

App Name: Scanva

Problem Statement: Current LMS platforms like Canvas provide only final grades and limited assignment feedback visibility. Instructors often rely on third-party tools such as GradeScope to upload, scan, and grade written submissions. This separation fragments the grading workflow, complicates record-keeping, and forces students to switch between platforms to view their feedback.

Proposed Solution: Scanva introduces a unified system that integrates Canvas-style course management with GradeScope-style assignment scanning and feedback. The platform allows instructors to upload, scan, and grade assignment pages directly within the same interface. Each submission is automatically segmented and assigned to the appropriate student using tag-based matching / roster association.

Once graded, students can log in to view each scanned page of their submission, complete with comments, marks, and rubric feedback. Instructors and TAs can annotate directly on uploaded PDFs, and students can easily review page-by-page feedback and grades in one place. This unified approach eliminates the need for third-party grading tools while maintaining the structured simplicity of Canvas.

Primary Users:

- Instructors - Upload and scan assignments, annotate pages, apply rubrics, and release feedback
- Students - View scanned assignment pages, read comments, and track progress per assignment
- Teacher Assistants - Assist with grading and annotation within assigned courses and sections

MVP Features:

- (Functional) Secure email/password login (Flask-WTF validation and session handling)
- (Functional) SQLite models for User, Course, Assignment, and Submission (with file and feedback relationships)
- (Functional) Assignment upload and automatic page-splitting into individual student submissions
- (Functional) Grading interface that supports per-page annotations, rubrics, and score updates
- (Functional) Student dashboard to view scanned submissions and corresponding feedback
- (Functional) Instructor dashboard summarizing class grade distribution and assignment completion
- (Non-Functional) App renders each page and annotation in < 1 second locally for up to 200 pages
- (Non-Functional) App runs locally after pip install -r requirements.txt and python run.py with no errors

Stretch Goals:

- Implement an auto-matching system that recognizes student names or IDs on scanned submissions to automate association
- Add comment templates and grading rubrics that instructors can reuse across similar assignments
- Enable CSV export of grades and analytics summaries for each assignment

Success Criteria:

- Instructors can successfully upload and scan assignments, assign them to students, and annotate pages with feedback
- Students can clearly view each page of their graded submission and corresponding comments
- Dashboards load without timeouts or crashes on small datasets
- All user actions (login, upload, annotate, view feedback) are completed within a single, intuitive interface
- The system provides clear and consistent navigation between course pages, assignments, and feedback

Updated Concept Overview:

Use Cases:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Implementation Summary:

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Testing Plan:

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