**✅ PHASE 1: Inline Annotation Engine (FERPA-Safe)**

**🔹 Milestone 1: Display Original Student Submissions**

**Goal:** Securely render .docx and .pdf submissions  
**Estimated Time:** 4–6 hours

* Retrieve file from Supabase (using secure RLS)
* Render .pdf via <iframe> or PDF.js (no public URL)
* Convert .docx to HTML using mammoth
* Embed document in Instructor Review + Student Feedback views
* Preserve formatting (headings, spacing, breaks)
* ✅ FERPA: Internal storage and authenticated-only access

**🔹 Milestone 2: AI Inline Feedback Injection**

**Goal:** Inject GPT comments into student text inline  
**Estimated Time:** 6–8 hours

* Break HTML into sentences/paragraphs
* Send anonymized text chunks to GPT
* Inject <span class="comment"> or tooltip elements with AI notes
* Display to instructors with highlights or callouts
* Show same feedback to students in read-only view
* ✅ FERPA: GPT sees no PII; scoped by LTI + Supabase RLS

**🔹 Milestone 3: Dual Feedback Panel**

**Goal:** Show inline + summary feedback  
**Estimated Time:** 2–3 hours

* Add editable “Summary Feedback” box below the annotated document
* Allow instructors to edit summary before sending
* Student view shows:
  + Their annotated submission
  + Final summary paragraph
* ✅ FERPA: All feedback scoped per session, no external sharing

**✅ PHASE 2: USCIS PDF Form Processor (High-Security FERPA Tool)**

**🔹 Milestone 4: Parse USCIS PDF Forms into Structured JSON**

**Goal:** Extract clean data from forms like I-485, N-400  
**Estimated Time:** 6–8 hours

* Upload form to Supabase securely
* Use pdfplumber or PyMuPDF to extract content
* Redact PII before parsing
* Use GPT or regex to map extracted content to fields
* Store structured JSON with user/instructor scope
* ✅ FERPA: PDFs never leave server, GPT sees only redacted content

**🔹 Milestone 5: Review + Validation UI**

**Goal:** Let instructors verify and edit extracted fields  
**Estimated Time:** 4–6 hours

* Web interface to display parsed fields
* Allow instructors to edit and save corrections
* Optional CSV export
* Log all edits with timestamps
* ✅ FERPA: Scope per instructor and course

**🔹 Milestone 6 (Optional): Annotated PDF Return**

**Goal:** Let students download AI-annotated version of their form  
**Estimated Time:** 6–8 hours

* Rebuild PDF with PyMuPDF or reportlab
* Highlight errors, add margin notes or tooltips
* Save annotated PDF to Supabase
* Provide expiring download link
* ✅ FERPA: Access locked to individual user

**✅ ADDITIONAL FEATURE UPGRADES**

**💬 Inline Summary Cards**

Show short 3-sentence summary (Strengths, Improvements, Grade)

* Display this card above the full feedback
* Auto-generate via GPT or extract from rubric

**🎛 Smart Feedback Rewriter**

Add 1-click buttons to adjust tone or length

* Buttons: “More Formal”, “Shorter”, “Add Encouragement”
* Rerun GPT with adjusted prompt

**📊 Rubric-Aware AI Grading**

AI evaluates each criterion individually

* Show rubric + auto-generated comments per row
* Let instructor edit each row before approving

**✅ Approve & Send Button**

One-click action to send feedback + grade to LMS

* Suggested score prefilled
* Button posts both score + comment to LTI AGS

**🚩 Fast Flag System**

GPT flags issues automatically

* Flags: Off-topic, AI-generated, Missing rubric match
* Display as colored icons next to submission

**📈 Feedback Confidence Meter**

Show how confident GPT is in each comment

* 1–5 confidence score shown inline
* Let instructors override low-confidence items

**✏️ Suggested Quick Edits Panel**

Instructors can add finishing touches fast

* Buttons: “Add positive opening”, “Add scripture”, “Add advice”
* Use GPT to generate snippet and inject it