TSS	Software Requirement Specification
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Revision History

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Contents

1. Introduction

The Trainee Selection System is a comprehensive software solution designed to streamline and automate the process of selecting trainees for various job positions within an organization. This system aims to simplify and enhance the trainee selection process by providing efficient applicant registration, comprehensive applicant evaluation, and seamless communication between stakeholders.

1.1 Purpose

The purpose of a Software Requirement Specification (SRS) document is to clearly outline and communicate the software needs and expectations to the development team. It outlines the features, functionality, and performance expectations for the software, ensuring that all stakeholders are clear on the project's parameters. The SRS serves as a contract between the customer and the development team and serves as the basis for all subsequent decisions and quality control measures taken during the development process.

1.2 Scope

The specific aims and goals of the project decide the scope of the trainee selection system software. Some of the features that may be included in the scope of a Trainee Selection System software include an application for the desired circular, approval of applicants based on some parameters, automated admit card generation for the selected applicants, tracking participants of the exams, internal mailing system to send necessary emails about the current status of the

applicant, a dashboard to see the notices/notifications related to the assessment, and others. The precise scope of the software will be determined by the Software Requirement Specification (SRS) document, which outlines the project's requirements and expectations.

1.3 Intended Stakeholder

The project's primary Stakeholder is the BJIT Academy.

1.4 References

Reference	Location
Requirement Specification	

1.5 Definitions, Acronyms, and Abbreviations

Term/Acronym	Definition
APP	Abbreviation of Application
API	Application Programming Interface
SRS	Software Requirement Specification
TSS	The Application Name
TC	Test Case (Identifier)

2. Overall Description

The Trainee Selection System is a comprehensive platform designed to streamline and enhance the trainee selection process. The system will provide a user-friendly interface for trainees to submit their applications and track their application status. It also offers administrators the tools

to review and evaluate applications, approve trainees, and generate necessary documents such as admit cards. The system will ensure efficient data management, allowing administrators to track the progress and performance of trainees during the selection process.

The Trainee Selection System is a standalone web-based application, utilizing modern technologies and frameworks to ensure scalability, security, and performance. It will be designed to be easily accessible for trainees and administrators, with intuitive navigation and clear instructions throughout the system.

2.1 Overview

This area of the SRS is all about the overall influences on the product and its specifications. This section does not mention particular criteria. Instead, it offers a context for those criteria, which are stated in full in section 3, and makes them simpler to grasp. Include stuff like as:

1. Product Perspective:

The Trainee Selection System will be designed to provide a comprehensive and efficient platform for managing the selection process of trainees. It aims to streamline the entire process from application submission to trainee selection. The system will enable administrators to review and evaluate trainee applications, track the progress of trainees, and generate necessary documents such as admit cards. It will also facilitate communication between administrators, evaluators, and trainees through notifications and updates. The Trainee Selection System is intended to be user-friendly, ensuring a seamless experience for both administrators and trainees.

The Trainee Selection System will be a standalone web-based application that operates independently. It does not require integration with any existing systems but may be integrated with email services to enable automated notifications. The system will be developed using modern technologies and frameworks to ensure scalability, security, and performance.

2. Product Functions: The TSS software should have the following features:
    - Strong security based applicants registration
    - Can apply for the desired circular. It could be for multiple positions
    - Admin can approve applicants be meeting different criteria
    - Automated admit card generation for the selected applicants
    - Track participants of exams by generating unique identification code
    - Evaluators assigned by administrators can upload marks for candidates based on different categories

- Integrate a mailing service to send necessary emails to applicants
- A admin controlled dashboard , that displays the final list of selected candidates for a particular job circular

3. User Characteristics:

The Trainee Selection System is designed to accommodate a diverse range of users involved in the trainee selection process. Here are the user characteristics for the system:

Applicants:

- Varied Background : Applicants can come from diverse educational backgrounds and may have different levels of technical proficiency.
- Motivated : Applicants are motivated individuals seeking job opportunities and are eager to showcase their skills and qualifications.

Administrators:

- Administrators who are responsible for managing the trainee selection process are likely to have experience in human resources and talent acquisition.

Evaluators:

- Subject Matter Experts: Evaluators assigned to assess candidates' performance in technical and HR viva rounds are professionals with expertise in their respective fields.

Executives:

- Decision-makers: Executives play a crucial role in finalizing the selection process and determining the list of trainees for specific job positions.

4. Constraints: The following constraints may impact the development of the Android cricket app:

- Time Constraints: The development of the Trainee Selection System may be impacted by time. The project needs to be completed within a specified timeframe.
- Availability of Relevant Data and Information: The availability and accessibility of relevant trainee data and information are crucial for the system's functioning. The system relies on accurate and up-to-date data for trainee applications, evaluations, and selection processes.
- Limitations Imposed by Third-Party APIs: If the Trainee Selection System integrates with third-party APIs for specific functionalities, there may be constraints imposed by these APIs. These constraints could include limitations on usage, rate limits, or changes in API availability or functionality.
- Legal and Ethical Restrictions: The Trainee Selection System needs to adhere to legal and ethical guidelines regarding the collection, use, and storage of trainee data. The system must comply with privacy regulations and ensure data protection.

5. Assumptions and Dependencies for Trainee Selection System:
   - Users will have access to a computer with an internet connection to interact with the Trainee Selection System.
   - The system will require access to external APIs or databases to fetch and store trainee data, evaluate applications, and generate reports.
   - The trainee data used in the system will be obtained from reliable sources and maintained accurately.
   - The development team possesses the necessary technical expertise, resources, and tools to design, develop, and deploy the Trainee Selection System effectively.

6. The above-mentioned points provide an overview of the project's perspective, functions, user characteristics, constraints, assumptions, and dependencies. A comprehensive and well-defined project scope statement can ensure that the project is completed within the given time, budget, and resource constraints, and that all stakeholders are aligned with the project's goals and expectations.

2.2 Technical platform

The technical platform for the Android cricket app may include the following components:

1) Operating System: The system will be developed to run on multiple platforms, including Windows, macOS, and Linux, to ensure compatibility with a wide range of users.

2) Development Environment: A suitable integrated development environment (IDE) such as Visual Studio Code, Eclipse, or IntelliJ IDEA will be used for software development and debugging.

3) Programming Languages: The system will be developed using a combination of programming languages such as Java, and HTML/CSS for backend, scripting, and front-end development, respectively.

4) Frameworks and Libraries: Relevant frameworks and libraries will be utilized to enhance the functionality and efficiency of the system. This may include frameworks such as Spring Boot for backend development, and React for front-end development.

5) Database: A relational database such as MySQL workbench may be used to store and retrieve data for the software, such as applicant’s information, job circular information , participants score.

6) API Integration: The system may require integration with external APIs to fetch data from various sources or perform specific functions. This could include integrating with email APIs for sending notifications or SMS APIs for mobile-based communications.

7) Security: The system will implement appropriate security measures, including encryption techniques for sensitive data, secure user authentication, and role-based access control to ensure data privacy and prevent unauthorized access.

8) User Experience: The system will be designed with a user-centric approach, focusing on intuitive navigation, a visually appealing user interface (UI), and responsive performance to provide an optimal user experience.

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These are some of the key technical components that may be part of the technical platform for the Trainee Selection System software. The technical platform should be chosen and implemented in a way that ensures the software meets the needs and requirements of the end-users and stakeholders.

Functional Requirements

The functional requirements of the Android cricket app are the characteristics and capabilities that the app must provide in order to satisfy the expectations of its customers. Among the essential functional needs may be:

Trainee Registration:

- Applicants should be able to create an account by providing their basic information such as name, email address, password , etc
- The system should validate the entered information and ensure that each trainee has a unique email address.
- Upon successful registration, trainees should receive a confirmation email or notification.

Job Circular Management:

- The system should allow administrators to create and manage job circulars.
- Administrators should be able to define the job title, job type, required qualifications, and other relevant details for each circular.
- Job circulars should have a specified application deadline.

Candidate Application:

- Registered applicants should be able to view and apply for available job circulars.
- Applicants should have the option to search and filter job circulars based on criteria such as job title, location, or qualification requirements.
- Applicants should be able to submit their application by providing the required documents, such as their CV/resume and cover letter.

Application Review and Approval:

- Administrators should have access to review and evaluate trainee applications for each job circular.
- The system should provide a mechanism for administrators to review trainee applications and shortlist candidates for further evaluation.
- Administrators should be able to mark trainee applications as approved, rejected, or pending for each job circular.

Interview Management:

- The system should facilitate the scheduling and management of interviews for shortlisted trainees.
- Administrators should be able to schedule interview dates, times, and locations.
- Trainees should receive notifications regarding their interview schedule and any changes or updates.

Evaluation and Selection:

- Evaluators assigned by administrators should be able to assess trainees during the interview process.
- Evaluators should have access to trainee profiles, application documents, and evaluation criteria.
- Evaluators should be able to provide scores or feedback for each trainee based on predefined evaluation categories.

Final Trainee Selection:

- Administrators should have access to all evaluation scores and feedback provided by evaluators.
- Based on the evaluation results, administrators should be able to finalize the selection of trainees for each job circular.
- The system should generate a list of selected trainees and notify them of their selection status.

Communication and Notifications:

- The system should facilitate communication between administrators, evaluators, and trainees.
- Administrators should be able to send notifications, updates, and announcements to trainees regarding their application status, interview schedule, and selection outcome.
- Trainees should receive notifications via email or within the system regarding important updates and communications.

These are some examples of the functional criteria that the Trainee Selection System software must achieve in order to give its customers a complete and engaging experience.

3.1 Overview

This section sums up in the below table the main functionalities or services provided by the sub-system, which will be detailed in the following subsections. A use case diagram could be also used to list the main functionalities.

Serial No	Main Features	Description
1	Applicants Registration / Login	Applicants can either Register or Login with proper Credentials.
2	Apply for the Desired Circular	Applicants can apply for their desired circular.They can apply for multiple positions.
3	Approval of Applicants	Admins shall be able to sort the applicant data and shall have the ability to approve the applicant.
4	Admit Card Generation	The system should automatically generate system-generated admit cards for selected applicants that will contain a unique serial number/barcode and QR code for personal identification.
5	Track Participants of the Exams	The system should generate a unique code for each participant during the written exam for identification.
6	Upload Marks of the Participants	Admins should assign evaluators for marking who will be responsible and have the option to upload marks for each candidate, categorized as per defined criteria.
7	Internal Mailing System to Send Necessary Emails	The system shall integrate a mailing service to send emails to applicants.
8	Applicant Dashboard, Notice Board	The system should provide an applicant dashboard or notice board section where the applicants shall be able to view notices/notifications regarding their application status.
9	Upload Marks and Prepare Results	The system should give a proper evaluation process for the selection of the trainees.
10	Select Final Trainees List	The system should give the access of the dashboard/page to BJIT admins so that they can view the final list of selected candidates for a specific job circular.

3.1.1 Login/ Registration

Requirements

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_001	In order to establish a new account, a user must fill out many sections, including their name, email address, password, and others.	Essential	Server might not be available	TC_001
TSS_002	A user may log in using their email address and password after creating an account.	Essential	Server might not be available	TC_002
TSS_003	A user should be able to retrieve their password if they lose it.	Essential	The user should have a registered email address in the system.	TC_003
TSS_004	By selecting the logout option from the software's menu, users can log out of their accounts at any moment.	Essential	The user should be logged in to perform the logout operation.	TC_004
TSS_005	After logging in, applicants should be able to view notices or notifications on their dashboard.	Essential	N/A	TC_005

3.1.2 Apply for the Desired Circular

Requirements

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_006	Registered applicants can apply for desired job circulars through the system's panel or dashboard.	The system should allow applicants to browse through available job posts and apply for the desired circular. The applied circular should be recorded in the system for further processing.	The applicant must be registered and logged in to apply for a job circular.	TC_006
TSS_007	The system should validate the applicant's eligibility to apply for a job circular.	The system should check if the applicant meets the necessary criteria (such as qualifications, experience, etc.) specified for the desired job circular. If the applicant meets the criteria, they should be able to proceed with the application process.	The eligibility criteria should be defined and configurable in the system.	TC_007

TSS_008	Applicants should be able to submit their application for the desired job circular.	The system should provide a submission mechanism where applicants can review their application details and submit them for the desired job circular. The submitted application should be stored in the system for further processing.	The application submission process should be available only within the specified deadline for the job circular.	TC_008
TSS_009	The system should provide confirmation and notification to the applicant upon successful submission of the job application.	After submitting the application, the system should display a confirmation message to the applicant, acknowledging the successful submission. Additionally, the system should send a notification to the applicant's registered email address, confirming the application submission.	The applicant should have a valid email address registered in the system.	TC_009

3.1.3. Approval of Applicants

Requirements

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_010	Admin panel members can view all applicant information for the approval process.	Essential	Only admin panel members should have access to view applicant information.	TC_010
TSS_011	Admins should be able to mark an applicant as "Approved for Interview" for a specific job circular.	When reviewing the applicant information, admins should have the option to select and mark a particular applicant as "Approved for Interview" for a specific job circular. The system should accurately record and track the approval status for each applicant and job circular separately.	The approval status should be job circular specific and should not apply to other job circulars for the same applicant.	TC_011

TSS_012	The system should notify the applicant upon being marked as "Approved for Interview".	Once an applicant is marked as "Approved for Interview", the system should automatically generate and send a notification to the applicant's registered email address. The notification should inform the applicant about the approval status and provide details regarding the next steps in the interview process.	The applicant should have a valid email address registered in the system.	TC_012
TSS_013	The system should provide a dashboard or page where BJIT admins can view the final selected candidates for a particular job circular.	Essential	Only BJIT admins should have access to view the final trainees' list.	TC_013

3.1.4 Admit Card Generation

Requirements

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_014	The system should automatically generate admit cards for selected applicants.	Essential	The admit card generation process should only be initiated for selected applicants.	TC_014

TSS_015	Admit cards should include specific instructions for the applicants.	The generated admit cards should contain instructions that are relevant to the specific job circular and the upcoming interview or examination process. The instructions should provide clear guidance to the applicants regarding the date, time, venue, and any additional requirements for the interview or examination.	The instructions provided should be specific to each job circular and should be accurate and up-to-date.	TC_015
TSS_016	Admit cards should have unique identification elements for each applicant.	Essential	The identification elements should be generated accurately and securely to avoid duplication or misuse.	TC_016

3.1.5. Track participants of the exam

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_017	The system should generate a unique code for each participant during the written exam to track their answer sheets..	Essential	The generated codes should be unique and easily identifiable for efficient tracking and future reference purposes.	TC_017

TSS_018	The system should store the generated unique codes for future reference.	The system should have a mechanism to store and associate the unique codes generated for each participant's answer sheet for future tracking and reference.	The stored codes should be securely maintained and easily retrievable for future use.	TC_018
TSS_019	The system should track the participants' attendance during the exam.	Essential	The tracking mechanism should be reliable and capable of handling a large number of participants.	TC_019
TSS_020	The system should record the scores or answers submitted by each participant during the exam.	The system should provide a mechanism to capture and store the scores or answers submitted by each participant during the exam for evaluation and assessment.	The captured scores or answers should be associated with the respective participant and securely stored.	TC_020

3.1.6. Upload Marks of the Participants

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_021	The system should generate a unique code for each participant during the written exam to track their answer sheets..	Essential	May require regular updates to ensure accuracy of information	TC_021
TSS_022	The system should store the generated unique codes for future reference.	Essential	None	TC_022

3.1.7. Internal Mailing System to Send Necessary Emails

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_023	The system should integrate an internal mailing system to send necessary emails to applicants.	Essential	The mailing system should ensure the security and privacy of applicant information and comply with applicable data protection regulations.	TC_023
TSS_024	The system should provide templates for standardized email notifications.	Essential	The system should allow customization of the email templates to align with the organization's branding and communication requirements.	TC_024
TSS_025	The system should automatically send emails to applicants based on specific triggers or events.	Essential	The system should handle email sending efficiently to avoid delays or duplications of mails.	TC_025

3.1.8. Applicant Dashboard, Notice Board

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_026	The system should provide an applicant dashboard where applicants can view their application status and relevant notifications.	Essential	The applicant dashboard should only be accessible to registered and logged-in applicants.	TC_026
TSS_027	The system should include a notice board section in the applicant dashboard.	Essential	Only authorized personnel should have the ability to post notices on the notice board.	TC_027
TSS_028	The system should allow applicants to interact with the notice board by providing feedback or asking questions.	Applicants should have the ability to provide feedback or ask questions regarding the notices posted on the notice board. The system should provide a mechanism, such as a comment section or a communication channel, to facilitate this interaction. The feedback or questions submitted by the applicants should be visible to the authorized personnel for appropriate response and clarification.	The interaction with the notice board should be limited to registered applicants and authorized personnel.	TC_028

3.1.9. Upload Marks and Prepare Results

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_029	BJIT admins should be able to upload marks for the technical viva and HR viva rounds.	The system should provide a panel or interface where BJIT admins can upload the marks obtained by candidates in the technical viva and HR viva rounds. The uploaded marks should be accurate and securely stored for further processing.	Only authorized BJIT admins should have the access and privilege to upload marks.	TC_029
TSS_030	The system should calculate and prepare results based on the uploaded marks.	Essential	The result calculation should adhere to the predefined evaluation criteria and be consistent across all candidates and job circulars.	TC_030

3.1.10. Select Final Trainees List

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier

TSS_031	There should be a dashboard/page where BJIT admins can see the final selected candidates for a particular job circular.	Essential	Only BJIT admins should have access to view the final trainees' list. The dashboard/page should provide an organized view of the candidates based on their scores or relevant criteria.	TC_031

User Interface

UI No.	UI Name	Related Function Requirement ID	Description	Test case Identifier
TSS_032	Registration Screen		The user interface where applicants can create a new account by providing their basic information such as name, email address, and password.	TC_032
TSS_033	Job Circular Dashboard		A user interface that allows registered applicants to browse and apply for desired job circulars.	TC_033
TSS_034	Admin Approval Panel		An interface for admin panel members to view applicant information and mark them as "Approved for Interview" for specific job circulars.	TC_034
TSS_035	Admit Card Generator		An interface or feature to automatically generate admit cards for selected applicants, containing unique identification elements and necessary instructions.	TC_035
TSS_036	Participant Tracking		An interface or functionality to generate and track unique codes for each participant during exams, and store them for future reference..	TC_036

TSS_037	Viva Marks Uploader		An interface or panel for BJIT admins to upload marks obtained in the viva rounds and calculate results based on the uploaded marks.	TC_037
TSS_038	Internal Mailing System		An interface or feature to send necessary emails to applicants, such as notifications on application status, interview updates, and exam results.	TC_038
TSS_039	Applicant Dashboard		A dashboard or screen where applicants can view their application status, notifications, and interact with a notice board for important updates and communication.	TC_039
TSS_040	Final Trainees List		A dashboard or page where BJIT admins can view the final selected candidates for a particular job circular, sorted in a rank-wise order based on their scores or other criteria.	TC_040

Non-Functional Requirements

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_041	The system should have a fast and responsive user interface with minimal latency. The average response time should not exceed 2 seconds, and the maximum response time should not exceed 5 seconds.	Essential	The system may require performance optimizations, such as efficient code, database indexing, and server-side optimizations, to achieve the desired response times.	TC_041

TSS_042	The system should ensure data security and privacy. It should use appropriate encryption techniques to protect sensitive information and have proper access controls to prevent unauthorized access.	Essential	The system may require regular security audits, updates, and adherence to industry best practices to address emerging security threats and vulnerabilities.	TC_042
TSS_043	The system should provide a user-friendly and intuitive interface.	The system should undergo user testing to ensure its usability and receive positive feedback from users regarding its interface, navigation, and controls.	The system should consider usability guidelines and principles to enhance the user experience and make the system easy to navigate and interact with.	TC_043
TSS_044	The system should be scalable and capable of handling a large number of trainee records and concurrent user interactions.	Essential	The system may require architectural considerations and scalability optimizations to handle increasing data and user load.	TC_044

5.1 Performance Requirements

1. Response Time:
    a) A transaction's average response time should be less than 2 seconds.
    b) A transaction's maximum response time should not exceed 5 seconds.
2. Throughput:
    a) The application must be able to process at least 50 transactions per second.
3. Capacity:
    a) The application must support a minimum of 10,000 concurrent users.
4. Degradation Modes:

In the event of a degraded network connection, the application should convert to offline mode while still allowing users to read scores and headlines.

5. Capital Utilization:

    a) Memory usage should not above 250 MB.

    b) Optimizing disk utilization will reduce storage use

    c) The use of communications should be improved to reduce data consumption

    d) The system should be built to reduce battery use and prevent excessive heat production.

6. Reliability:

    a) The system should be available at least 99.5% of the time.

    b) The system should feature error-handling capabilities to maintain stability and reduce accidents.

7. Security:

Encryption and secure authentication measures should be used to safeguard the system against unwanted access and data breaches.

8. Scalability:

    a) The system should be able to accommodate an increase in the number of users and transactions without seeing a noticeable decrease in performance.

    b) Future additions and functions should be readily included into the application's design.

9. Compatibility:

The system should be compatible with a broad variety of Android devices and versions and have minimum influence on device performance.

10. Support:

    a) The system should offer enough user assistance, including documentation, frequently asked questions, and a method for reporting problems and difficulties.

    b) The system should be regularly reviewed and updated in order to maintain optimum performance and handle any problems that may occur

11. Usability:

    a) The system’s UI should be straightforward and user-friendly, with easy navigation and accessible functions.

    b) With adequate support for screen readers, high-contrast mode, and other accessibility features, the application should be accessible to people with impairments.

12. Customizability:

    a) The system should allow users to personalize their experience, including the ability to change the theme, text size, and notification settings.

13. Reporting and Analytic:

    a) The system should give information and insights into use trends, user behavior, and performance indicators.

b) The system should provide real-time analytic and reporting features to aid in identifying performance problems and enhancing the user experience.

14. Localization:

a) The system must support several languages to appeal to a larger audience.

15. Integration:

a) To give users a full and engaging experience, the system should interact with third-party services and platforms, such as social networking and advertising.

These are a few performance requirements for Trainee Selection System Software. Depending on the type and breadth of the application, as well as the intended audience, the particular requirements may vary.

5.2 Safety Requirements

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_045	The system should ensure data confidentiality and privacy. It should handle trainee data with strict confidentiality, preventing unauthorized access or disclosure of personal information.	The system should have mechanisms in place, such as access controls and data validation, to prevent unauthorized modifications of trainee records.	The system should comply with relevant data protection regulations and industry best practices to protect trainee privacy and confidentiality.	TC_045
TSS_046	The system should have a backup and recovery mechanism to protect trainee data from loss or corruption.	Essential	The system should ensure data integrity during backup and recovery processes and test the effectiveness of the backup and recovery mechanisms periodically.	TC_046

TSS_047	The system should have appropriate error handling and exception management to ensure the stability and reliability of the application.	Essential	The system should have proper logging and monitoring mechanisms to track errors and exceptions and ensure timely resolution and mitigation of issues.	TC_047
TSS_048	The system should have user authentication and access controls to prevent unauthorized access and protect the integrity of trainee data.	Essential	The system should implement strong password policies, session management mechanisms, and secure authentication protocols to prevent unauthorized access attempts and protect trainee data from unauthorized modifications.	TC_048

5.3 Security Requirements

To prevent unauthorized or malicious access, use, modification, destruction, or disclosure of software, the following security measures may be implemented:

1. Utilize Encryption: Encrypt sensitive data such as user passwords, financial transactions, and other secret information to prevent unwanted access. A powerful encryption method, such as AES or RSA, should be used by the application to guarantee data security.

2. Access Control: The software should have an authentication method to guarantee that only authorized users may access sensitive data. This may consist of a login procedure, password rules, and multi-factor authentication.

3. Role-based Access:Access should be controlled based on the user's role and permissions. Modules should be allocated functions depending on the user's role and permissions. This will aid in preventing unauthorized access to and alteration of sensitive data.

4. Auditing and Logging: The software should preserve logs and historical data sets to monitor user activity and identify unusual conduct. These logs should be checked and analyzed on a regular basis to detect possible security concerns.

5. Communications between the client and the server should be encrypted using secure protocols such as SSL/TLS for network security. In order to prevent unwanted access to critical data, the software should additionally limit communications between certain software components.

6. Integrity of Data: The software should verify the integrity of crucial variables to guarantee that data is not changed or damaged during transmission. SHA-256 and other hashing algorithms may be used to verify the integrity of data.

7. Regular Security Updates: The software should be routinely updated to patch any security flaws and maintain the safety of sensitive data.

These are some of the precautions that may be taken to prevent unauthorized or malicious access, use, modification, destruction, or disclosure of software. Depending on the type and scope of the app and the intended audience, the particular security needs may vary.

REQUIREMENT ID	Requirement Description	Acceptability / Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_049	The system should ensure secure user authentication. It should support strong password policies, such as minimum length, complexity, and expiration, to protect user accounts against unauthorized access.	Essential	The security of user authentication is dependent on user compliance with password policies and the secure storage of password hashes.	TC_049
TSS_050	The system should implement role-based access control (RBAC) to restrict user access based on their roles and responsibilities.	Essential	The proper functioning of RBAC relies on accurate assignment and management of user roles.	TC_050

TSS_051	The system should protect sensitive data by implementing encryption. Data in transit and at rest, including trainee information, should be encrypted to prevent unauthorized access or data breaches.	Essential	The effectiveness of encryption depends on the implementation of strong encryption algorithms, proper key management, and encryption of data both in transit and at rest.	TC_051
TSS_052	The system should have proper audit logging and monitoring mechanisms to track user activities, system events, and potential security breaches.	Essential	The effectiveness of audit logging and monitoring relies on the proper configuration, regular review, and analysis of audit logs to identify potential security incidents.	TC_052
TSS_053	The system should undergo regular security assessments and vulnerability scans to identify and address potential security vulnerabilities and weaknesses.	Essential	The security assessments and vulnerability scans are subject to the scope and frequency of the assessments, as well as the timely resolution of identified vulnerabilities.	TC_053

Design Constraints

The design constraints for this app are as below:

1. Software Languages: The main application code can be developed using languages such as Java or Kotlin. XML can be used for designing the user interface.
2. Development Tools: Android Studio, a popular IDE for Android app development, can be used as the primary development tool.
3. Architecture: The app can follow a suitable architectural pattern such as Model-View-Controller (MVC) or Model-View-Presenter (MVP) to ensure a clear separation of concerns and maintainable code.
4. Platform Compatibility: The app should be compatible with the latest version of the Android operating system and support a range of devices with different screen sizes and resolutions.
5. User Experience: The app should provide an intuitive and user-friendly interface, with clear navigation and consistent design elements. It should offer a seamless and engaging experience for the trainee selection process.

Some other constraints can be like :

6. Performance: The app should be optimized for performance, with minimal loading times and smooth transitions between screens. It should efficiently utilize system resources such as memory and network connectivity.

7. Data Management: The app should have efficient data management capabilities, including storing and retrieving trainee information, managing applicant data, and generating reports. It should handle data securely and efficiently.

8. Scalability: The app should be designed to accommodate future growth and handle a potentially increasing number of trainees and applicants. It should be scalable and flexible to incorporate additional features or functionalities.

9. Security: The app should implement appropriate security measures to protect sensitive trainee and applicant data. It should use encryption techniques for data storage and transmission and enforce secure authentication and access control mechanisms.

10. Compliance: The app should comply with relevant laws and regulations, such as data privacy and protection regulations. It should adhere to industry standards and best practices to ensure data confidentiality and integrity.

These design constraints provide a foundation for developing the trainee selection system, ensuring a robust, user-friendly, and secure application that meets the requirements of the selection process.

Software Quality Attributes

REQUIREMENT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier
TSS_054	Reliability: The system should be reliable and available to users whenever they need to access it. It should have minimal downtime and ensure data integrity and accuracy.	Essential	The reliability of the system is dependent on factors such as hardware stability, network connectivity, and proper error handling mechanisms.	TC_054

TSS_055	Usability: The system should be user-friendly and intuitive, allowing users to easily navigate and perform tasks without extensive training or assistance.	Essential	The usability of the system may be influenced by the diversity of user profiles, varying levels of technical proficiency, and specific user requirements.	TC_055
TSS_056	Maintainability: The system should be maintainable, allowing for efficient maintenance and future enhancements. Changes to the system, such as bug fixes or feature updates, should be easily implemented and tested.	Essential	The maintainability of the system may be affected by factors such as code complexity, lack of documentation, and dependencies on external libraries or systems.	TC_056
TSS_057	Scalability: The system should be scalable and capable of handling increasing data volume and user load without significant performance degradation.	Essential	The scalability of the system may be subject to hardware limitations, database performance, and architectural considerations.	TC_057
TSS_058	Testability: The system should be designed with testability in mind, allowing for effective testing and verification of its functionalities.	Essential	The testability of the system may depend on factors such as code modularity, availability of testing tools and frameworks, and proper separation of concerns in the system architecture.	TC_058

User Interface

UI No.	UI Name	Related Info No.	Notes	Test case Identifier

Other Requirements

REQUIREMNT ID	Requirement Description	Acceptability/ Completion Criteria	Limitations/ Constraints	Test case Identifier