Terms of Reference (TOR) for Independent Consultant for the Assessment and Audit of the Integrated Welfare Management System (IWMS)
Ref. No: LK-WBB-516982-CS-LCS

1. BACKGROUND

1.1. About the sector & govt. policy/strategy

The social protection sector plays a vital role in safeguarding the well-being of vulnerable populations by providing financial assistance, social welfare programs, and essential support services. Recognizing its significance, the Government of Sri Lanka has prioritized strengthening social protection mechanisms to enhance efficiency, transparency, and accessibility.

As part of this initiative, the government is committed to leveraging digital transformation to streamline welfare benefit administration, improve beneficiary targeting, and enhance service delivery. Currently, the Welfare Benefits Board (WBB) utilizes the Integrated Welfare Management System (IWMS) for administering Aswesuma, elderly payments, and other welfare programs.

1.2. Brief description of the project

The Welfare Benefits Board, under the Ministry of Finance, Planning, and Economic Development, is implementing the Social Protection Project (SPP) to enhance the efficiency and effectiveness of social protection programs.

The Integrated Welfare Management System (IWMS) is designed to streamline and enhance the management of welfare services within the country. It aims to provide a comprehensive solution for registering households, categorizing of HH based on the Multi Deprivation Score (MDS), selection and enrolling of beneficiaries to Cash Transfer (CT) Programs, monitoring progress, handling grievances, and distributing benefits. The IWMS is crucial to the Welfare Benefit Board's (WBB) mission of delivering effective and efficient welfare services. It underpins the administration of all welfare programs and cash transfers to selected beneficiaries.

The WBB maintains the Social Register and oversees all cash transfer programs. Further Welfare programs in the country are managed by various government organizations including the private sector. The IWMS is designed to support these activities based on six core processes:

- Process A: Register Low-income Households and Fiscal Space Management
- Process B: Enroll, Progress Monitoring, and Graduation of Beneficiaries
- Process C: Capture Assistance Provided for LIHH by 3rd Party Institutions
- Process D: Grievance and Query Handling
- Process E: Creating SNAP Distributors, Assigning Beneficiaries, and Distribution of Benefits

✞ Process F: Citizen Feedback and Information Sharing Process

The Integrated Welfare Management System (IWMS) is currently being deployed to primarily support the Welfare Benefits Board's (WBB) cash transfer programs. Accordingly, the first stage of development has prioritized processes A, B, D, and E. This initial phase is being developed by a third-party company, based on the Business Process Reengineering (BPR) framework.

WBB has entered into a new contract with the developer for the maintenance and customization of the IWMS. This will involve providing technical support, troubleshooting, and system updates as needed, thereby minimizing downtime and ensuring seamless delivery of services (direct cash transfers) to selected 'Aswesuma' beneficiaries and other categorical beneficiaries.

This third-party assessment is undertaken to ensure the of the IWMS is effective to perform the requirements of a national social registry and provide the required MIS, while ensuring that it meets the required industry standards for coding, security, performance, traceability, usability, completeness, maintainability, enhance-ability.

The consultancy requires the in-depth understanding of the operations of a social registry and the corresponding MIS, knowledge of review of the codes and guide the client to ensure the IWMS delivered comply with the requirements specified in the BPR and SRS, while maintaining the accepted industry standards for social registry, and providing recommendations on the current status of the IWMS, recommendations for rectification and future strategies, where necessary.

2. OBJECTIVE OF THE ASSIGNMENT

The primary objective of this consultancy is to conduct a comprehensive **technical audit** of the -IWMS, currently in use by the Welfare Benefits Board (WBB). The consultant will review the system's architecture, source code and make advise on any defects and/or recommendations for improvement related to the overall design and against the intended functionality of the IWMS. In addition, shall evaluate the performance, security, traceability, usability, availability, maintainability, interoperability, and enhance-ability of the delivered IWMS.

To perform a detailed technical audit of the existing IWMS used by the WBB, with the aim of:

i. **Assessing** the system's architecture, source code, and overall design for compliance with established software engineering standards and provide relevant justification and recommendations for improvement.
ii. **Evaluating** key quality attributes and provide feedback and corrective actions in relation to performance, security, traceability, usability, availability, maintainability and enhance-ability of the IWMS against accepted industry standards.

iii. **Identifying** and categorize existing technical and operational issues, limitations, and risks within the IWMS, and providing a set of prioritized, actionable recommendations to ensure system quality, security, and operational effectiveness, and follow-up with the system developer to ensure corrective action has been undertaken.

iv. **Advising** on the system's scalability and enhance-ability in relation to enhancing the system to include additional components required for implementing the remaining functionalities of the IWMS with recommendations on necessary technical and architectural aspects.

Expected Activities

The consultant is expected to undertake , the following activities:

I **Establishment of a Testing Environment**

- ❖ A dedicated, secured test server replicating the production environment, fully configured and ready for system assessment activities.

II **Comprehensive System Review Reports**

- ✞ Following the technical review, to submit a detailed report of any proposed corrective actions related to the architectural framework, architectural style, coding frameworks, coding standards, and data protection standards, database standards, etc., that require rectification with recommendations for the effective operations of the IWMS.
- ✞ Identification and documentation of technical issues and vulnerabilities, with proposed corrective actions.
- ✞ To review and validate the completeness and accuracy of the current test plans provided by the developer and report on the adequacy with recommendations for any improvements.
- ✞ To review the usage of specific tools within the system and comment on any vulnerabilities and financial exposure due to their usage.

III **Performance and Security Assessments**

- ❖ Conduct and report on stress testing, pressure testing, and security reviews, with prioritized risk assessments and recommendations for mitigation, aligned with the operational environment of the WBB.

IV **Review and Recommendations on Cloud Infrastructure**

- ❖ Evaluation of current cloud hosting setup including security, scalability, and backup policies, with suggestions for improvements.

V **Improved Internal Capacity**

- ❖ WBB staff trained in User Acceptance Testing (UAT), and system deployment procedures, for future releases.

VI **Continuous Review Mechanism**

- ❖ A structured validation plan for ongoing and future system deliverables, ensuring sustained quality control.

VII **Strategic Recommendation Report**

- ❖ A final advisory report recommending confirming the whether the existing IWMS can be enhanced to support the broader objectives of the IWMS or whether a new system should be pursued.

3. SCOPE OF SERVICES

3.1. preliminary work – reviews, surveys, field work

Stage 1 - PREPARE TESTING ENVIRONMENT

I Configure a dedicated server exclusively for testing that replicates the configuration of the production environment, including operating systems, server software and network configurations.

II Establish appropriate security measures to protect the test environment and test data from unauthorized access.

III The source codes of the application will be provided in a separate development branch of the GitHub repository for testing to the consultant.

IV Set up the system with a backup copy of the production environment database dump with anonymized sensitive data.

V Request for any other files that may have been generated by the system in the production environment, which will be provided by the client.

VI The consultant will assist the WBB and the system developer to provide the data/programs/ files in manner stated above.

VII Install all necessary development tools, such as frameworks, compilers, interpreters, package managers, and libraries, on the server to replicate the IWMS system configure the environment variables and file paths necessary for the system to recognize and use these tools correctly.

VIII To advise the WBB of any other information/infrastructure required to undertake the proposed review of the system.

IX To review and comment on the overall architecture, and technology stack of the IWMS.

Stage 2 - IMPLEMENTATION & REVIEW OF THE DELIVERED SYSTEM

I Examine the source codes and databases and understand their structure, quality, readability, and complexity including identification of code-level issues (bugs) and provide a report of issues and appropriate corrective actions for effective operations of the IWMS.

II Examine the user management component and master file management components and ensure they meet the requirements of the IWMS and a social registry, and provide a report of issues and appropriate corrective actions for effective operations of the IWMS.

III Undertake a code test, stress/pressure tests, and other relevant tests on the IWMS and report on the performance, security, traceability, usability, availability, maintainability and enhance-ability of the IWMS in relation to its current operations and envisaged enhancements.

IV Provide a report of any proposed corrective actions, categorized by severity, related to the architectural framework, architectural style, coding frameworks, coding standards, security, and data protection standards, database standards, test plans, tool usage, etc., that the software should adhere to.

V Review and advice on current cloud infrastructure architecture and adequacy, including backup policies.

VI To provide technical guidance to the developers and ensure the recommendations specified in the reports are implemented (including any bug fixes).

VII In consultation with the WBB to develop a disaster recovery plan for the IWMS.

VIII Train end users of WBB to undertake structured UAT the preparation and handling of anonymized data for analysis, data sharing and data interoperability and prepare where necessary supporting guidelines for same.

IX Based on the comprehensive review of the system to provide a recommendation whether the current system could be enhanced to meet the requirements of the broader social protection management Information system.

Stage 3 - REVIEW AND VALIDATION OF ON-GOING DELIVERABLES

I Prepare a validation plan to review on-going deliverables to ensure the current builds under review are compliant with overall requirements, architectural and other standards agreed in stage 2.

II Perform a review of the code using appropriate tools that will verify:

- Completeness of the source code,
- It is installable and executable
- It is readable and editable
- It has the recommended programming structures
- Identify and report code errors and follow up to ensure their rectification
- Undertake a pressure testing on the system
- Evaluate and comment whether established best practices and styles, such as variable naming, indentation, documentation, and the use of comments have been adopted and recommendations for rectification.
- Potential code quality issues, such as duplication, excessive complexity, security vulnerabilities, and coding errors are identified.
- Evaluate the database structure (within the web app and mobile app) and its compliance with industry best practices with recommendations for rectification.

III Execute the test cases in the server environment according to the established validation plan. Record test results, including any errors found, unexpected behavior, or deviations from expected results.

IV Analyze test results to identify any defects, discrepancies or functional problems.

V Classify problems according to their severity and priority, and clearly document each of them for monitoring and resolution.

VI Perform a security review to identify potential vulnerabilities or weaknesses in the code that could be exploited by external attackers (SQL injection, lack of input validation, and exposure of sensitive information)

VII Provide proposed corrective action and follow-up on corrections.

Note: This activity will be undertaken as a future and therefore, an indicative price should be provided.

4. Methodology

The vender should identify and provide the methodological approach and tools they intend to use for each activity of this assignment.

5. DURATION OF THE ASSIGNMENT

The consultancy firm will span over a period of six months.

6. SCHEDULE FOR COMPLETION OF TASKS

As specified in Paragraph 9 of this TOR.

7. DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT

7.1. reports, information access

The following will be provided to the consultant.

- Latest BPR and SRS
- Access to the IWMS system and the code repository.
- Inception report, Progress Report, System Maintenance Report, Customization Implementation Report and Incident/Issue Resolution Reports provided by developer under the maintenance agreement

7.2. office facilities

Office facilities will be provided during the consultations and onsite working as appropriate.

7.3. support staff

Necessary resources within WBB and developer will be facilitated for consultation either physically or on-line.

8. CLIENT'S INPUT AND COUNTERPART PERSONNEL

The client will provide all documentary information, source codes, and make available any individuals the consulting organization may need to interview in relation to their evaluation either physical or online as appropriate.

9. REPORTING REQUIREMENT & TIME SCHEDULE FOR DELIVERABLES

9.1. Format, frequency, and contents of reports;

9.1.1. **Key deliverables**

The consultant / consultancy firm will provide the following key deliverables:

- **Inception Report:** Outlines project understanding, approach, methodology, breakdown of the system components, timeline, and milestones, submitted within the first two weeks.

- **Confirmation of completion of Stage 1,** submitted within first three weeks.
- **Recommendations for System Improvements** as required in stage of the scope of works, submitted within the first 8 weeks and follow-up with the system developer.
- **Certificate of completion of each component finalized.**
- **Monthly report of the compliance and corrective action taken for each outstanding deliverable.**
- **Final Assessment Report and Presentation:** Finalized report and presentation to stakeholders summarizing findings, recommendations, and the completion of corrective action taken by the developer

These deliverables will ensure a thorough evaluation of the IWMS and provide clear guidance for future development and enhancements.

9.1.2. **Reporting**

The consultancy firm will report to the Chairman of Welfare Benefits Board (WBB) or WBB's designated representative. Reporting includes:

- All reports, interviews and progress meetings will be conducted in English either physical or online.
- Weekly Progress updates: Updates on activities, milestones, and challenges.
- Monthly Progress Updates: with a supporting report.
- On-going and stage completion report: at the completion of each stage a completion report should be provided.
- Final Presentation and report: Comprehensive assessment of findings and recommendations.

9.2. Number of copies, and requirements to electronic submission (or on CD ROM). Reports should be submitted via email. Final reports shall be delivered in a CD. as well as softcopy format.

9.3. Dates of submission;

Inception report: submitted within the first two weeks

Weekly Progress updates: Updates on activities, milestones, and challenges.

On-going and stage completion report: as specified in 9.1.1 above

Final Presentation and report: Comprehensive assessment of findings and recommendations, at the end of the assignment.

Certificate of completion: upon submission of each component delivered.

9.4. Persons (indicate names, titles, submission address) to receive them; etc.

Project Director

Social Protection Project

No:191, Dharmapala Mawatha

Colombo 07

10. PROCEDURE FOR REVIEW OF DELIVERABLES

I. **Submission of Deliverables**

The Firm shall submit deliverables according to the agreed work plan and schedule as stated in (9) above.

II. **Initial Review by Project Team**

The Project Management Unit (PMU) and Acceptance Committee will conduct an initial review within ten (10) working days to check completeness, adherence to TOR requirements, and overall quality.

III. **Composition of the Review/Acceptance Committee**

The deliverables will be reviewed by a five-member acceptance committee of the WBB comprising of 2 representatives from the IT division, one representing Operations division from WBB, one IT-expert from the SPP, and one representative from the Ministry of Finance IT division.

IV. **Provision of Feedback**

Consolidated written feedback will be provided to the Firm within ten (10) working days after the initial review. Any identified gaps, required clarifications, or improvements will be highlighted.

V. **Revision and Resubmission**

The Firm shall revise and resubmit the deliverables addressing all comments within a timeframe agreed upon with the PMU.

VI. **Final Approval**

After satisfactory revisions, the PMU, in consultation with the Technical Evaluation Committee and key stakeholders, will formally approve the deliverables.

VII. **Documentation and Record-Keeping**

All review comments, feedback communications, and final approved versions of deliverables shall be documented and archived for transparency and accountability.

11. TEAM COMPOSITION & QUALIFICATION REQUIREMENTS FOR THE KEY EXPERTS WHOSE CV AND EXPERIENCE WOULD BE EVALUATED.

The Consultancy Firm must propose a qualified team of experts with relevant experience in system architecture review, coding standards evaluation, information security, and social protection information systems. The following key experts will be evaluated based on their curriculum vitae (CV), professional experience, and relevant qualifications:

A. Team Leader / Lead ICT Systems Auditor

Qualifications:

- Bachelor's Degree or equivalent in Computer Science, Information Technology, Software Engineering, or related fields.
- Recognized certifications such as CISA, CISSP, or similar are desirable. *Experience:*
- Minimum of 10 years of professional experience in ICT system audits, architecture assessments, or large-scale IT system reviews.
- Proven leadership experience.
- Experience with social protection or public sector systems is an advantage.

Responsibilities:

- Oversee project delivery, ensure quality assurance of deliverables, and maintain client communication.

B. Senior Software Architect *Qualifications:*

- Master’s Degree or equivalent qualification in Software Engineering, Computer Science, or related fields.

Experience:

- Minimum of 7 years in software architecture design and review.
- Strong knowledge in PHP (Laravel), Microsoft technologies, cloud computing, database architecture, and modern application architectures.
- Experience in Data Security and Data Protection standards.

Responsibilities:

- Review and assess system architecture, application frameworks, and coding standards.
- Review and assess the compliance of the system with the agreed system requirements.
- Review and assess the compliance of the system with the current data protection requirements.
- Supervise and evaluate the feedback from the analysts.

C. Information System and Security Analyst

Qualifications:

- Bachelor's Degree in Information Security, Computer Science, or related fields.
- Certifications such as CISSP, CISM, CEH, or ISO 27001 Lead Auditor are preferred.
  - Certification in Cloud Infrastructure and Cloud Security evaluation *Experience:*

- ✞ Minimum of 5 years in ICT security and cloud security assessments, and data protection audits.
- ✞ Familiarity with Sri Lankan data protection regulations.

Responsibilities:

- ✞ Evaluate system security and ensure regulatory compliance,

D. QA Tech Lead *Qualifications:*

- ✞ Bachelor's Degree in Information Security, Computer Science, or related fields.
  - ❖ Recognized certifications such as CAT or similar are desirable.
- ✞ Proficiency in PHP (Laravel), Microsoft technologies, cloud computing, database architecture, and modern application architectures.

Experience:

- ✞ Strong understanding of software testing methodologies and automation tools.
- ✞ Experience with test management tools such as JIRA, Selenium, or TestRail.
- ✞ Minimum of 5 years in Quality Assurance, project management and risk assessment.

Responsibilities:

- ✞ Define QA Standards
- ✞ Manage the QA Team and oversee the testing process

E. IT Infrastructure expert

Qualifications:

- ✞ Bachelor's Degree or equivalent in Software Engineering, Computer Science, or related fields.

Experience:

- ✞ Minimum of 5 years' experience full-stack in software development.
- ✞ Expertise in cloud computing, virtualization, and cybersecurity.
- ✞ Familiarity with IT infrastructure frameworks like ITIL and DevOps *Responsibilities:*
- ✞ Identify enterprise level hardware and software solutions
- ✞ Ensure IT Infrastructure aligns with security standards and project goals
- ✞ Develop disaster recovery plans and implement backup solutions for data protection.
- ✞ Recommend upgrades and improvements

F.Web App Expert *Qualifications:*

- ✞ Bachelor's Degree or higher in Software Engineering, Computer Science, or related fields.

Experience:

- ✞ Minimum of 5 years' experience full-stack in software development.
- ✞ Strong knowledge in PHP (Laravel), Front End Technologies, cloud computing, SQL and NoSQL (JSON) DBMS architectures, and modern application architectures.

Responsibilities:

- ✞ Review and assess the quality of the system coding and database structures/architecture.

- ✞ Review and assess the quality of the test cases and its outcome

G. Mobile App Expert *Qualifications:*

- ✞ Bachelor's Degree or higher in Software Engineering, Computer Science, or related fields.

Experience:

- ✞ Minimum of 5 years' experience in Mobile App development.
- ✞ Strong knowledge in mobile app development, and related mobile app technologies.

Responsibilities:

- ✞ Review and assess the quality of the coding of the mobile app and the coding methodology and standards.
- ✞ Review and assess the quality of the mobile data management as per the requirements.

12 Qualifications and Experience of the Consultant Firm

I General Experience

- ❖ Minimum of 5–10 years of proven experience in providing consultancy services in ICT / Management Information Systems / Digital Transformation projects.
- ❖ Demonstrated experience in designing, developing, or reviewing large-scale **integrated information systems** in the public or private sector.

II Specific Experience

- ❖ At least two successfully completed similar assignments within the last five years related to public sector ICT systems.
- ❖ Demonstrated knowledge and prior engagement in conducting comprehensive technical audits of ICT systems, including areas such as data security and system integration projects.
- ❖ The consultant shall possess appropriate tools and methodologies to review the system's architecture and source code, and to evaluate performance, security, traceability, usability, availability, maintainability, and interoperability of the delivered system.

III. Financial & Managerial Capacity

- ❖ Evidence of financial capacity to undertake assignments of this scale (e.g., audited financial statements of the last 3 years).
- ❖ Adequate administrative and technical infrastructure to deliver the assignment.

13. PAYMENT SCHEDULE

Payment will be made in installments as follows:

- 20% Inception report
- 20% upon completion of Stage 1
- 40% upon completion of Stage 2
- 20% upon submission and acceptance of the final assessment report.

14 The consultant must not be affiliated with the IWMS development vendor.

14. The selected Consultant must signed nondisclosure (NDA) agreement.

Annexure A: Responsibilities of the Organization and the individual Specialists/Analysts

The primary objective of the assignment: is to ensure the IWMS is fit for use by the WBB. Further, the system should be secure (both external threats and how the data is saved and shared), easy to use, perform reliably under pressure situations, capable of being maintained conveniently, enhance-able to support other welfare programs as well as more registrations, operate as required, possessing adequate redundancy for recovery during a disaster:

Based on the above objective, the following key resources have been identified to evaluate the IWMS System, provide recommendations and ensure the system operates as required.

	Responsibilities
1. Team Lead:	• **Overall Coordination and Management:** Responsible for the successful execution of the entire assurance effort. This includes planning, organizing, and directing the activities of all team members. • **Stakeholder Consultations:** Prior to initiating the assignment to understand the current status of the system from the perspective of the WBB, SPP and the Users. • **Stakeholder Communication:** Serves as the primary point of contact for you and other stakeholders, providing regular updates on progress, findings, and recommendations. • **Team Guidance and Support:** Provides leadership, mentorship, and support to the individual specialists, ensuring they have the resources and information needed to perform their tasks effectively. • **Risk and Issue Management:** Identifies potential risks and issues that could impact the assurance process and works proactively to mitigate them.

	• **Deliverable Review and Sign-off:** Reviews and approves all key deliverables, ensuring they meet the required quality standards and provide valuable insights. • **Reporting and Documentation:** Prepares comprehensive reports summarizing the assurance activities, findings, and recommendations for improvement. • **Budget and Timeline Management:** Oversees the budget and ensures the assurance activities are completed within the agreed-upon timelines.
2. Senior Software Architect:	• **Setting-up the Environment:** Responsible for setting-up the environment for undertaking the assignment. • **System Architecture Review:** Analyses the overall system architecture, including its components, interfaces, and interactions, to identify potential weaknesses or design flaws that could impact accuracy, security, robustness, or performance under pressure. • **Security Architecture Assessment:** Evaluates the security architecture to ensure it incorporates appropriate security controls and mitigates potential vulnerabilities. • **Scalability and Performance Analysis:** Reviews the architecture for its ability to scale under load and maintain performance under pressure. • **Technology Stack Evaluation:** Assesses the chosen technologies for their suitability, security implications, and potential for integration issues. • **Design Pattern and Best Practice Adherence:** Verifies that the system design adheres to industry best practices and established design patterns. • **Providing Architectural Recommendations:** Offers expert recommendations on architectural improvements to enhance the system's quality attributes. • **Deployment Management (DevOps):** To review the system deployment methodologies and its adequacy to ensure the reliability of the system. • **Collaboration with the Teams:** Works closely with the analysts and provide guidance to the team members on their respective roles, and consolidate the information to provide a complete picture of the System.

	• **Technical Discussions with Development Team:** Works closely with the development team to understand and rectify the identified issues to ensure the quality of the IWMS.
3. System/Security Analyst:	• **Comprehensive Security Testing:** Conducts thorough security assessments, including penetration testing, vulnerability scanning, and code reviews, to identify security flaws in both the web and mobile applications. • **Infrastructure Security Review:** Evaluates the security of the underlying infrastructure that supports the applications. • **Data Security and Privacy Assessment:** Ensures that data is handled securely and in compliance with relevant privacy regulations. • **Threat Modelling:** Identifies potential external threats and attack vectors against the system. • **Security Requirements Verification:** Validates that security requirements are properly implemented and effective at the program/database level. • **Disaster Recovery and Business Continuity Review:** Assesses the system's resilience and the plans for disaster recovery and business continuity. • **Performance and Stability Testing (System Level):** Conducts load, stress, and soak testing to evaluate the system's stability and performance under various conditions.
4. Web App Expert:	• **Functional Accuracy Testing (Web):** Verifies that all features and functionalities of the web application operate correctly and meet the specified requirements. • **Detailed Review of the System Code:** To review the web app codes in detail and identify issues usability, maintainability, scalability, performance and reliability. • **User Interface (UI) and User Experience (UX) Review (Web):** Evaluates the usability, accessibility, and overall user experience of the web application. • **Performance Testing (Web Specific):** Conducts performance tests specific to the web application, focusing on page load times, responsiveness, and scalability under web traffic. • **Security Testing (Web Specific):** Performs security testing specific to web vulnerabilities, such as cross-site scripting (XSS), SQL injection, and other OWASP Top 10 risks. • **Browser Compatibility Testing:** Ensures the web application functions correctly across different web browsers and versions.

	• **API Testing:** Tests the APIs that the web application interacts with to ensure their accuracy, security, and performance.
5. Mobile App Expert:	• **Functional Accuracy Testing (Mobile):** Verifies that all features and functionalities of the mobile application operate correctly and meet the specified requirements on different mobile platforms (e.g., Android – with different flavours). • **Detailed Review of the Mobile App Code:** To review the mobile app codes in detail and identify issues in relation to fit of use, maintainability, scalability, performance and reliability. • **User Interface (UI) and User Experience (UX) Review (Mobile):** Evaluates the usability, accessibility, and overall user experience of the mobile application on different devices and screen sizes. • **Performance Testing (Mobile Specific):** Conducts performance tests specific to the mobile application, focusing on app launch time, responsiveness, battery consumption, and data usage. • **Security Testing (Mobile Specific):** Performs security testing specific to mobile vulnerabilities, such as insecure data storage, improper session handling, and client-side injection. • **Device Compatibility Testing:** Ensures the mobile application functions correctly across a range of target devices and operating system versions. • **API Testing (Mobile Specific):** Tests the APIs that the mobile application interacts with to ensure their accuracy, security, and performance in the mobile context.