Client Precondition Report Template

Each project team will consist of 10 senior Computer Science students. Each student contributes approximately 120 hours over the semester, resulting in about 1,200 total team hours. Students have around 13 weeks of active development time. Students possess strong general programming skills and Git/GitHub experience but should not be expected to have prior industry-level experience with specialized frameworks or technologies. Advanced tools should be listed as skills to be learned, not required prerequisites.

1. Company Information

- **Company Name: 15826080 Canada Inc.**
- **Primary Contact Person: Akash Parmar**
- **Email Address: akash.parmar@gradebump.com**
- **Website: https://gradebump.com**
- **Location / Time Zone: ET**

2. Team Structure & Required Skills

2.1 - Describe your expectations for how the student team will operate.

- Requirements will be provided for sprint (2 weeks)

- Students will be expected to finish testable work modules within this time

- Akash will provide acceptance criteria in advance

- Students will need to give demo in screenshare call at the end of sprint

- If demo is not possible then document with test screenshots will need to be submitted

- They will need to push changes to dev branch after successful review

a. Team Composition

Please outline the structure of the team as you envision it (roles, rotations, responsibilities, collaboration expectations, etc.).

- Developers

- QA testers might need to test the code completed by developers

b. Required Baseline Skills

List the *foundational* skills students must already have to participate successfully.
CS 472 students are **senior CS undergraduates** with general programming experience. They

are **not industry experts**, but they are capable of learning new tools and technologies used in your project.

Baseline skills :

- Understanding business requirements from written documents
- General programming experience
- Basic understanding of software development practices
- Familiarity with Git/GitHub
- Willingness and ability to learn new frameworks or tools

Please avoid listing advanced or specialized skills as mandatory prerequisites.

c. Skills to Be Developed During the Project

List skills the students will gain while working with you (frameworks, tools, domain knowledge, engineering practices, etc.).

- OCR framework like Tesseract and Google Vision API

- Integration with Open AI API for classifying exam questions into unit(chapter) for a particular course code

- API development on Cloudflare using Node JS

- Wordpress UI development

- Integration of Cloudflare API with wordpress.

3. Project Title & Acronym

- **Project Title:** Exam question recommender
- **Acronym (for GitHub repository):** Gradebump

4. Project Overview & Problem Statement

Provide a clear description including:

- **The problem your project addresses:** To help students prioritize what they should spend their time to study to maximize their grade/score.
- **This will be achieved by:**
    - Ingest PDF files for past exams and convert to image
    - Convert image to text using Tesseract (Google vision in case Tessearct is not good enough for any files/page)
    - Run OCR output through Open AI API to get questions and meta data like unit using Open AI API (unit list wil need to be prepopulated)
    - Store questions and meta data in database to calculate question probability using custom formula so that Gradebump's existing recommendations API can pass this to the Wordpress UI

- **Background/context :** Existing platforms like Coursehero and Studocu provide students with multiple exam papers that students need to read and analyze. We want to help students process this information faster and easier using AI . We want out tool to tell them what to study to maximize their score.
- **Target users :** Undergrad students
- **Goals and expected impact:** (1) To give students a list of units and share of marks of each unit . (2) To give students a list of questions and the probability of each question showing up on exam based on past data.

Please describe the project in clear, student-friendly language, emphasizing what students will learn rather than assuming prior expertise with advanced technologies. Avoid overly technical or domain-heavy jargon so that students can easily understand the scope and feel confident selecting the project.

5. Solution Overview & Core System Components

Describe the main system components, modules, or functionalities required.

Please identify the following:

- **Core MVP Deliverables:** The minimum set of features that must be achievable within the 13-week development window.
    - Ingestion of PDF/Images into system and conversion to text using API
    - If there are tables, figures or mathematical symbols then they should be stored in Cloudflare bucket as images and the URL should be linked with respective question in questions table in DB.
    - Text output from OCR must be used successfully to classify questions into units for the particular course code using Open AI or other Gen AI API.
- **Stretch Goals (Optional):** Additional features that students may pursue if time allows.
    - Production hardening:
        - Error handling when OCR fails midway
        - Partial failure path (R2 succeeds, D1 fails)
        - Retry and idempotency handling
        - Rate limiting per user/IP
- File validations
    - File size validation
    - File type validation
    - Malware scanning
    - Duplicate detection

6. Technical Considerations

Specify:

- Required or preferred tech stack – Node JS backend using TypeScript, Wordpress CMS frontend using PHP
- APIs, SDKs, datasets, or tools –
    - APIs : Open AI, Google vision,
    - Tools: Tesseract
    - Datasets : Will be provided
- Constraints or limitations
- Integration requirements : Cloudflare integration with Google vision, Cloudflare integration with Wordpress
- Quality/testing/CI considerations – JIRA stories and tasks for testing
- Security/privacy needs

7. Innovation & Competitive Advantage

Describe what makes your project innovative or distinct

- No tool helps students plan what to study based on historical marks and questions data.
- Current platforms follow data dump approach where they give a ton of data to users(students) .
- Users then have to spend valuable time before exams to figure out what will show up in exams
- We will use a combination of analytics, OCR and AI to tell students what to focus on and what topics to prioritize.

8. Proposed Implementation Timeline (13 Weeks)

Provide your **own** realistic 13-week timeline and expected deliverables.

- I expect and iterative process and am flexible about the outcomes
- More than happy to guide and work with students if timelines for deliverables slip

9. Deployment & Support Expectations

Specify any requirements related to:

- **Hosting or infrastructure** – My code is hosted on Cloudflare, siteground and Google cloud.
- **Access credentials or resources you will provide** – Github
- **Documentation or training expectations –** Students must provide sufficient documentation so that I can use their code after they complete their project.

10. Confidentiality & Intellectual Property

Provide your IP, NDA, portfolio usage, and disclosure policies.

Please describe any confidentiality or IP expectations in clear, student-friendly language so that students understand what they can and cannot share in portfolios and presentations. Avoid overly legalistic or restrictive wording unless absolutely necessary.

Students must hand over their work product after project to Gradebump. They should not copy the code and reuse it for competition.

11. Proposed Success Metrics

List the metrics (quantitative and qualitative) you will use to evaluate project success.

- Code must have minimal errors
- Code must meet acceptance criteria in use stories
- Timely completion of user stories.

12. Mentorship & Communication Plan

Specify:

- **Expected meeting cadence (Professor prefers weekly meetings) –** Biweekly will be better for my schedule
- **Communication platforms –** Email, Jira
- **Response time expectations –** 48 hours for email, 72 hours for setting up a call in case of issues
- **Who will mentor or support the students** – Akash Parmar

13. Additional Notes (Optional)