

Software Test Plan (STP) - Online Peer Review Tool

Project: Online Peer Review Tool

Version: 2.0

Authors: QA Team

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Introduction

The purpose of this test plan is to define the objectives, scope, strategy, resources, schedule, and responsibilities for testing the Peer Rating and Feedback System v1.0. It covers all modules, requirements, and quality attributes established in the SRS.SE_Project_SRS.pdf

Scope

Testing will cover all core features: user management, project and team setup, survey creation/submission, rating aggregation, reporting, role-based access control, and system security. Non-functional aspects (performance, reliability, accessibility) are also included. Third-party libraries (e.g., PDF generator) will be tested for integration only. Hardware and cloud deployment specifics are excluded.

References

- Peer Rating & Feedback SRS v1.0SE_Project_SRS.pdf
 - Design Specifications v1.0
 - Web Accessibility Guidelines (WCAG 2.1 AA)
 - Security Best Practices (OWASP, TLS 1.2+)
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Definitions

- PRS: Peer Rating System
- SRS: Software Requirements Specification
- RBAC: Role-Based Access Control
- UI: User Interface
- API: Application Programming Interface
- PDF: Portable Document Format

Test Items

- User Authentication & Registration
 - Role-Based Access (Admin, Instructor, Student)
 - Project/Team Management
 - Survey Management & Assignment
 - Peer Rating Submission (numeric & qualitative)
 - Score Aggregation Algorithms
 - PDF Feedback Generation & Export
 - Results Dashboard
 - Security Features (Session Timeout, Data Privacy, Audit Logs)
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Features To Be Tested

SRS Feature/ID	Description	Test Case IDs
PRS-F-001, F-002, F-003	User registration, RBAC, password reset	TC-Auth-01 to TC-Auth-05
PRS-F-010, F-011, F-012	Project & team setup, student assignment	TC-Proj-01 to TC-Team-03
PRS-F-020, F-021, F-022, F-023, F-024	Survey creation, assignment, submission, deadline enforcement	TC-Serv-01 to TC-Serv-07
PRS-F-030, F-031, F-032, F-033	Score aggregation, dashboard, PDF report	TC-Agg-01 to TC-Rep-04
PRS-NF-001, NF-002	Performance, reliability	TC-Perf-01, TC-Rel-01
PRS-NF-003, NF-004	Security, audit/data retention	TC-Sec-01 to TC-Audit-02
PRS-NF-005	Accessibility (WCAG compliance)	TC-Acc-01

PRS-SR-xxx	All security requirements	TC-Sec-01 to TC-Sec-05
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Features Not To Be Tested

- Third-party PDF generation library internals
- Backend database implementation details
- OS/browser compatibility beyond specified list
- Hardware-specific deployment setup

Test Approach / Strategy

Test Levels

- Unit: Individual functions/modules (e.g., rating form submission, score calculation)
- Integration: Module interactions (e.g., survey assignment to teams)
- System: End-to-end workflows (user registration to report generation)
- Acceptance: UAT for final validation against SRS criteria

Test Types

- Functional: All PRS-F-xxx and PRS-SR-xxx requirements
- Regression: On each build iteration
- Performance: Page load time, server response under load
- Security: Penetration testing, vulnerability scans, session timeout, audit logs
- Usability: UI review, accessibility audit

Entry Criteria

- Stable build delivered
- Test environment and dummy data prepared (users, teams, projects)

Exit Criteria

- 100% planned test cases executed
- 0 high-priority defects open
- All acceptance criteria for functional, non-functional, and security requirements met

Security Validation

- Validate secure password handling (hashing/salting, no plaintext storage)
 - Ensure TLS 1.2+ for all client-server communication
 - RBAC enforcement (no unauthorized feature access)
 - Penetration testing for OWASP Top 10 vulnerabilities (SQL Injection, XSS, CSRF, etc.)
 - Session timeout validation
 - Audit trails for sensitive actions (login, survey submission, report generation)
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Test Environment

- Web server (Linux/Windows), HTTPS enabled
 - Backend database (PostgreSQL)
 - Email/smtp service for notifications
 - Tools: Selenium (UI automation), Postman (API), JMeter (performance), Axe (accessibility), Jira (defect tracking)
 - Test data: Mock users, teams, survey responses
 - Supported browsers: Chrome, Firefox, Safari
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Test Schedule

Milestone	Date
Test case design	14-Oct-2025
Environment setup	19-Oct-2025
Test execution start	24-Oct-2025
Test execution end	27-Oct-2025
UAT	1-Nov-2025- 3-Nov-2025

Test Deliverables

- Test Plan (this document)
 - Test Cases (manual & automated)
 - Test Scripts
 - Test Data Sets
 - Execution Logs
 - Defect Reports
 - Final Test Summary Report
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Roles and Responsibilities

Role	Name(s)	Responsibility
QA Lead	Rohan Suresh	Prepare plan, coordinate test activities
Test Engineer	Rishabh Jawagal	Design & execute test cases, report defects
Developer	Nikhilesh Venkat	Fix defects, support triage
Product Owner	Rohann Rahul Shah	Review results, approve release readiness

Risks and Mitigation

Risk	Mitigation
Delays in stable build delivery	Request early builds and pre-release testing
Environment downtime	Maintain backup/test environments

Dependency on SMTP/PDF library	Use stubs or mock services for testing
Test data availability	Create automated data setup scripts

Assumptions & Dependencies

- Backend and notification APIs are stable and available
 - Required drivers/libraries are properly integrated
 - Mock data sets are accurate and complete
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Suspension & Resumption Criteria

- Suspend if environment unavailable >4 hours or build unusable (>30% test cases blocked)
 - Resume after environment/build stabilized and blocking defects resolved
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Test Case Management & Traceability

Requirements Traceability Matrix (RTM) ensures every SRS requirement is mapped to test cases.

Example:

Requirement (ID)	Test Case IDs
PRS-F-001 (Registration)	TC-Auth-01, TC-Auth-02
PRS-F-010 (Project)	TC-Proj-01
PRS-NF-001 (Performance)	TC-Perf-01
PRS-SR-001 (TLS)	TC-Sec-01

Test Metrics & Reporting

- % test cases executed/passed/failed
- Defect density and aging
- Requirement coverage rate
- Daily execution updates
- Final summary report

Test Case ID	Test Scenario / Description	Preconditions	Test Steps / Input Data	Expected Result	Postconditions / Remarks
TC-Auth-01	Validate user login	User registered	1. Insert valid email and password. 2. Click login.	Access granted	User session created
TC-Auth-02	Block unauthorized access	User is not logged in	1. Access protected route/api/projects.	401 Unauthorized error	No session
TC-Project-01	Create a new project	User with Instructor/Admin role	1. Submit project data via API. 2. Check response.	Project created, 201 status	Project appears in DB
TC-Team-01	Assign students to teams	Project and users exist	1. Assign students to team for project via API.	Students mapped to correct teams	Team formation reflected
TC-Survey-01	Create peer review survey	Instructor/admin logged in	1. Submit survey details for existing project.	Survey created, accessible to students	Survey ID assigned

Test Case ID	Test Scenario / Description	Preconditions	Test Steps / Input Data	Expected Result	Postconditions / Remarks
TC-Rating-g-01	Submit peer ratings	Survey active; student logged in	1. Fill ratings; 2. Submit response.	Ratings saved; confirmation returned	Submission logged
TC-Report-t-01	Generate aggregated report	Ratings submitted by all students	1. Request team report via API.	Aggregated report visible/downloadable	Results can be reviewed
TC-Access-s-01	Enforce HTTPS only	API server running	1. Call endpoint via HTTP.	Redirect/refusal; only HTTPS allowed	Security enforced