

Software Requirements Specification (SRS)

~~ **GeniusJunction** ~~

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Genius Junction

1. Introduction:

GeniusJunction is an innovative online learning platform designed to empower both instructors and students in their educational endeavors. With a user-friendly interface and robust features, GeniusJunction offers a dynamic environment for course creation, enrollment, and interaction. Instructors can effortlessly craft engaging courses, upload resources, and collaborate with peers, while students can explore a diverse range of topics, enroll in courses, track their progress, and engage in discussions. By fostering a supportive learning community, GeniusJunction aims to revolutionize the way education is accessed and experienced, providing a gateway to knowledge and skill enhancement for learners worldwide.

2. Definition:

GeniusJunction is a comprehensive web-based learning platform that facilitates the seamless interaction between instructors and students in an online educational ecosystem. It serves as a virtual hub where instructors can create, manage, and share educational content, while students can enroll in courses, access resources, and engage in learning activities. The platform supports various features such as course creation, enrollment, payment processing, resource sharing, collaboration tools, analytics, and support services. With its user-friendly interface and robust functionalities, GeniusJunction aims to revolutionize the way education is accessed and delivered, providing a flexible and enriching learning experience for all users.

3. Scope:

The scope of GeniusJunction includes :

- **User Management:** Providing registration and authentication mechanisms for both instructors and students, allowing them to create and manage their profiles securely.
- **Course Management:** Enabling instructors to create, edit, and manage courses by uploading resources, setting assignments, and monitoring student progress.
- **Enrollment and Payment Processing:** Allowing students to browse courses, enroll in them, and securely make payments through integrated payment gateways.
- **Resource Sharing:** Facilitating the upload and download of resources such as lecture notes, presentations, videos, and additional materials within courses.
- **Collaboration Tools:** Offering features for instructors to collaborate with peers, share teaching materials, and engage in discussions to enhance course content.
- **Analytics and Reporting:** Providing instructors with insights into course performance, student engagement, and learning outcomes through analytics and reporting tools.
- **Support Services:** Offering assistance and support to both instructors and students through dedicated help desks, FAQs, and contact options.
- **Discussion Forums:** Allowing students to participate in discussion forums within courses, facilitating peer-to-peer interaction and knowledge sharing.
- **Assignment Submission:** Providing students with the ability to submit assignments online and receive feedback from instructors.
- **Certificate Generation:** Issuing certificates to students upon course completion, showcasing their achievements and skills acquired.

4. User Stories:

4.1 User Stories for Instructor:

1. Registration and Profile Management:

- As an instructor, I want to register on the platform so that I can create and manage my profile.

2. Course Management:

- As an instructor, I want to create courses with titles, descriptions, and relevant tags.
- As an instructor, I want to upload resources and content for my courses.
- As an instructor, I want to create assignment submission forums within my courses.
- As an instructor, I want to edit the content and details of my courses.
- As an instructor, I want to set course visibility (public/private).
- As an instructor, I want to set course pricing (paid/free).

3. Collaboration and Support:

- As an instructor, I want to collaborate with other educators on course development.
- As an instructor, I want to access help and support provided by the admin.

4. Management and Analytics:

- As an instructor, I want to view analytics and reports for my courses.
- As an instructor, I want to restrict access to certain students for specific courses.

- As an instructor, I want to draft certificates for students who complete my courses.
- As an instructor, I want to delete courses when necessary.

4.2 User Stories for Student:

1. Registration and Profile Management:

- As a student, I want to register on the platform so that I can create and manage my profile.

2. Course Enrollment and Management:

- As a student, I want to browse courses by keywords and categories.
- As a student, I want to enroll in and drop courses as needed.
- As a student, I want to make secure payments for courses.
- As a student, I want to view a list of my enrolled courses.

3. Progress Tracking and Interaction:

- As a student, I want to track my progress within enrolled courses.
- As a student, I want to post and delete comments in course discussion forums.
- As a student, I want to submit assignments for my courses.
- As a student, I want to provide feedback on courses I've completed.

4. Certificates and Support:

- As a student, I want to download certificates for completed courses.
- As a student, I want to access help and support provided by the admin.

5. Use Cases:

5.1 User Registration/Login:

- **Actor:** User (Instructor/Student)
- **Description:** Users register by providing necessary information such as name, email, and password. They can then log in using their credentials to access the platform's features.
- **Basic Flow:**
 1. User navigates to the registration page.
 2. User fills out the registration form with required details.
 3. System validates the information and creates a new user account.
 4. Upon successful registration, the user is redirected to the login page.
 5. User log in with their registered credentials.
- **Alternative Flow:**
 - If the user already has an account, they can directly proceed to the login page without registering.

5.2 Course Creation/Edit:

- **Actor:** Instructor
- **Description:** Instructors create new courses by adding course details, uploading resources, setting assignments, and configuring course settings. They can also edit existing courses to update content or modify settings.
- **Basic Flow:**
 1. Instructor logs into their account and navigates to the course creation/editing page.
 2. Instructor fills out the course details including title, description, and category.
 3. Instructor uploads teaching materials/resources such as documents, presentations, and videos.

4. Instructor sets assignments, discussion forums, and other course activities.

5. Instructors configures course settings such as visibility (public/private) and pricing (paid/free).

- Alternative Flow:

- If an instructor wishes to edit an existing course, they navigate to the course editing page and modify the necessary details and settings.

5.3 Course Enrollment/Payment:

- Actor: Student

- Description: Students browse available courses, select desired ones, and enroll in them. Upon enrollment, they proceed to make secure payments using integrated payment gateways.

- Basic Flow:

1. Students log into their account and browse the course catalog.
2. Student selects a course of interest and clicks on the "Enroll" button.
3. System prompts the student to confirm enrollment and proceed to payment.
4. Student enters payment details and completes the transaction securely.
5. Upon successful payment, students gains access to the enrolled course materials.

- Alternative Flow:

- If a student is unable to make a payment, they may choose to add the course to their wishlist for future enrollment.

5.4 Resource Upload/Download:

- **Actor:** Instructor/Student

- **Description:** Instructors upload teaching materials, such as documents, presentations, and videos, to the course. Students can then download these resources for offline access or reference.

- **Basic Flow:**

1. Instructor logs into their account and navigates to the course resources section.
2. Instructor selects the option to upload new resources and chooses the files to upload.
3. System verifies the uploaded files and adds them to the course resources.
4. Students log into their accounts and access the course resources section.
5. Students select the desired resource and download it to their local devices.

- **Alternative Flow:**

- If a file fails to upload due to size restrictions or format compatibility issues, the system prompts the instructor to select a different file.

5.5 Assignment Submission/Feedback:

- **Actor:** Student/Instructor

- **Description:** Students submit assignments within designated submission areas in courses. Instructors review submissions and provide feedback or grades.

- **Basic Flow:**

1. Students log into their account and navigate to the course assignment section.
2. Student selects the assignment to be completed and uploads the required files.
3. System verifies the submission and notifies the instructor.

4. Instructor reviews the submitted assignment, provides feedback, and assigns grades.

- **Alternative Flow:**

- If a student encounters technical issues while submitting an assignment, they can contact the instructor for assistance or use alternative submission methods such as email.

5.6 Discussion Forum Participation:

- **Actor:** Student/Instructor

- **Description:** Users participate in discussion forums within courses by posting questions, comments, or replies to engage in academic discourse and knowledge sharing.

- **Basic Flow:**

1. User logs into their account and navigates to the course discussion forum.
2. User selects a discussion thread or creates a new one.
3. Users post a question, comment, or reply to contribute to the discussion.
4. Other users within the course engage in the discussion by responding to the post.

- **Alternative Flow:**

- If a user encounters inappropriate content or behavior in the discussion forum, they can report it to the platform administrators for moderation.

5.7 Analytics/Reporting:

- **Actor:** Instructor

- **Description:** Instructors access analytics and reporting tools to track course performance, monitor student engagement, and assess learning outcomes. They can generate reports based on various metrics.

- **Basic Flow:**

1. Instructor logs into their account and navigates to the analytics/reporting section.
2. Instructor selects the desired course or metric to analyze.
3. System generates a report displaying relevant data such as enrollment statistics, student progress, and assessment results.
4. Instructor reviews the report and identifies areas for improvement or intervention.

- Alternative Flow:

- If an instructor requires additional data or customization in the report, they can request it from the platform administrators or use external analytics tools.

5.8 Support Services:

- Actor:** User (Instructor/Student)

- Description:** Users seek assistance or support from platform administrators or support staff for any technical issues, queries, or concerns they encounter while using the platform.

- Basic Flow:

1. Users encounter an issue or have a query while using the platform.
2. User navigates to the help or support section and selects the appropriate contact option.
3. Users submit their query or issue along with relevant details.
4. Platform administrators or support staff respond to the user's query or issue and provide assistance or resolution.

- Alternative Flow:

- If the user is unable to find a solution through the help or support section, they can reach out to platform administrators through alternative contact channels such as email or phone.

6. Functional Requirements:

6.1 User Management:

- The system shall allow users (instructors and students) to register by providing necessary information such as name, email, and password.
- The system shall provide authentication mechanisms for users to log in securely to their accounts.
- Users shall be able to update their profile information and reset their passwords if forgotten.

6.2 Course Management:

- Instructors shall be able to create new courses by providing course details such as title, description, category, and tags.
- Instructors shall be able to upload teaching materials/resources such as documents, presentations, videos, and quizzes to the course.
- Instructors shall have the ability to edit existing courses to update content, add assignments, or modify settings.

6.3 Enrollment and Payment Processing:

- Students shall be able to browse available courses, view course details, and enroll in desired courses.
- The system shall provide integrated payment gateways for students to securely make payments for course enrollment.
- Upon successful payment, students shall gain access to the enrolled course materials.

6.4 Resource Sharing:

- Instructors shall be able to upload teaching resources to the course, including documents, presentations, videos, and additional materials.
- Students shall be able to access and download course resources for offline access or reference.

6.5 Collaboration Tools:

- Instructors shall have the ability to create discussion forums within courses for students to engage in academic discourse and knowledge sharing.
- Instructors and students shall be able to post questions, comments, or replies in discussion forums to interact with each other.

6.6 Analytics and Reporting:

- The system shall provide analytics tools for instructors to track course performance, monitor student engagement, and assess learning outcomes.
- Instructors shall be able to generate reports based on various metrics such as enrollment statistics, student progress, and assessment results.

6.7 Support Services:

- Users shall have access to support services for assistance with technical issues, queries, or concerns encountered while using the platform.
- The system shall provide multiple contact options for users to reach out to platform administrators or support staff for assistance.

6.8 Discussion Forum Functionality:

- The system shall enable instructors to create and manage discussion forums within courses.
- Users (instructors and students) shall be able to participate in discussion forums by posting questions, comments, or replies.

6.9 Assignment Submission and Feedback:

- Students shall have the ability to submit assignments within designated submission areas in courses.
- Instructors shall be able to review submitted assignments, provide feedback, and assign grades to students.

6.10 Certificate Generation:

- Upon successful completion of a course, the system shall generate certificates for students to download and showcase their achievements.
- Instructors shall have the ability to customize certificate templates and include course details and student information.

7. Non-Functional Requirements:

7.1 Security:

- All user data, including personal information, login credentials, and payment details, shall be encrypted and stored securely.
- The system shall implement robust authentication mechanisms to prevent unauthorized access to user accounts.
- Secure communication protocols shall be employed to ensure data integrity during transmission.

7.2 Performance:

- The platform shall be capable of handling a large number of concurrent users without experiencing performance degradation.
- Response times for user interactions, such as course navigation, resource access, and submission, shall be minimal to provide a seamless user experience.
- System resources, including server capacity and network bandwidth, shall be scalable to accommodate increasing user traffic.

7.3 Usability:

- The user interface shall be intuitive, user-friendly, and accessible to users of all levels of technical proficiency.
- Navigation within the platform shall be straightforward, with clear labeling and organized content categories.

- The platform shall support multi-device compatibility, allowing users to access and interact with the system from desktops, laptops, tablets, and smartphones.

7.4 Reliability:

- The system shall maintain high uptime, with minimal downtime for maintenance and upgrades.
- Data backup mechanisms shall be implemented to prevent loss of user data in the event of system failures or disasters.
- Error handling and recovery processes shall be in place to gracefully handle unexpected errors and ensure uninterrupted user experience.

7.5 Scalability:

- The platform architecture shall be designed to scale horizontally and vertically to accommodate growing user demands and increasing course offerings.
- Load balancing mechanisms shall be implemented to distribute incoming traffic evenly across multiple servers to prevent overload and ensure optimal performance.

7.6 Compatibility:

- The platform shall support various web browsers and operating systems to ensure compatibility with a wide range of user devices.
- Compatibility testing shall be conducted regularly to identify and address any compatibility issues promptly.