Peer Feedback App for Student Projects.

Senior Design Team Contract

University of Cincinnati

College of Education, Criminal Justice and Human Services

School of Information Technology

Ethan Cox, Advait Parab, Melanie Peck, Nathaniel Wisher

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Intent

The following contract was written and agreed upon by Ethan, Advait, Melanie, and Nathaniel. The contract provides expectations, objectives, and results for developing the Peer Feedback App.

The contract is effective for all team members participating in the Senior Design Capstone class series in the 2025-2026 academic year.

Senior Design Contract

Project Summary

The Peer Feedback App is designed to enhance student's work and collaboration by facilitating structured, anonymous, and constructive peer feedback. The app supports students by allowing them to provide and receive feedback on various performance criteria, encouraging accountability.

Problem Statement

Students oftentimes struggle with reaching out for help with coursework due to a fear of being judged or looked down upon. Finding a dedicated tutor can also take time and money, both of which may be out of the students' control. In a study done using a population of 345 university students, who had struggled with academic performance yet did not utilize tutoring services, many cited the stigma against tutoring as their reasons for not using the service (Ciscell et al., 2016).

The Peer Feedback App project was conceived from the recognition of the significant role peer feedback plays in fostering learning and personal growth in educational and professional settings. Research shows that peer feedback is an effective tool for enhancing not only academic achievement but also self-concept, critical thinking, and collaborative skills (Simonsmeier et al., 2020). It engages individuals in both giving and receiving feedback, bridging the gap between current performance and desired outcomes.

Solution

Our solution is a peer feedback app that enables students to evaluate each other based on criteria, either standardized or specified. By implementing an anonymous feedback system with customizable evaluation metrics, the app facilitates honest and constructive feedback. Additionally, self-evaluation tools and performance tracking help users reflect on their growth over time. Notifications and reminders ensure timely feedback, while feedback guidelines encourage constructive responses, creating a supportive and productive environment. The app's design prioritizes simplicity, data privacy, and ease of access to enhance users' experience and facilitate effective peer-to-peer feedback.

Peer feedback maximizes opportunities for self-improvement, promotes student autonomy, and builds professional competencies. By mastering the art of constructive feedback, participants not only facilitate their growth but also contribute to collective progress, especially in environments emphasizing societal impact and collaboration (Erasmus University Rotterdam, n.d.). This dual focus on individual and group development inspired the creation of the Peer Feedback App, aiming to provide a structured, accessible platform for feedback exchange.

Contact Information **Team Member**	**Degree + Track** **Track N/A for BSCyber**	**Email**	**Phone Number OR Other Contact Info**
Ethan Cox	BSIT – Game Dev and Simulation	Cox2ej@mail.uc.edu	614-725-8404
Melanie Peck	BSIT- Software Application	Peckmi@mail.uc.edu	513-668-3031
Advait Parab	BSIT- Data Technologies	Parabar@mail.uc.edu	513-837-1092
Nathaniel Wisher	BSIT – Cybersecurity	Wisherns@mail.uc.edu	859-443-6867

Project Source

The project team identified key challenges in traditional feedback processes—such as the lack of timely, meaningful feedback—and sought to address these through technology. The app's design incorporates principles from literature on effective feedback practices, emphasizing the importance of structure, constructive critique, and the emotional aspects of giving and receiving feedback. These insights guided the requirements analysis and informed the features that make the app both practical and impactful for users.

Project Objectives/Goals

The primary goal of this project is to create a mobile and web application that facilitates structured, anonymous peer feedback. The objectives are as follows:

1. Enable anonymous peer evaluations: Allow students to provide and receive constructive feedback on standardized or custom evaluation criteria.
2. Support self-assessment and reflection: Help students track their progress over time, encouraging accountability and self-improvement.
3. Ensure a supportive feedback environment: Use feedback guidelines to encourage constructive, respectful responses, and incorporate notifications for timely feedback submissions.
4. Prioritize data privacy and ease of access: Protect user information and provide a simple, accessible interface for students to interact with the app.

Team Members and Responsibilities

- Ethan Cox – Project Management, Developer
- Advait Parab - Project planning, Timelines, and Deliverables
- Melanie Peck - Frontend Development, UI/UX Design
- Nathaniel Wisher - Testing, Debugging, Security

Project Scope

By providing structured, anonymous, and helpful peer criticism, the Peer Feedback App aims to encourage student collaboration, accountability, and self-improvement. The application tackles issues that many students encounter, like the anxiety of being judged and the difficulties in locating timely, reasonably priced academic support. The software seeks to promote a positive learning environment through performance tracking, adjustable feedback criteria, and an intuitive interface.

Features and Functionalities

- In-Scope Features (Must be implemented during Senior Design)
    - User Registration and Authentication:
        - Secure sign-in through university email or single sign-on (SSO).
    - Anonymous Peer Feedback System:
        - Students provide feedback on predefined or customizable criteria, with feedback guidelines to promote constructive responses.
    - Feedback Aggregation and Dashboard:
        - Feedback summaries displayed in an easy-to-use dashboard.
    - Notifications and Reminders:
        - Automated prompts to encourage timely submission and review of feedback
    - Data Privacy and Security:
        - Anonymity protections, encryption, and compliance with privacy frameworks
            - (FERPA, GDPR, etc.)
- Out-Of-Scope/Future Enhancements
    - Mobile-First Enhancements:
        - Building a dedicated mobile application with offline capabilities, beyond the initial responsive design.
    - File/Media Attachments:
        - Allowing students to attach documents, images, or code snippets with their feedback.
    - Peer Review Export Options:
        - Ability to export feedback reports into PDF, CSV, or other formats for offline use or grading systems.
    - Cloud-Based Archiving:
        - Long-term storage of feedback history for institutional research purposes.
    - Peer Matching:
        - Automated matching of feedback groups based on courses, areas of study, and interests.
    - Cross-Platform Notifications:
        - Push notifications via SMS or email in addition to in-app reminders.
    - Theming and Personalization:
        - Allowing users to customize the interface with themes, fonts, or layouts.

- Offline mode:
  - Enabling limited app usage without internet, syncing data once reconnected.
- Cross-Device Sync Enhancements:
  - Seamless syncing across multiple devices beyond basic web responsiveness
- Time-Tracking Features:
  - Letting students log hours spent on projects as part of the feedback ecosystem.

Quick Project Timeline

Task #	*Task Name*	*Duration*	*Start Date*	*End Date*	*Purpose*
1	*Requirements Gathering*	*4 weeks*	*Mid-August*	*Mid-September*	*Collect and analyze requirements from potential users and stakeholders, focusing on core features and user needs.*
2	*UI/UX Design*	*4 weeks*	*Mid-September*	*Mid-October*	*Design wireframes and mockups for the app, emphasizing usability and accessibility for students.*
3	*UI/UX Testing*	*1 Week*	*Mid-October*	*Late October*	*Test mockup workflows and design*
4	*Frontend Development*	*5 weeks*	*Late October*	*Early January*	*Develop the app's user interface using React. Includes initial layouts, interactive elements, and form validation.*

5	*Frontend Testing*	*1 Week*	*Early January*	*Mid-January*	*Testing of the frontend of the site.*
6	*Backend Development*	*5 weeks*	*Mid-January*	*Late February*	*Set up the backend using Django. Focus on database integration, user authentication, and API creation.*
7	*Backend Testing*	*1 Week*	*Late February*	*Early March*	*Testing of Backend*
8	*Database Integration*	*3 weeks*	*Early March*	*Late March*	*Implement PostgreSQL for storing and managing user data, feedback submissions, and summaries.*
9	*Database Integration Testing*	*1 Week*	*Early March*	*Mid-March*	*Testing Database Integration*
10	*System Security and Authentication*	*2 Weeks*	*Mid-March*	*Late March*	*Integrate OAuth 2.0 for secure user authentication and ensure compliance with data privacy standards.*
11	*Security Testing*	*1 Week*	*Late March*	*Early May*	*Testing Security Features*
12	*Integration Testing*	*2 Weeks*	*Early May*	*Mid-May*	*Test the app for functional and non-functional requirements, including UI responsiveness and backend reliability.*
13	*Final Testing and Adjustment*	*2 Weeks*	*Mid-May*	*Early April*	*Final testing of project. Final minor*

					adjustments (No functional changes unless required)
14	*Presentation and Documentation*	*2 Weeks*	*Early April*	*April 14*	*Prepare project documentation and presentations*
		Extra Time left for buffer in case of falling behind Schedule			

Technologies Used

1) Frontend Development – React
   a) **Purpose**: React will be used to create the user interface for the app, ensuring a responsive and interactive experience for users on both desktop and mobile devices. Its component-based architecture will allow for modular development, making it easier to implement dynamic features like feedback forms and dashboards.
2) Backend Development – Django
   a) **Purpose**: Django will handle the server-side logic, manage user authentication, and facilitate data interactions. Its robust framework will ensure secure and scalable storage and retrieval of feedback data.
3) Database – PostgreSQL
   a) **Purpose**: PostgreSQL will be the primary database used to store user information, feedback submissions, and performance analytics. It offers strong support for complex queries, ensuring quick access to data.
4) Authentication – OAuth 2.0
   a) **Purpose**: OAuth 2.0 will secure the login process, allowing users to authenticate via their existing credentials (e.g., Google or university accounts). This ensures a seamless login experience and enhances security by minimizing password management risks.
5) Version Control – Git and GitHub
   a) **Purpose**: Git and GitHub will facilitate collaborative development, version control, and code reviews among team members, ensuring that all changes to the project are well-documented and easily reversible.
6) Testing Frameworks – Selenium and Pytest
   a) **Purpose**: Selenium will be used to automate UI testing for frontend functionality, while Pytest will be employed for backend unit testing. These tools will help ensure the app works as intended under various conditions and edge cases.

Ethical and Legal Considerations

As a team, we acknowledge the importance of data privacy, transparency, and user consent as outlined by the U.S. Department of Education's privacy policies and the ACM Code of Ethics (2018). A central ethical dilemma in developing the Peer Feedback App lies in balancing the need for user data to improve app performance with the responsibility to safeguard personal information. To address this, all user data will be handled with full consent, ensuring that users have a clear understanding of how their information is utilized and protected. Users will retain the right to access, modify, and delete their information, reflecting the requirements of the Family Educational Rights and Privacy Act (FERPA, 1974) and the General Data Protection Regulation (GDPR, 2016). No artificial intelligence algorithms will be employed for feedback analysis, reducing the risk of bias or unintended harm while preserving the integrity and security of users' data.

The app will comply with legal frameworks such as FERPA and, where applicable, GDPR, which safeguard users' rights to privacy and consent. An additional dilemma arises in moderating peer feedback: while open communication is valuable, harmful comments pose ethical risks. To mitigate this, the app will include built-in guidelines promoting constructive and respectful interactions, and users must agree to these before participation. Strict content moderation policies and reporting mechanisms will serve as strategies to protect against reputational harm while maintaining space for productive dialogue, consistent with the ACM principle of avoiding harm.

We commit to developing the application in a way that is transparent, accountable, and fully accessible. Our code will adhere to industry standards to ensure the application remains reliable and ethical, and we will provide full disclosure of the app's capabilities, limitations, and potential impacts to users, fostering trust and clarity. For cases where minors may use the app, additional safeguards, including parental consent mechanism, will be implemented to comply with the Children's Online Privacy Protection Act (COPPA, 1998).

Intellectual property rights will also be respected, ensuring that any third-party materials, such as rubrics or feedback guidelines, are properly licensed or attributed. Strong security measures, including encryption and regular audits, will protect against data breaches, addressing legal requirements under laws such as the California Consumer Privacy Act (CCPA,2018). These measures demonstrate a proactive strategy to mitigate risks while upholding ethical and legal standards. This emphasis on privacy, consent, accessibility, and transparency reflects our dedication to ethical and lawful technology use, ensuring the app serves as a secure and beneficial tool for users to foster personal and collaborative growth.

Team Rules

Examples:

1. *Plagiarism will not be tolerated. Any team member that plagiarizes will be subject to university policies and a team meeting will be called.*
2. *Each team member will stay up to date on their tasks to ensure the project milestones are met. If an event conflicts that will affect the completion of a deliverable, the team member will notify the other team members at least 24 hours in advance of the scheduled due date.*
3. *If a group member will not be able to attend a meeting or will be gone for an extended period, they will notify the other team members*
4. *Team members will all respect one another and give constructive feedback when necessary. Team members should be open to discussion and willing to adjust project deadlines or other items when necessary.*

Team Signatures:

Signature: Advait Parab

Date: 9/10/2025

Signature: Melanie Peck

Date: 9/10/2025

Signature: Nathaniel Wisher

Date: 9/10/2025

Signature: Ethan Cox

Date: 9/10/2025

Signature: Samuel Bricking
Date: 9/22/25

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Properly list references cited in your paper using APA format. What you list in this paper's reference section must be cited in the paper.

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