Gradific Product Requirement Document

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Overview

Gradific is a platform designed to simplify the evaluation process for Academic Institutions. It helps moderators to create and entrust assignments, members to submit their assignments, and owners to track progress and performance using automated grading, leaderboards, and analytics.

Problem

External Problems To Solve:

- Inefficient Task Management: Existing moderatorship programs lack a centralized management system, leading to missed deadlines and disorganized submissions.
- Scalability Issues: Current grading methods do not efficiently support large-scale programs with over 15,000 members across multiple paths, making manual grading impractical.
- Delayed Feedback: Members often experience slow feedback loops due to the high volume of submissions, impacting their learning and progression.
- Lack of real-time tracking: Without real-time performance tracking and leaderboards, members struggle with motivation and competition.
- Improving the grading system by using clear and accurate scoring metrics.

Internal Business Problems To Solve:

- Process Efficiency: Assignment creation, submission, grading, and reducing administrative workload for moderators and program coordinators.
- Enabling Other Teams: Provides program administrators with actionable insights on member performance to optimize future programs.

Solution

A Web app that:

- Allows moderators to create and entrust assignments efficiently.
- Enables members to submit links to their assignments based on their paths.
- Offers customizable grading criteria for consistent assignments.
- Displays real-time rankings to keep members motivated.
- Generates insights for moderators and owners to monitor progress and optimize moderatorship effectiveness.

Use cases

Task Management & Submission

- The moderator assigns a task with a deadline.
- The members view the task details (requirements & due date).
- The Member works on the task and uploads the submission link.
- The system confirms successful submission and notify the moderator.

Grading & Feedback

- The moderator reviews, grades and provides feedback.
- The Member receives feedback and grade scores to improve in future assignments.
- The Member is promoted if the promotion criteria is met.

Leaderboard & Performance Tracking

- The system totals Members scores based on completed assignments.
- A leaderboard ranks students based on their performance.
- The leaderboard updates automatically as new scores are recorded
- The moderator monitors Members performance and progress.

Account Deactivation

• The system paths assignments completion and performance.

- The owner deactivates the Member's account, if promotion criteria is not met.
- Members receive an email about deactivation.

Owner & Analytics

- Owner view the list of registered Members
- Owners can add new members, update details and deactivate accounts.
- Owner views submitted assignments.
- Owners can filter and assign moderators to their various paths.
- Owner accesses the analytics dashboard.
- The system displays performance data(task completion rates. Leaderboard rankings, stage progression).

Product Value

Gradific is designed for Academic Institutions, helping members and moderators path performance, manage assignments, and provide flexible grading models. It features real-time leaderboards, progress analytics, and personalized feedback to enhance transparency and engagement.

Target Personas

User Demographics:

- Members (Students)
- Moderators (Path Leads, Instructors and Trainers)
- Program Owners (School Coordinators)

Key User Personas:



David, The program coordinator

Demographic

- Age: 35
- Occupation: Tech Community Manager
- Location: Lagos, Nigeria
- Education: B.Sc. in Computer Science

Challenges and Pain points

- Managing multiple mentorship tracks and grading criteria can be overwhelming.
- Needs a centralized system to track mentor performance and mentee progress.
- Struggles with ensuring fair and standardized grading across all mentors.

Goals and Motivations

- Wants to improve grading efficiency and transparency.
- Needs an automated way to generate reports on mentorship performance.
- Seeks to reduce manual administrative tasks and streamline workflows.



Tobi, The program Mentor

Demographic

- Age: 29
- Occupation: Senior Frontend Developer
- Location: Abuja, Nigeria
- Education: B.Sc. in Computer Engineering

Challenges and Pain points

- Struggles with keeping track of multiple mentees' task submissions.
- Manually calculating and assigning grades is time-consuming.
- Sometimes lacks clarity on grading criteria for specific tasks.

Goals and Motivations

- Aims to make grading faster and more structured.
- Wants a system that allows detailed feedback on submissions.
- Prefers an automated scoring system for accuracy and fairness.



Chisom, The Aspiring Developer

Demographic

- Age: 23
- Occupation: Tech Intern (Frontend Track)
- Location: Enugu, Nigeria
- Education: Self-taught, currently taking online courses

Challenges and Pain points

- Struggles with unclear task requirements and grading expectations.
- Needs an easy way to submit different types of work (links, images, files).
- Feels frustrated when feedback is delayed or inconsistent

Goals and Motivations

- Wants to improve technical skills through structured mentorship.
- Aims to get clear feedback to improve on future tasks.
- Needs a fair grading system to track learning progress.

Success criteria

- Assignment Completion Rate: At least 80% of members should complete their assignments within the given timeframe.
- Performance Visibility and Tracking: At least 70% of members actively check their performance dashboard weekly.
- Accuracy & Fairness: 100% of grading should follow the set evaluation criteria to ensure fairness.

- Slack Integration Usage: 70% percent of users should engage with slack notifications for task updates.
- System Reliability: Gradific should optimally process and update assignment performance data.

GRADIFIC SWOT ANALYSIS

Strengths

- User-Friendly Interface-Simple and easy for moderators, members and owners to use
- Efficient Grading Process-Automates grading and feedback, saving time
- Track-Based System- Allows structured learning and evaluation
- Progress Tracking- Members can monitor their performance.
- Notifications & Alerts- Keeps users engaged with real-time updates.

Weaknesses

- Security and Privacy- Need for integrating security and privacy of data as means of protection for members, moderators and owners.
- Limited subjects suitability- Not all subjects like art, music, creative writing can be graded by automation. This creates a gap requiring manual grading assessment.
- Potential Bugs- Early versions might have technical issues that affect the grade.
- Limited Features in version 1.0- May not have advanced analytics or Al grading at launch.
- Lack of Mobile App at Launch
 If
 Gradific is web only, it may miss out
 on users who may prefer a mobile
 version for ease of use.

Opportunities

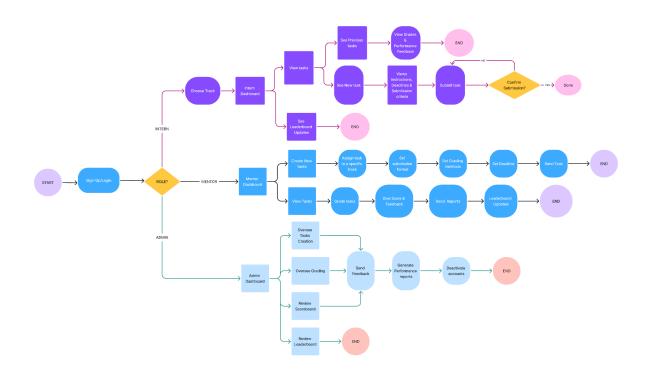
- **EdGrowth** Increased demand for digital learning and grading tools.
- AI-Powered Features Future versions can include auto-grading or smart feedback.
- Partnership- Collaborating with educational institutions or other educational technology providers could enhance offerings and reach.
- Mobile Accessibility-Expanding to mobile apps for ease of use.
- Freemium Model- Attract users with free access, then monetize premium features.

Threats

- Low User Adoption Users might doubt the system's ability to grade accurately.
- Security Risk- Unauthorized access or data breaches could compromise track management
- Competitors New competitors are bound to enter the market with better opportunities and Solutions.
- Data Privacy Concerns- Need strong security to protect student and moderator data.
- Tech Dependence- App's success relies on stable member access and device compatibility.

Designs / User Flows

Figma Link: <u>User Flow Diagram</u>



Key Features and Functionalities

Core Features:

1. Onboarding

- Slack integration creates member profiles on the platform using member slack details
- o Login details are sent to members for access to the platform
- Members should be able to update their profile information
- o Moderators are invited to the platform via email
- o Moderators accepts invitation and gains access to the platform

2. Task Management

o Create and assign assignments with deadlines per track.

3. Grading System

 Customizable grading rubrics to accommodate different evaluation criteria.

- Automated grading support for objective assignments (e.g., quizzes, code auto-evaluation).
- o Manual grading for subjective assignments with moderator feedback.

4. Leaderboard & Performance Analytics

- o Path members progress in real-time with leaderboards.
- o View detailed performance reports per track and per stage.

5. Promotion System

o Automated promotion to the next stage based on performance.

6. Moderator & Owner Dashboard

- o Track pending and completed grading assignments.
- Manage grading consistency across multiple moderators.
- o Generate reports on member performance trends.

7. Slack Integration

- Automatic synchronization of user profiles to the platform using their slack details
- Automatic slack channel removal from the platform
- Manual sync of slack users to the platform
- Manage customizable slack notifications

Versions

Gradific Version 0.1

Epic: Assignment Creation

The application allows Moderators to create assignments and share assignments with members.

Owners can sign up and login, create workspaces, and create paths, and owner can also send invite links to moderators.

Moderators can create and share assignments.

Acceptance Criteria

- 1. Owners should be able to sign up, and login to Gradific.
- 2. Owners should be able to create workspace.
- 3. Owners should be able to invite moderators using an invite link.
- 4. Owners can create paths with path details.

5. Moderators can sign in using the invite link.

6. Moderators can create assignments with detailed descriptions.

7. Moderators can publish created assignments.

Gradific Version 0.2

Epic: Paths Creation, Password Reset, and Owner settings flow

Description

This allows owners to create paths and assign moderators to oversee grading and path activities.

Owners also have a settings page where they can manage profile settings.

Users who forget their passwords can securely reset them through a password recovery process.

Acceptance criteria

1. Owners should be able to create paths which include track name, path title and path description.

2. Owners should be able to assign moderators to paths.

3. Owners should be able to remove moderators from paths.

4. Owners should have a settings page to manage profile settings.

5. Owners should be able to manage user roles and permissions.

6. Users should have a forgot password option on the login page.

7. Users should receive a password reset email using their registered emails.

8. Users should be able to login using their recently reset passwords.

9. Users should be able to reset and update their password.

Gradific Version 1.2

Epics: Onboarding of Members, Manual Grading and assignment submissions.

Description

Owners can onboard members by sending them an invite link. Members access the app via the link ,members should also be able to view their dashboard, join their paths, see created assignments and submit.

Acceptance Criteria

- 1. Owners should be able to onboard members by sending an invite link.
- 2. Members should be able to login to the app via the link
- 3. Members should be able to join their specified path(s).
- 4. Members should be able to view their path(s) on their dashboard.
- 5. Members should be able to view assignments.
- 6. Members should be able to submit via text (entering a URL)
- 7. Moderators should be able to view members submissions.
- 8. Moderators should be able to assign scores to members' submissions.
- 9. Moderators should be able to give feedback on members performance

Gradific Version 0.3

Epic: Leaderboard and Analytics

Members and Moderators can see a ranked list of all members based on their paths and scores. Top performing members have a badge

Acceptance Criteria

- 1. The leaderboard displays a ranked list of members based on performance scores.
- 2. The leaderboard should be updated by paths.
- 3. Members can view their position in comparison to others.
- 4. Members can apply stage-based filters to adjust leaderboard rankings.
- 5. Top members have a badge next to their names
- 6. The filtered leaderboard updates dynamically when a stage is selected.
- 7. Scores are updated automatically.

Gradific Version 0.4

Epics: Auto grading system

Description

Allows moderators to automate grading of assignments and assessments, the system evaluates submissions, aligns scores based on predefined criteria and provides instant feedback to members.

Acceptance criteria

1. Moderators create a customizable grading criteria that would aid in the

automation of assessments.

2. Appropriate feedback is instantly given to members after grading.

3. The grading system evaluates submissions and assigns grades based on the

grading criteria given for automation.

Gradific Version 0.5

Epics: Integration of Other platforms

Description

The Integration of Other Platforms feature allows Gradific to seamlessly connect with third-party tools and learning management systems (LMS). This integration enhances workflow by enabling data import/export, streamlining grading, and facilitating real-time collaboration between platforms

Acceptance Criteria

1. Integration with other platforms such as Slack, Ims etc.

2. Members and moderators should be able to securely link external platforms

with Gradific.

3. Moderators can export grading data, members progress and performance

analytics to integrated platforms.

- 4. Members receive notifications when Assignments or resources are added through integrated platforms.
- 5. Owners or moderators should be able to choose where notifications from integrated platforms would go to.

Milestones

Milestones	Task Description	Date
Product Approval	Finalize PRD and get stakeholder approval	17/02/2025
Design Ready	Complete wireframes, UI/UX design, and prototypes	24/02/2025
Prototype Testing	Conduct usability testing on prototypes	26/02/2025
Development Starts	Begin development of core features	1/03/2025
Alpha Testing	Memberal testing of basic functionalities	30/03/2025
Beta Launch	Release a beta version for selected users	31/03/2025
Feedback & Iteration	Gather feedback, fix bugs, and optimize performance	1/04/2025
Full Launch	Official rollout to all users	04/04/2025

Launch Timeline for Version 1.0

PHASE	TIMELINE	MILESTONES
 Planning & Setup Finalize requirements and define the tech stack Set up the project repository Develop the basic structure of the Landing page 	Week 1	 Project repository & setup completed Landing page layout completed.
 Authentication & Owner dashboard structure Implement owner authentication (Login) Build the owner UI dashboard Create navigation between pages 	Week 2	Owners login functionality completed. Owners dashboard structure with navigation built.
Moderator & track management core features	Week 3	 Owner can add moderators Owner can create paths

Testing, refinements & deployment	Week 4	Fully functional grading app with the
Conduct user acceptance testing and fix		landing page, authentication &
bugs		owner dashboard
Optimize UI & improve performance		Version 1.0 deployed
Deploy version 1.0		

User Stories and Acceptance criteria

Feature	User story	Acceptance Criteria	Release
Onboardin g (Signup)	- As moderator I want to be able to sign up using my email and unique moderator's code - As a moderator I want to be able to login if I am existing user	 Moderator can enter a username Moderator can enter an email ID Moderator can enter a unique code made available by the owner Moderator can enter a password and confirm it Moderator can click on a Signup button Moderator can see a Login link at 	V 0.1

		the bottom of the form	
Onboardin g (Login)	- As a moderator I want to be able to login using my email address and password	 Moderator can enter an email address and password Moderator can click on the Login button Moderator can see a Create Account link at the bottom of the form Moderator can see a Get Started link at the bottom of the form (for member registration) 	V 0.2
Dashboar d (Moderato r)	 Aa a moderator, I want to be able to track the performance of my members As a moderator I want to be able to filter and view this performance by calendar or paths As a moderator, I want to be able to perform a search As a moderator, I want to be able to view notifications 	 Moderator can view cards of active members and members assigned Moderator can click on the calendar icon and filter by date Moderator can click on the paths-dropdown and filter by a single path Moderator can view a table of all members (as can be filtered) Moderator can search for an member by name or email Moderator can click on the 	

			Notification icon and view a list of current notifications	
Paths		- As a moderator (lead), I want to be able to create new paths - As a moderator I want to be able to view paths added as cards - As a moderator I want to be able to see a view assignments link on on the card of each path - As a moderator I want to be able to see available parts as a sub-menu of paths and access them directly	- Moderator (lead) can click on 'Create New Assignment' to create assignments - Moderator (lead) can see a form modal when 'Create New Path' is clicked Moderator (lead) can fill the input fields, select a path icon, select a path color, optional ticker to notify other moderators, click on CANCEL or "create a new assignment". All on the form modal - Moderator (lead) can see a success modal with CLOSE and Edit Paths buttons Moderator can see paths created by lead Moderator and view the assignments inside the path - Moderator can directly access paths listed as sub-menu of Paths	
Assignme	Creation	- As a moderator, I want to be	- Moderator can click on CREATE	

nts		able to create assignments inside of a track.	NEW TASK button. - Moderator can enter task title, description, instruction, add attachments in the Create Task Brief tab. Can see a BACK and NEXT buttons. - Moderator can select deadlines, promotion stage, grading method, customized grading criteria, passing criteria and choose submission field in the Deadline & Criteria tab. - Moderator can preview created task and click on Publish Task button in Publish tab. - Moderator can see a success modal with CLOSE and Edit Tasks buttons.	
Task	View	 As a moderator, I want to be able to view task summaries as cards inside of a track. As a moderator, I want to be able to view task detail pages. As a moderator, I want to be able to edit assignments. 	 Moderator can see task summaries as card view. Moderator can click on a card to view task details. Moderator can edit task inside a task details page. 	

	View Submissions	 As a moderator, I want to be able to view task submissions. As a moderator, I want to be able to filter submissions by stage, Assigned-to-me, recent. As a moderator, I want to be able to export a submission. As a moderator (Lead), I want to be able to assign a submission to a moderator. As a moderator, I want to be able to see the total number of submissions made as well as numbers of submissions per page. As a moderator, I want to be able to navigate the available pages. As a moderator, I want to be able to view submissions made by members. 	- Moderator can view list of members that have submitted the task. List is in a table format - Moderator can filter submissions by selecting a stage from the stage drop-down list Moderator can filter by clicking on the filter drop-down and select either Assign-to-me or recent Moderator can either select-all or multi-select and click on export button to export as a CSV file Moderator can either select-all or multi-select and click on Assign to assign to a moderator Moderator can be able to select any page number or navigate pages by clicking on Previous or Next buttons Moderator can click on any submission on the list to view individual submissions page.	
Members		- As a moderator, I want to be	-Moderator can be able to view as a	

able to see members scores on a table list.

- As a moderator, I want to be able to search for members.
- As a moderator, I want to be able to filter members.
- As a moderator, I want to be able to export members.
- As a moderator, I want to be able to deactivate members.
- As a moderator, I want to be able to see the total number of members as well as numbers of members per page.
- As a moderator, I want to be able to navigate the available pages.

list members scoresheet showing slack ID, task title, submission date, assigned moderator, score and status.

- Moderator can be able to search for members using their slack ID.
- Moderator can filter members by paths, stage and performance.
- Moderator can select-all or multi-select members on the list for exporting by clicking on the export button.
- Moderator can select-all or multi-select members on the list for deactivation by clicking on the Deactivate Selected button.
- After clicking on Deactivate
 Selected button, Moderator can see
 a modal with input field for owner
 passcode, a check button for giving
 notifications to member, Cancel and
 Deactivate button
- Moderator can see a success modal with Go To Spreadsheet button after clicking Deactivate

			button	
Leaderboa rd		-As a moderator, I want to see leaderboard and analytics tabs.	-Moderator can switch between viewing the leaderboard and analytics page	
	Leaderboard Tab	-As a moderator, I want to view the top members (top three as cards, others as a table list). - As a moderator, I want to be able to select a ranking member and view their page. - As a moderator, I want to be able to export as CSV. - As a moderator, I want to be able to filter by track.	-Moderator can see the leaderboard page (top three as cards, others as a page lists Moderator can select a ranking member and view their individual page Moderator can filter leaderboard list by paths.	
	Member Full Page	-As a moderator, I want to see an member profile summary to include profile picture, name, username, subscription type tag, track, score, average score and completion rate As a moderator, I want to be able to deactivate members	-Moderator can view an member profile summary showing the following details: profile picture, name, username, subscription type tag, track, score, average score and completion rate. - Moderator can deactivate an member by clicking on Deactivate	

Anal	from members full page - As a moderator, I want able to view two tabs: Previous Submission a moderator, I want to be to view cards of the mere previous submissions. (i) Previous Submission a moderator, I want to be to view the details of a te from an member's Previous Submission (ii) Current Task tab: As moderator, I want to be view as a card, the ment Current Task - As a moderator, I want	Previous - Moderator can switch between viewing the Previous Submission tab and Current Task tab. (i) Previous Submission tab: Moderator can see card views of an member's previous submissions including details of Task name, task duration, task description, submission date and time. (i) Previous Submission tab: Moderator can see a right sided full-screen modal with details task name, status, created time, due date, pass mark, task brief (expandable) and submission links (ii) Current Task tab: Moderator can see card views of an member's Current Tasks including details of Task name, task duration and task description.	
Andi	members scores as a b		

	task completion as a line chart, member engagement as a bar chart, top performing members as a table lists and program retention metrics as a bar chart. - As a moderator, I want to be able to filter out analytics by paths. - As a moderator, I want to be able to filter analytics by stages. - As a moderator, I want to be able to export as CSV.	 Moderator can filter out analytics by track by clicking on the dropdown to select a track. Moderator can filter analytics by stages by clicking on the dropdown to select a stage. Moderator can click on export as CSV button to export data. 	
Notificatio n			
Setting			
Profile			

Non-Functional Requirements

- Scalability & Performance: Must support 17,000+ users, handling large submissions and grading processes efficiently.
- Security & Compliance: Ensure secure authentication, encrypted data storage, and compliance with privacy regulations.
- Reliability & Availability: Maintain 99.9% uptime, with automated backups and disaster recovery plans.
- User Experience & Accessibility: Provide an intuitive, mobile-first design accessible across different devices and browsers.
- Real-Time Functionality: Enable instant notifications, leaderboard updates, and grading feedback without delays.
- Logging & Monitoring: Maintain detailed audit logs for all user activities, grading actions, and platform usage.

Dependencies

- Authentication & Authorization: Google OAuth, GitHub login, or custom email verification.
- Database & Storage: Cloud-based database for storing user profiles, assignments, and grades, plus file storage for submissions.
- Frontend & Backend Frameworks: Web and mobile platforms built with a scalable tech stack.
- Task Management & Notifications: Automated reminders for deadlines, feedback, and performance updates.
- Analytics & Reporting: Real-time performance tracking, leaderboard rankings, and grading trends.
- Hosting & Deployment: Cloud-based hosting for scalability, ensuring smooth operation across multiple locations.