# Cover

PROJECT ASSESSMENT PROCESS

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# Overview

Contained within the review document are detailed procedures for instructors, self-review, and peer review, which enable these entities to thoroughly inspect software work products in order to identify any defects and correct any deficiencies; during a such review, it is imperative to verify that the work products adequately meet specifications outlined in previous work products, such as requirements or design documents, identify any deviations from standard practices, including any problems that may potentially impact the software's maintainability, suggest improvement opportunities to authors, and promote technical exchange and education amongst all participants involved in the review process. Moreover, this document includes the process to identify defects and correct shortcomings with the following purposes:

1. To verify whether the work product is meeting the required standards and specifications, it is important to confirm whether the work product is correctly satisfying the specifications that have been outlined in any previous work product, such as requirements or design documents. This involves reviewing the work product against the set specifications to ensure that it is meeting the intended purpose and is in compliance with the predetermined standards. The objective of this verification process is to ensure that the work product is complete, accurate and meets the needs of the stakeholders.
2. During the review process of the software work product, it is important to identify any instances where the work product deviates from the standard practices that have been established. This includes identifying any issues or concerns that may potentially impact the maintainability of the software, which refers to the ability to make changes or updates to the software in the future with ease. By identifying such deviations, appropriate measures can be taken to rectify these issues and ensure that the work product is in compliance with the established standards. The ultimate goal is to create a high-quality software product that is easy to maintain, update, and modify as needed.
3. One of the objectives of reviewing the software work product is to provide feedback to the author on how to improve the work product. During the review process, any issues or areas of concern that are identified can be used as opportunities for improvement. These improvement opportunities can be suggested to the author so that they can take appropriate actions to rectify any issues or concerns. By providing feedback and suggesting improvements, the reviewer can help the author to create a high-quality work product that meets the needs of the stakeholders and is in compliance with the established standards. Ultimately, the aim is to create a software product that is reliable, efficient, and user-friendly.
4. To promote the exchange of techniques and education amongst the participants involved in the review process. During the review, participants can share their knowledge and expertise on best practices, tools, and techniques that can be used to improve the software work product. This promotes a collaborative and educational environment where participants can learn from each other and improve their skills and knowledge in the field of software development. By promoting the exchange of techniques and education, the review process can result in a high-quality software product that meets the needs of the stakeholders and is in compliance with the established standards.

All development work products, whether they are in the interim or final stages, are open for evaluation, including:

* 1. Requirement Scope
  2. Elicitation Techniques
  3. Requirements specifications
  4. Conceptual Model Diagram
  5. User interface specifications and designs
  6. Test plans, designs, cases, and procedures

The present document establishes a comprehensive process for conducting peer reviews. The process outlines guidelines and procedures for performing inspections, as well as two types of informal peer review, walkthroughs, and pass-around. Additionally, the document offers direction on selecting the most suitable approach for each review. The objective is to ensure that all peer reviews are conducted effectively and efficiently, resulting in the identification of any issues or concerns in the software work products, and promoting the creation of high-quality software that meets the needs of stakeholders and adheres to established standards.

# Assessment Process

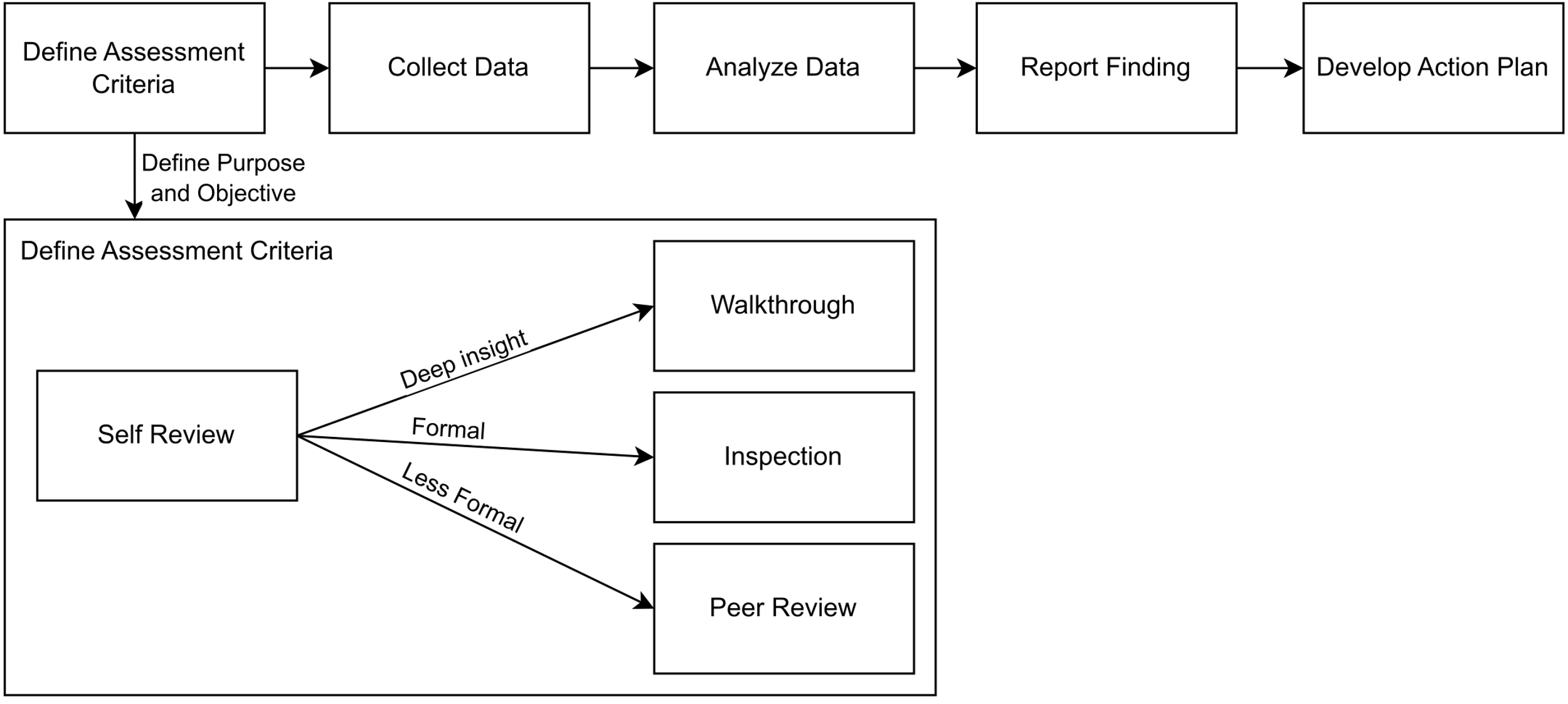


Figure 1 Assessment Process

The assessment process (Figure 1) is a systematic and structured process of evaluating a product, system, or process against defined criteria or standards. The main purpose of an assessment process is to identify strengths, weaknesses, risks, and opportunities for improvement. The assessment process typically involves the following steps:

1. Define the assessment criteria or standards: The assessment criteria or standards should be clearly defined and agreed upon by all stakeholders involved in the assessment process.
2. Collect data: The data collection process involves gathering information about the product, system, or process being assessed. This may involve reviewing documentation, observing processes in action, or conducting interviews with stakeholders.
3. Analyze the data: The data collected is analyzed to identify areas of strength and weakness, risks, and opportunities for improvement. This analysis may involve comparing the data against the assessment criteria or standards.
4. Report findings: The findings of the assessment process are documented in a report. The report should clearly identify the areas of strength and weakness, risks, and opportunities for improvement.
5. Develop an action plan: Based on the findings of the assessment process, an action plan is developed to address the identified areas of weakness and risks and to capitalize on the opportunities for improvement.

In terms of priority for software requirement assessment, it is recommended to start with a self-review to catch any issues or inconsistencies before moving on to more formal review processes. This can be followed by a peer review, which involves a group of colleagues reviewing the requirements together to provide feedback and identify any issues. The detail of the assessment priority describes as follows:

1. Self-review: This is the first and most basic step in the assessment process, where the individual who wrote the requirements reviews them to identify and correct any errors, omissions, or inconsistencies. Self-review is important because it can catch many issues early on before they are propagated to other stages of the development process.
2. Peer review: Once the requirements have been self-reviewed, the next step is to have them reviewed by peers. Peer review can catch additional issues and provide feedback on the clarity, completeness, and consistency of the requirements. It can also help identify potential conflicts with other parts of the system or external requirements.
3. Inspection: Inspection is a more formal and structured review process that involves a team of reviewers who systematically examine the requirements for errors, inconsistencies, and other issues. Inspection is particularly useful for complex or critical systems where a high degree of assurance is required.
4. Walkthrough: Walkthroughs are typically less formal and more collaborative than inspections, and they are often used to validate the requirements with stakeholders or end-users. Walkthroughs can help ensure that the requirements are understandable, accurate, and meet the needs of the intended users.

The priority order may vary depending on the specific context and goals of the assessment. For example, if time is of the essence, a quick walkthrough with stakeholders may be more important than a more detailed inspection. However, in general, the priority order outlined above is recommended as it follows a natural progression from individual review to team review, with increasing levels of formality and rigor. For solo or individual software requirement assessment, self-review would be the first priority since the individual can review their own work before seeking input from others. Peer review and inspection can be used as a secondary priority, depending on the availability of other reviewers or the complexity of the requirements. Walkthroughs may not be necessary for a solo or individual assessment as they are typically used for group reviews. However, if the individual wants to gain a deeper understanding of the requirements, they could conduct a self-walkthrough. Ultimately, the priority of the assessment process would depend on the individual's specific needs and circumstances.

# Define Assessment Criteria

## Participants

A work product should be reviewed by individuals (Table 1) who have the necessary knowledge and expertise to assess its quality and ensure that it meets the required standards and specifications. This may include subject matter experts, technical experts, team leads, project managers, and other stakeholders. The specific individuals involved in the review process may vary depending on the type of work product and the goals of the review. The review process may involve a combination of self-review, peer review, and expert review, with each approach offering unique benefits and limitations. Ultimately, the aim of the review process is to identify any issues or concerns with the work product and provide feedback to the author to facilitate its improvement and ensure its compliance with the established standards.

Table 1 Participant

|  |  |
| --- | --- |
| **Reviewer** | **Responsibilities** |
| Author | In the context of work product review, an author is the individual who has created or developed the work product. The author is responsible for ensuring that the work product meets the required standards and specifications, and that it is completed within the designated timeframe. |
| Self-review | Self-review is a process whereby an individual evaluates their own work product to identify any issues or areas for improvement. It involves reviewing the work product against a set of predetermined criteria or standards to determine its quality and compliance. Self-review can be an effective way to identify and correct issues early in the development process before the work product is reviewed by others. It also promotes a sense of ownership and accountability on the part of the author, as they are responsible for ensuring the quality and accuracy of their work. |
| Peer-review | Peer review is a process whereby individuals with similar levels of knowledge and expertise evaluate each other's work product to identify any issues or areas for improvement. It involves a group of peers reviewing the work product against a set of predetermined criteria or standards to determine its quality and compliance. |
| Instructor or expert reviewer | An instructor or expert reviewer is an individual who has extensive knowledge and expertise in a particular area and is qualified to evaluate a work product to ensure that it meets the required standards and specifications. They may be involved in the review process in various capacities, such as serving as a mentor or advisor to the author, conducting expert reviews of the work product, or providing guidance and feedback to the peer reviewers. An instructor or expert reviewer can provide valuable insights and feedback to the author, as they have a deep understanding of the subject matter and can identify issues or areas for improvement that may not be apparent to others. Additionally, an instructor or expert reviewer can play a vital role in promoting knowledge sharing and professional development amongst the participants by sharing their expertise and providing guidance on best practices and emerging trends in the field. |

## Self-review Procedure

Self-review assessment is the process of evaluating one's own work or performance against a set of criteria or standards. In the context of software development, self-review assessment can be used by developers to assess the quality of their own work before it is reviewed by others. This can help to identify potential issues and improve the quality of the work product before it is submitted for review.

### Participants

* Author: The person who created the work product being reviewed.

### Entry Criteria

* Review approach: The author must select an appropriate assessment approach for the product being reviewed.
* Document preparation: Documents to be reviewed must be identified with a version number. All pages must be numbered, and line numbers must be displayed. The documents must also be spell-checked to ensure that they are free of errors.
* Supporting documentation: All necessary supporting documentation must be available for review. This includes any requirements, design documents, or other materials that are relevant to the work product being reviewed.

### Tasks

* Review and verify the completeness of the requirements specification document.
* Ensure that the requirements are unambiguous, clear, concise, and understandable.
* Verify that the requirements are consistent with the project scope, objectives, and stakeholder needs.
* Check the requirements for correctness, accuracy, and validity.
* Evaluate the requirements for feasibility, achievability, and testability.
* Review the requirements for adherence to the organization's standards, guidelines, and templates.
* Identify any potential risks associated with the requirements and ensure that they have been appropriately mitigated.
* Verify that all stakeholders have been identified and their requirements have been documented and reviewed.
* Confirm that any significant changes or updates to the requirements have been properly documented and communicated to all stakeholders.
* Evaluate the requirements for traceability and ensure that they can be traced back to the stakeholders' needs and objectives.
* Review the requirements for verifiability and ensure that they can be validated through testing and other means.
* Verify that the requirements have been formatted according to the organization's requirements document standard.

### Deliverables

* Modified work product.

### Verification

* Rework does not need to be verified and the author has the freedom to make changes as they see fit without further confirmation.

### Exit Criteria

* The work product has been modified by the author as necessary.

## Peer review Procedure

Peer review assessment is a process where a group of peers or experts review and evaluate software requirements to identify potential issues or areas of improvement. Peer review assessment is a key part of software requirement engineering, as it helps ensure that the requirements are comprehensive, accurate, and meet industry best practices.

### Participants

* Author: The person who created the work product being reviewed.
* Reviewer: The person who evaluates and provides feedback on software requirements, design documents, code, or other project artifacts. The reviewer is typically a peer of the person who created the artifact being reviewed, meaning they have similar expertise and experience in the relevant domain.

### Entry Criteria

* Peer review approach: The author must select an appropriate peer review approach for the product being reviewed.
* Objectives: The author must state their objectives for the peer review. This ensures that the peer review is focused and reviewers understand what is expected of them.
* Document preparation: Documents to be reviewed must be identified with a version number. All pages must be numbered, and line numbers must be displayed. The documents must also be spell-checked to ensure that they are free of errors.
* Supporting documentation: All necessary supporting documentation must be available for peer review. This includes any requirements, design documents, or other materials that are relevant to the work product being reviewed.

### Tasks

* Choose the members who will participate in the review, obtain their consent, and plan a meeting for the peer review.
* Provide the work product to the reviewers before the meeting.
* Explain the work product to the reviewers during the meeting, and initiate a discussion on any topics of concern or interest regarding the work product.
* Provide the author with feedback, potential defects, and recommendations for improvement.
* If necessary, perform revisions on the work product based on feedback received from reviewers.

### Deliverables

* Modified work product.

### Verification

* Rework does not need to be verified and the author has the freedom to make changes as they see fit without further confirmation.

### Exit Criteria

* The work product has been modified by the author as necessary.

## Walkthrough Procedure

A walkthrough is a type of informal review in which a small group of people, usually consisting of the author of a document or code and a few peers, gather together to review the work product. The goal of a walkthrough is to identify any defects or issues in the work product, as well as to provide feedback and suggestions for improvement.

### Participants

* Author: The person who created the work product being reviewed.
* Reviewer: People who have deep knowledge or expertise in a particular area and can provide feedback on the technical aspects of the work product being reviewed.

### Entry Criteria

* Walkthrough approach: The author must select an appropriate walkthrough approach for the product being reviewed. This ensures that the walkthrough is conducted in a structured and effective manner.
* Objectives: The author must state their objectives for the walkthrough. This ensures that the walkthrough is focused and reviewers understand what is expected of them.
* Document preparation: Documents to be reviewed must be identified with a version number. All pages must be numbered, and line numbers must be displayed. The documents must also be spell-checked to ensure that they are free of errors.
* Supporting documentation: All necessary supporting documentation must be available for the walkthrough. This includes any requirements, design documents, or other materials that are relevant to the work product being reviewed.

### Tasks

* Choose the members who will participate in the review, obtain their consent, and plan a meeting for the walkthrough.
* Provide the work product to the reviewers before the meeting.
* Explain the work product to the reviewers during the meeting, and initiate a discussion on any topics of concern or interest regarding the work product.
* Provide the author with feedback, potential defects, and recommendations for improvement.
* If necessary, perform revisions on the work product based on feedback received from reviewers.

### Deliverables

* Modified work product.

### Verification

* Rework does not need to be verified and the author has the freedom to make changes as they see fit without further confirmation.

### Exit Criteria

The work product has been modified by the author as necessary.

## Inspection Procedure

### Entry Criteria

* Inspection approach: The author must select an appropriate inspection approach for the product being reviewed. This ensures that the inspection is conducted in a structured and effective manner.
* Objectives: The author must state their objectives for the inspection. This ensures that the inspection is focused and that all participants understand what is expected of them.
* Document preparation: Documents to be inspected must be identified with a version number. All pages must be numbered, and line numbers must be displayed. The documents must also be spell-checked to ensure that they are free of errors.
* Supporting documentation: All necessary supporting documentation must be available for the inspection. This includes any requirements, design documents, or other materials that are relevant to the work product being reviewed.
* Reviewer training: Reviewers must be trained in the peer review process. This ensures that they understand the inspection approach and are able to provide constructive feedback.
* Re-inspection: For a re-inspection, all issues from the previous inspection must be resolved. This ensures that the work product is of high quality and that all identified issues have been addressed.
* Additional criteria: Any additional entry criteria defined for the specific type of work product must also be satisfied. This ensures that the inspection is tailored to the specific needs of the project and that all relevant criteria are considered.

### Planning

* The author provides the moderator with the work product to be inspected and any supporting documents, including specifications, previous documents, or relevant testing documentation.
* The moderator verifies that the work product meets the inspection entry criteria.
* The moderator determines the number of inspection meetings needed based on the size and complexity of the work product.
* The moderator assigns roles to each inspector and obtains their agreement to participate.
* The moderator decides whether an overview meeting is necessary.
* The moderator schedules the inspection and, if applicable, the overview meeting, and sends out a meeting notice.
* The moderator distributes the inspection package to all participants at least three working days before the inspection meeting.

### Preparation

* Request that individual inspectors prepare for the inspection with specific objectives in mind, such as verifying the consistency of cross-references, detecting interface errors, ensuring traceability to and consistency with predecessor specifications, or checking compliance with standards.
* Review the work product to comprehend it, identify defects, and raise any questions about it. Use the appropriate defect checklist to concentrate on commonly identified defects in the type of product being inspected. Use other analysis methods as needed to identify defects.
* Document minor defects discovered, such as typographical errors or style inconsistencies, on the Typo List. Provide this to the author before or during the inspection meeting.

### Inspection Meeting

* Begin the Meeting: The moderator introduces any participants who are new to the inspection process and explain the purpose of the review. Emphasize that the focus is on finding defects, not proposing solutions, and remind participants to address their comments to the work product rather than the author.
* Confirm Preparedness: The moderator asks each inspector about their level of preparation and notes the time on the Inspection Summary Report. If someone is not adequately prepared, consider rescheduling the meeting.
* Present Work Product: The author provides an overview of the work product being reviewed, highlighting key features or areas of focus.
* Identify Defects and Issues: The inspectors as each section of the work product presented, raise concerns, ask questions, and identify potential defects or areas for improvement.
* Record Issues: The recorder captures each issue or defect raised in the Issue Log, making sure to accurately record the details of each, detail of information see Table 1.
* Answer Questions: The author responds to any questions raised by inspectors and offers additional insights or expertise to aid in defect detection.
* Evaluate the Work Product: After all scheduled meetings have been completed, The instructors assess the work product using the criteria in Table 2 and select the appropriate appraisal. If there is disagreement among inspectors, choose the most conservative option.
* Sign Inspection Summary Report: All participants should sign the Inspection Summary Report to indicate their agreement with the inspection outcome.
* Gather Feedback: The moderator asks inspectors to complete an Inspection Lessons Learned Questionnaire to provide feedback on the inspection process and suggest areas for improvement.

### Rework

* Rectify any identified defects and errors, address raised issues, and modify the work product accordingly. Indicate the action taken on the issues list.
* Rectify any defects found in other project documents based on the inspected work product.
* Document any unresolved defects in the project's defect tracking system.
* If rework verification is unnecessary, report to the moderator the number of major and minor defects corrected and the actual rework effort expended.
* Record the rework effort expended in the Inspection Summary Report.

### Follow-up

* Verify that the author has addressed all the issues recorded on the Issue Log. Evaluate if the author has made appropriate decisions regarding which defects to correct and which suggestions to implement.
* Inspect the modified work product to assess if the rework has been done correctly. Notify the author of any issues found so that they can complete the rework or address any unattended items.
* Provide the moderator with information on the number of major and minor defects discovered and corrected, as well as the actual rework effort.
* Check if the exit criteria for the inspection and peer review process have been met. If so, the inspection is finished.
* Upload the reviewed work product to the project's configuration management system.
* Share the Inspection Summary Report and defect count (found and corrected) with the peer review coordinator.

### Deliverables

* Work Product
* Inspection Summary Report
* Counts of defect found and corrected

### Exit Criteria

* Issues raised during the inspection have been tracked and resolved.
* All major defects have been corrected.
* Uncorrected defects have been logged in the project's defect tracking system.
* The modified work product has been checked into the project's configuration management system.
* Any changes required in earlier project deliverables have been correctly modified, and checked into the project's configuration management system, and any necessary regression tests have been passed.
* The moderator collected and recorded the inspection data.
* The completed Inspection Summary Report and defect counts have been delivered to the peer review coordinator.

# Collect Data

In a self-review for software requirement assessment, software requirement metrics and checklists for requirements specification reviews can be used to help guide the assessment and ensure completeness, correctness, verifiability, and other important aspects of the requirements.

## Checklist for Requirements Specification Reviews

Checklists for requirements specification reviews can help provide a structured and systematic approach to reviewing the requirements. The checklist can include specific items that should be reviewed and assessed, such as the clarity and completeness of each requirement, the consistency and compatibility of the requirements with other parts of the system, and the verifiability of the requirements. By using a checklist during self-review, individuals can ensure that they have considered all relevant aspects of the requirements and can identify any areas that need improvement.

Unambiguous

* Are the requirements written in clear and concise language?
* Are there any words or phrases that could be interpreted in multiple ways?
* Have any technical terms or jargon been defined?

Correctness

* Have the requirements been reviewed for accuracy by subject matter experts?
* Do the requirements accurately reflect the needs and objectives of all stakeholders?
* Are there any requirements that are not necessary or that could cause issues?

Completeness

* Have all requirements been identified and documented?
* Have any assumptions or constraints been documented and communicated to all stakeholders?
* Are there any requirements missing that would be necessary for the project's success?

Understandable

* Are the requirements written in language that is understandable by all stakeholders?
* Have the requirements been presented in a way that is easy to navigate and comprehend?
* Have any diagrams, charts, or other visual aids been used to help convey the requirements?

Verifiable

* Are the requirements testable and measurable?
* Are there any metrics or criteria defined to verify the requirements?
* Have acceptance criteria been defined for each requirement?

Internally Consistent

* Are there any conflicts or contradictions between the requirements?
* Do the requirements work together to achieve the project's objectives?
* Have dependencies or relationships between requirements been identified and documented?

Precise

* Are the requirements specific and detailed enough to be implemented without ambiguity?
* Are there any requirements that are too vague or abstract?
* Have any metrics or criteria been defined to measure the precision of the requirements?

## Requirement Metrics

Software requirement metrics can help provide quantitative measures of the quality of the requirements, such as the number of defects found per unit of size or effort, or the percentage of requirements that are ambiguous or incomplete. By using software requirement metrics during self-review, individuals can assess the quality of the requirements they have produced and identify areas for improvement.

Table 4 Requirement metrics

|  |  |
| --- | --- |
| **Requirements Metrics** | **Standard Value** |
| **Unambiguous**  where,  : number of requirements with identical needs  : total of requirement | Close to 0 = ambiguous  Close to 1 = unambiguous |
| **Correctness**  where,  : number of correct requirements  : total of requirement | 0 = incorrect  1 = correct |
| **Completeness**  where,  : unique function  : stimulus input  : state input | Close to 1 = complete |
| **Understandable**  where,  : number of understandable requirements  : total of requirement | 0 = not understood  1 = all understood |
| **Verifiable**  where,  : total of requirement  : cost to verify presence requirement  : time to verify presence requirement | 0 = very poor  1 = very good |
| **Internal consistent**  where,  : number of unique functions specified  : number of unique functions that are non deterministic |  |
| **Precise**  where,  : true positives  : false positives |  |

## Inspection metric

The data items listed in Table 4 are to be collected by the moderator during each inspection. These data items play a crucial role in calculating the process metrics presented in Table 5, as well as monitoring and enhancing the inspection process. The moderator is responsible for documenting the data items in the corresponding sections of the Inspection Summary Report and Issue Log and reporting them.

Table 5 Items from inspection

|  |  |
| --- | --- |
| **Data Item** | **Definition** |
| Effort.Planning | The total number of labor hours spent by the moderator and author in tasks such as planning, scheduling meetings, assembling, duplicating, and distributing materials, and any other related tasks. |
| Effort.Overview | The total number of labor hours spent by the participants in an overview meeting, if one was held. |
| Effort.Preparation | The total number of labor hours spent by the inspectors and author in preparing for the inspection. |
| Effort.Rework | The total number of labor hours the author spent correcting defects in the initial deliverable and making other improvements; this should also include verification time from the follow-up stage. |
| Time.Meeting | The duration of the inspection meeting in hours. |
| Defects.Found.Major, Defects.Found.Minor | The total number of major and minor defects found by the inspection team; non-defect issues such as questions, requests for clarification, points of style, or items from the Typo Lists should not be included. |
| Defects.Corrected.Major, Defects.Corrected.Minor | The total number of major and minor defects corrected during rework. |
| Size.Planned, Size.Actual | The total physical lines of code (not including comments and blank lines) or number of document pages that were planned for inspection and that were actually inspected. |
| Number.of.Inspectors | The number of active participants in the inspection meeting. |
| Inspection.Appraisal | The inspection team’s decision about the disposition of the inspected work product (accepted as is, accepted conditionally, re-inspect following rework). |

Table 6 Metric calculated from inspection

|  |  |
| --- | --- |
| **Metric** | **How Calculated** |
| Defect.Density | Defects.Found.Total / Size.Actual |
| Defects.Found.Total | Defects.Found.Major + Defects.Found.Minor |
| Defects.Corrected.Total | Defects. Corrected.Major + Defects. Corrected.Minor |
| Effort.Inspection | Effort.Planning + Effort.Overview + Effort.Preparation + Effort.Meeting +Effort.Rework |
| Effort.per.Defect | Effort.Inspection / Defects.Found.Total |
| Effort.per.Unit.Size | Effort.Inspection / Size.Actual |
| Percent.Inspected | 100 \* Size.Actual / Size.Planned |
| Percent.Majors | 100 \* Defects.Found.Major / Defects.Found.Total |
| Rate.Inspection | Size.Actual / Time.Meeting |
| Rate.Preparation | Size.Planned / (Effort.Preparation / Number.of.Inspectors) |
| Rework.per.Defect | Effort.Rework / Defects.Corrected.Total |

# Analyze Data

The purpose of analyzing data is to extract meaningful insights and conclusions from the information gathered during the self-review, peer review, inspection, or walkthrough process. By analyzing the data, it is possible to identify patterns, trends, and issues that can help to improve the software requirement assessment process. The analysis can also help to determine the effectiveness of the assessment techniques being used and identify areas where improvements can be made. The goal of analyzing data is to gain a better understanding of the strengths and weaknesses of the software requirements and the assessment process, in order to make informed decisions and take appropriate actions. Once data has been collected from the self-review, peer review, inspection, or walkthrough process, it can be analyzed to identify trends, areas of improvement, and potential solutions. Steps for analyzing data from these assessment processes:

1. Identify the metrics that were collected during the assessment process, such as defect density, effort per defect, or inspection rate.
2. Aggregate the data and calculate summary statistics for each metric, such as the mean, median, standard deviation, or range.
3. Compare the summary statistics to established benchmarks or industry standards to determine how well the software requirement assessment process is performing.
4. Look for trends or patterns in the data that may indicate areas for improvement or opportunities to optimize the assessment process.
5. Use the data to generate actionable insights and recommendations that can be implemented to improve the quality and effectiveness of the software requirement assessment process.
6. Monitor and track the impact of any changes made to the assessment process over time and continue to refine and optimize as necessary.

the suitable analyzing method and process will depend on your specific development goals and the nature of your data. It may be helpful to experiment with different methods and processes to determine what works best for you.

# Report Finding

Reporting findings is an essential step in the assessment process, as it provides valuable information to stakeholders and helps to improve the software development process. Reporting the findings of a self-review assessment of requirement specification can be done by documenting the results of the assessment process, including the checklist used and the metrics collected. The report should include a summary of the findings, highlighting the strengths and weaknesses of the requirement specification. The report should also include specific recommendations for improvement, such as revising the requirement specification to address any identified weaknesses or addressing any gaps in the checklist used during the assessment process. Additionally, the report should include an action plan for implementing these recommendations and a timeline for completing the necessary revisions. Regarding the requirement metric, the report should include a summary of the metrics collected during the assessment process, such as defect density, effort per defect, or inspection rate. The report should analyze these metrics and provide insights into the quality of the requirement specification, identifying any areas for improvement.

Table 2 Information to record for each defect found.

|  |  |
| --- | --- |
| **Column** | **Description** |
| Origin | development phase in which the defect was introduced |
| Type | missing (something needs to be there but is not) |
| wrong (something is erroneous or conflicts with something else) |
| extra (something unnecessary is present) |
| usability |
| performance |
| non-defect issue (question, point of style, suggestion, clarification needed) |
| Severity | major (could cause product failure or cost significantly more to correct in the future) |
| minor (non-fatal error, cosmetic problem, annoyance, or a workaround is available) |
| Location | page and line or section number where the defect is located |
| Description | concise description of the issue or possible defect |

Table 3 Appraisals code of inspected work product

|  |  |
| --- | --- |
| **Appraisal** | **Meaning** |
| Accepted As Is | When modifications are made in the work product during the inspection process, it is important to note that verification of the modifications may not be necessary. This means that the modifications may not need to be inspected again, as long as they are not critical to the functionality of the product. |
| Accept Conditionally | If defects are found during the inspection process, they must be corrected and the changes must be verified by the individual named on the Inspection Summary Report. This is important to ensure that the corrections have been made correctly and that the defects have been eliminated. |
| Re-inspect Following Rework | If a substantial portion of the work product needs to be modified or there are many changes to make, a second inspection is required after the author has completed the rework. This is necessary to ensure that the defects have been corrected and the modifications have been made correctly. |
| Inspection Not Completed | If a significant fraction of the planned material was not inspected or the inspection was terminated for some reason, it is important to reschedule the inspection to ensure that all parts of the work product are inspected thoroughly. This is important to ensure that all defects are found and corrected before the product is released. |

# Develop Action Plan

Creating an action plan following the findings of a report on software requirement measurement is a crucial component in enhancing the software development process. The action plan details specific steps that need to be taken to tackle the issues uncovered in the report. It is essential to give priority to the issues according to their gravity and potential impact on the project. The action plan should have a timeline and assign responsibility to individuals or teams for each action item.

To develop an action plan, the report findings should be thoroughly scrutinized, and the issues requiring attention must be identified. After this, the issues should be prioritized based on their impact on the project and the necessary resources required to address them. The most severe or high-risk issues should be addressed initially.

Once the issues have been prioritized, the action plan should be formulated, outlining the specific steps required to address each issue. The plan should contain a timeline for completion and assign responsibility to individuals or teams for each action item. The plan should be reviewed by all stakeholders, including project managers, development teams, and quality assurance personnel.

Monitoring progress and updating the action plan regularly is crucial. This can be achieved by holding regular meetings to discuss progress and identify any new issues that arise. The action plan should be a dynamic document that is continuously updated to reflect the changing needs of the project.