear UI for assignment vs syllabus upload
 - Seamless drag-and-drop, quick content previews
- **Step 2:** Activate focus mode
 - Confirm before locking interface; only allow AI chat and assignment view
 - Attempts to leave/tab away are blocked (gentle warning shown)
- **Step 3:** AI-guided chat support
 - Student can ask questions; AI offers step-by-step hints, not final answers
 - Requests for more hints met with increasingly detailed (but still guiding) help
- **Step 4:** Work completion and unlock
 - User uploads proof (scanned/photo of finished work), AI validates before unlock
- **Step 5:** Result summary and feedback
 - Automated focus/performance report, review summary, archive of session

****Advanced Features & Edge Cases****

- Attempting to leave or cheat focus mode triggers logs and gentle reminders
- AI detects and archives "stuck points" for future review
- Modality-aware: e.g., math vs. language assignments get tailored hint pathways

****UI/UX Highlights****

- Calming color palette, stress-minimizing layout
- Humanized chat area, supportive microcopy and feedback cues
- Fully responsive/adaptive; accessibility support for visual impairments

Narrative

Sophie, a high school student, spends hours on her phone and struggles to stay focused with homework scattered across screenshots and PDFs. She tries AI Study Focus Companion. Uploading her math assignment is simple; the platform auto-sorts problem types. Starting focus mode, Sophie's screen locks—everything except the assignment and an AI chat disappears. When she's stuck, she asks for a hint. The assistant gently breaks down the challenge, never spoiling the answer—but leading her to think step by step. Finishing her work, she takes a photo and uploads it; the lock lifts. Sophie immediately gets a report on her focus, speed, and where she struggled. She builds a streak, feels cared for by the positive tone, and returns nightly, growing more independent—and less distracted—with each session. The school gains new insights into student learning patterns, closing the home–school support gap.

Success Metrics

User-Centric Metrics

- Daily/weekly active students
- Increase in average sustained focus duration
- Reduction in distraction (measured by tab switches during focus mode)
- User satisfaction and NPS improvements

Business Metrics

- Registration-to-activation rate
- Retention and streak continuation
- Course/material coverage and user expansion
- Integration partnerships (e.g., Canvas)

Technical Metrics

- Session response latency <1.5s
- Parsing/lock feature stability (escape incidents <1%)
- Assignment type parsing accuracy
- 99.5%+ uptime

Tracking Plan

- Assignment upload/drop-off events
- Focus mode entry/exit
- AI hint request frequency
- Distraction (tab switch) attempts
- Assignment completion uploads
- Report views/opens

Technical Considerations

Technical Needs

- Frontend: Responsive web with focus lock
- Backend: File parsing/OCR, AI chat logic, session state store
- AI: Reasoning chain guidance; future RAG for long-term learning tracking
- Focus/distraction detection—browser-compatible

Integration Points

- Canvas API, Syllabus import
- Future: Parent/teacher access, third-party identity/auth

Data Storage & Privacy

- Secure cloud/local storage for answers, analytics, images
- GDPR/China compliance: explicit consent, encryption at rest and in transit

Scalability & Performance

- High-concurrency file parsing and chat
- LLM fallback to templated hints if overloaded

Potential Challenges

- Reliable browser/web lock (cross-platform quirks)
- Complex, multi-format assignment parsing
- Preventing focus lock circumvention and data leakage

Milestones & Sequencing

Project Estimate

MVP (upload, AI chat, focus lock, analytics): 2–4 weeks

Team Size & Composition

Lean, fast-moving: 2–3 people (product, frontend, backend)

Suggested Phases

** Discovery & Design (2 days)**

- Align on requirements, user flows
- Finalize MVP scope

** Rapid MVP Build (10 working days)**

- Frontend: Upload, lock, basic reports
- Backend: File parsing, chat API, analytics
- Agile daily check-ins

** Internal Testing & Tuning (5 days)**

- Targeted student pilot, bugfixes
- Lock/chat/analytics user feedback loop

** Public Beta & Feedback (ongoing)**

- Monitor key metrics, collect improvement ideas
- Start prepping error extraction and RAG review for V2
