

Software Requirements Specification (SRS) Template

Project: Peer Rating and Feedback System

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Revision history

Version	Date	Author	Change summary	Approval
1.0	24-08-2025	Instructor	Initial SRS draft for Peer Rating System	Done

Approvals

Role	Name	Signature / Email	Date
Course Coordinator			
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1.Introduction

1.1 Purpose

This document is a Software Requirements Specification (SRS) for a Peer Rating and Feedback System. It defines the functional and non-functional requirements, interfaces, and system capabilities intended for use by project managers, instructors, and student team members to facilitate a structured peer review process.

1.2 Scope

The system will cover user account management, the creation of projects and teams, the design and distribution of peer evaluation surveys, and the submission of ratings by team members. It will include algorithms for score aggregation and the generation of individual feedback reports in PDF format.

1.3 Audience

The intended audience for this document includes Developers, QA Engineers, Project Managers, Instructors, System Administrators, and end-users (Students/Team Members).

1.4 Definitions

List of acronyms: PRS (Peer Rating System), UI (User Interface), API (Application Programming Interface), PDF (Portable Document Format), PII (Personally Identifiable Information), RBAC (Role-Based Access Control), HTTPS (Hypertext Transfer Protocol Secure).

2.Overall description

2.1 Product perspective

The Peer Rating System is a self-contained, web-based application designed to manage the peer evaluation process for team-based projects. It provides a centralized platform for instructors or managers to create surveys, for team members to rate their peers, and for the system to automatically calculate scores and generate confidential feedback reports.

2.2 Major product functions (detailed)

- **User and Role Management:** Create and manage accounts for administrators, instructors, and students.
- **Project and Team Setup:** Allow instructors to define projects, create teams, and assign students to teams.

- **Survey Management:** Enable instructors to create and customize rating forms with predefined criteria (e.g., Communication, Contribution).
- **Peer Rating Submission:** Provide an intuitive interface for students to rate their teammates and provide qualitative comments.
- **Score Aggregation:** Implement algorithms to process submitted ratings and calculate final scores for each individual.
- **Report Generation:** Automatically generate and export individual feedback summaries in PDF format.
- **Results Dashboard:** Provide a view for instructors to monitor submission progress and see aggregated, anonymized results.

2.3 User roles and characteristics (expanded)

- **Administrator:** Manages system-level configurations and all user accounts.
- **Instructor / Project Manager:** Creates projects, manages teams, designs and deploys surveys, and views analytical reports for their own projects.
- **Student / Team Member:** Participates in teams, submits peer evaluation forms, and views their own final feedback report.

2.4 Operating environment

The system will be a web application hosted on a server (e.g., Linux/Windows), accessible via standard modern web browsers (e.g., Chrome, Firefox, Safari) over a secure HTTPS connection. It will require a backend database (e.g., PostgreSQL, MySQL).

2.5 Constraints

- The system must comply with data privacy regulations concerning student/employee PII.
- The user interface must be responsive and functional on both desktop and mobile browsers.
- All data in transit must be encrypted.
- The PDF export functionality must use a designated open-source library.

3.External interface requirements

3.1 User interfaces

The primary UI will be a responsive web interface with distinct dashboards and functionalities tailored to the user's role (Administrator, Instructor, Student). The system will feature an intuitive design for creating survey forms, submitting ratings, and viewing reports.

3.2 Hardware interfaces

Not applicable.

3.3 Software interfaces

- **Email Service API:** For sending notifications to users regarding survey deadlines and report availability.
- **PDF Generation Library API:** To create and export feedback summary reports.

3.4 Communications

All network communication between the client browser and the web server shall be encrypted using HTTPS (enforcing TLS 1.2+).

4. System features (detailed)

Each requirement below includes acceptance criteria. IDs follow PRS-F-###.

4.1 User Management

Description: Manage user accounts and authentication.

Req ID	Requirement	Type	Priority	Source/Stakeholder	Acceptance criteria / Test case ref
PRS-F-001	The system shall allow new users to register for an account with a unique email.	Functional	High	All Users	AC-PRS-F-001: A user can successfully create an account and log in.

PRS-F-002	The system shall enforce role-based access control (RBAC) to restrict features based on user role (Admin, Instructor, Student).	Functional	High	Security	AC-PRS-F-002: A student user cannot access the instructor's project creation page.
PRS-F-003	The system shall provide a secure password reset mechanism via email.	Functional	High	All Users	AC-PRS-F-003: A user who forgot their password can successfully reset it and log in.

4.2 Project and Team Management

Description: Allow instructors to set up the structure for peer evaluations.

Req ID	Requirement	Type	Priority	Source/Stakeholder	Acceptance criteria / Test case ref
PRS-F-010	The system shall allow an Instructor to create a new project.	Functional	High	Instructor	AC-PRS-F-010: Instructor can define a project with a name and description.

PRS-F-011	The system shall allow an Instructor to create teams within a project.	Functional	High	Instructor	AC-PRS-F-011: Instructor can create multiple teams (e.g., Team A, Team B).
PRS-F-012	The system shall allow an Instructor to assign registered students to teams.	Functional	High	Instructor	AC-PRS-F-012: Students are successfully assigned to a team roster.

4.3 Survey and Rating Submission

Description: Manage the creation of surveys and the submission of peer ratings.

Req ID	Requirement	Type	Priority	Source/Stakeholder	Acceptance criteria / Test case ref
PRS-F-020	The system shall allow an Instructor to create a survey form with multiple rating criteria (e.g., on a 1-5 scale).	Functional	High	Instructor	AC-PRS-F-020: A survey is created with at least 3 criteria.

PRS-F-021	The system shall allow an Instructor to assign a survey to a project and set a submission deadline.	Functional	High	Instructor	AC-PRS-F-021: Survey is active for the specified project.
PRS-F-022	The system shall present a student with a form to rate each of their teammates (excluding themselves).	Functional	High	Student	AC-PRS-F-022: The rating form lists all team members except the logged-in user.
PRS-F-023	The system shall allow a student to submit qualitative (text-based) feedback for each peer.	Functional	High	Student	AC-PRS-F-023: Comments are saved along with numerical ratings.
PRS-F-024	The system shall prevent a student from submitting a survey after the deadline.	Functional	High	Business	AC-PRS-F-024: The submit button is disabled after the deadline has passed.

4.4 Aggregation and Reporting

Description: Process submitted data and generate reports.

Req ID	Requirement	Type	Priority	Source/Stakeholder	Acceptance criteria / Test case ref
PRS-F-030	The system shall calculate the average score for each student on each criterion based on ratings received from their peers.	Functional	High	Instructor	AC-PRS-F-030 : Scores are mathematically correct based on test inputs.
PRS-F-031	The system shall provide a dashboard for Instructors to view overall submission status and aggregated team scores.	Functional	High	Instructor	AC-PRS-F-031 : The dashboard accurately reflects how many students have completed the survey.

PRS-F-032	The system shall generate an individual feedback report in PDF format for each student.	Functional	High	All Users	AC-PRS-F-032 : A valid, downloadable PDF is generated for a student.
PRS-F-033	The student's PDF report shall contain their average scores and all qualitative comments received, which must be anonymized.	Functional	High	Student	AC-PRS-F-033 : The report shows scores and comments, but not who gave them.

5.Non-functional requirements (detailed)

NFRs below are measurable and tied to test plans. IDs PRS-NF-####.

Req ID	Requirement	Category	Priority	Acceptance criteria / Measurement
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PRS-NF-001	Web pages shall load in a user's browser in ≤ 3 seconds for 95% of requests under normal load.	Performance	High	95th percentile page load time $\leq 3s$ in production-like tests.
PRS-NF-002	The system shall provide 80% availability monthly, excluding scheduled maintenance windows.	Reliability	High	Uptime reports show $\geq 80\%$ availability per month.
PRS-NF-003	All Personally Identifiable Information (PII) must be handled securely, and user passwords must be stored hashed and salted.	Security	High	Security audit checklist pass; no PII or passwords in plaintext in the database.
PRS-NF-004	The system shall provide immutable logs of rating submissions, retained for 2 months for audit purposes.	Audit/Data Retention	High	Automated archival and retrieval of submission records verified.
PRS-NF-005	The user interface shall conform to Web Content Accessibility Guidelines (WCAG) 2.1 Level AA.	Usability/ Accessibility	Medium	Automated and manual accessibility audits pass.

5.1.Security

5.1.1 Security Objectives

- **Confidentiality:** Ensure that peer ratings and feedback are only visible to authorized individuals (e.g., a student can only see their own final report, an instructor can only see reports for their own projects).
- **Integrity:** Ensure that submitted ratings and comments cannot be altered after submission by any user.

5.1.2 Security Requirements

Req ID	Requirement (shall...)	Type	Priority	Acceptance criteria / Test case ref
PRS-S R-001	All network connections shall be secured using TLS 1.2+ (HTTPS).	Security	High	Penetration test confirms no insecure connections are possible.
PRS-S R-002	The system shall protect against the OWASP Top 10 web vulnerabilities, including SQL Injection and Cross-Site Scripting (XSS).	Security	High	Vulnerability scan and code review show no critical vulnerabilities.
PRS-S R-003	User sessions shall automatically time out after 30 minutes of inactivity.	Security	High	An inactive user is logged out and forced to re-authenticate after 30 mins.

PRS-S R-004	An instructor shall not be able to view the raw, non-anonymized ratings submitted by one student for another.	Security	High	No UI or API endpoint exists for an instructor to de-anonymize ratings.
PRS-S R-005	The system shall maintain an audit trail of sensitive actions, such as user login, project creation, and survey finalization.	Security	Low	Audit log correctly records these events with user ID and timestamp.

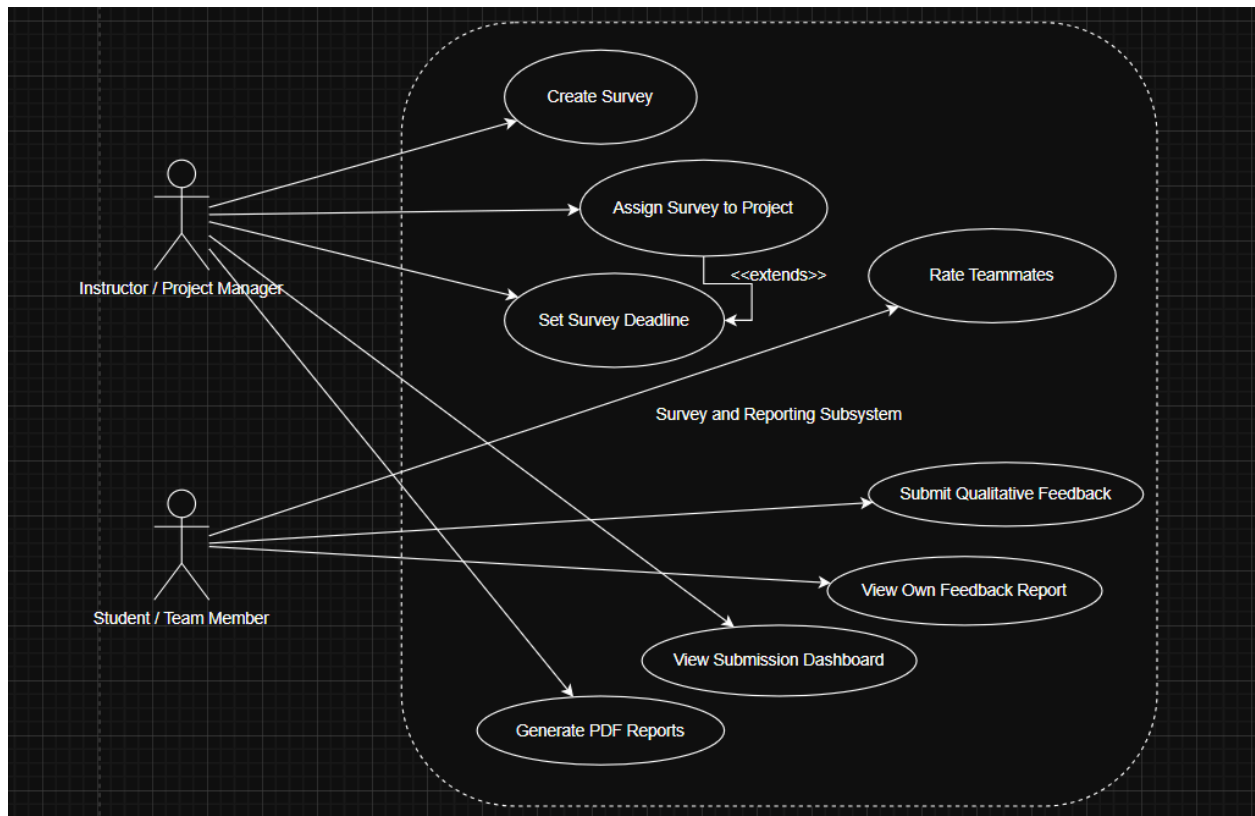
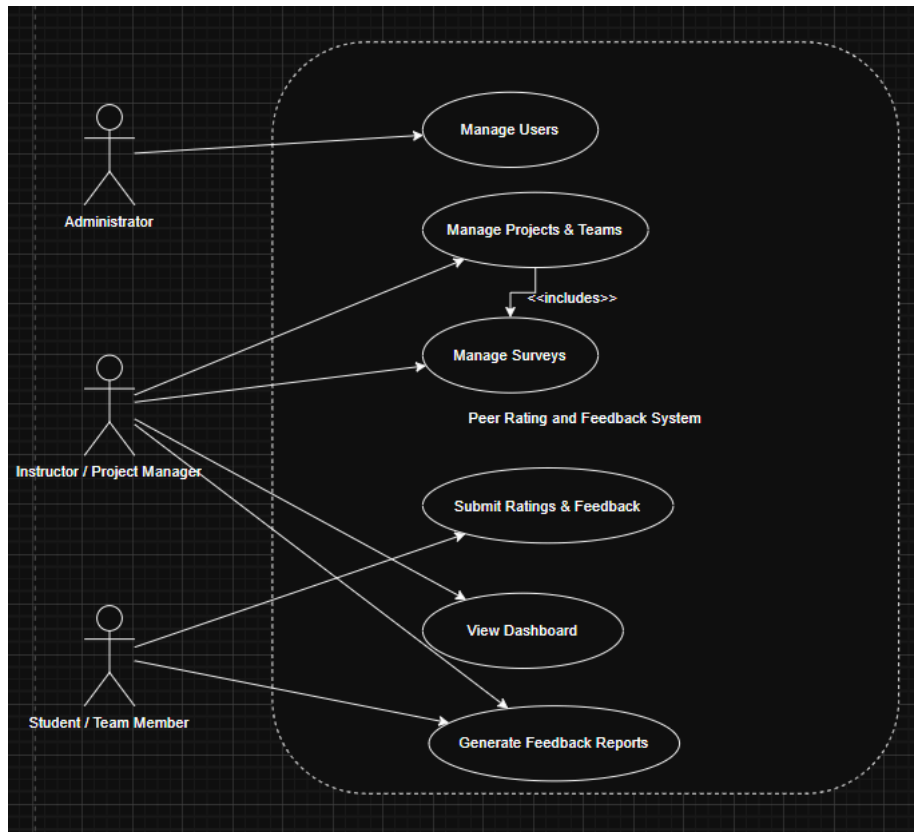
6. Quality attributes & Acceptance tests

Exit criteria for acceptance: All high-priority functional requirements (PRS-F-xxx) implemented and verified, no failures in high-priority NFRs (PRS-NF-xxx), and all security requirements (PRS-SR-xxx) passed.

- **Acceptance test suites:** User Management, Project/Team Setup, Rating Submission, Reporting, Performance, and Security Penetration tests.

7. System models and diagrams

7.1 UML Use-Case diagram



8.Requirements Traceability Matrix (RTM)

Req ID	Requirement short	Section ref / Design Spec	Module	Test case(s)	Status (N/P/A)	Comments
PRS-F-002	Enforce RBAC	4.1 / DS-Auth-01	AuthModule	TC-Auth-02	N	
PRS-F-022	Rate teammates	4.3 / DS-Survey-01	SurveyModule	TC-Survey-01	N	
PRS-F-032	Generate PDF report	4.4 / DS-Report-01	ReportModule	TC-Report-01	N	
PRS-NF-001	Page load time	5 / DS-Perf-01	WebUI	TC-Perf-01	N	