

*“Holiday Out” Hotel project – quality assurance plan
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Quality Assurance Plan

“Holiday Out” Hotel project

1. Introduction

The quality assurance team support consists of a technical team of computer and IT specialists that performs a variety of activities supporting IT Center environment. In order to provide the highest quality products and services the support team must adhere to processes, procedures and standards. The Quality Assurance (QA) is a process used to monitor and evaluate the adherence to processes, procedures, and standards to determine potential product and service quality. It involves reviewing and auditing the products and activities to verify that they comply with the applicable procedures and standards, and assuring the appropriate visibility for the results of the reviews and audits.

2. Purpose

This Quality Assurance Plan (QAP) describes the standards, processes and procedures used to support the consistent delivery of high-quality, professional products and services provided in the support of an automated environment. The quality assurance process is concerned with establishing the authority of the QA function, quality assurance standards, procedures, policies, and monitoring, and evaluation processes to determine quality in relation to established standards. QA provides standards against which the quality of the product/service being provided and the progress toward completion can be measured. Quality assurance activities concentrate on the prevention of problems through the continuous improvement of processes.

3. Policy

The policy supports:

- Quality Assurance goals must be rational to be accepted and supported.
- Continual improvement effort must be supported.
- All quality control and quality measurement activities are documented.
- A manager or management team will be designated to be responsible for Quality Assurance.
- Technical Monitor/Senior Management will review Quality Assurance activities.
- The Quality Assurance Plan will be base lined and placed under Configuration Management control.
- Quality Assurance will work to foster constructive communication, provide feedback to detect and prevent development problems, control risks, discuss alternative solutions, and ensure quality is built-in to all products/and IT services to the customer.

4. Scope

The scope of this plan discusses the following QA topics:

- Organizational structure
- Documentation required
- Procedures to be enforced
- Audits and reviews to be conducted
- Process improvement
- Problem reporting and resolution
- Quality Assurance metrics

5. Quality Assurance Procedures

Different methods and techniques will be utilized depending on the specific quality assurance activity. The techniques, tools, and procedures that will be used are as follows:

- Walkthroughs - Formal or informal, structured walkthroughs are used for orientation, examining promising ideas, identifying defects or errors, and improving products at any stage in the process.
- Reviews - An independent evaluation of an activity or process to assess compliance with the project plan; or to examine products or processes against quality factors through the use of checklists, interviews, and meetings.
- Audits - An independent examination of a work product or process to determine compliance with specifications, standards, contractual agreements, or other pre established criteria.
- Evaluations - An evaluation activity that examines products/services to determine compliance to customer requirements.
- Process Improvement - A process improvement program designed to reduce the error rate in a process.

6. Error reporting

Errors, defects, issues, deviations and noncompliance items identified in the QA activities must be itemized, documented, tracked to closure, and reported by the QA team. The QA team must verify all problems were tracked to closure and must provide continuing feedback to management and the technical support team concerning the status of the problem.

7. Metrics

General idea:

The definition and analysis of the software development process by the introduction of metrics, including the creation of a comprehensive data dictionary for collection and evaluation of data, will allow to improve the software development process utilizing measurable criteria. The acquired capabilities concerning the development of high quality software will be utilized to improve software development practice and the software development process.

Measuring model:

The overall project rated will consist of summed up rates of particular project components and features. The following rating system is acceptable:

1 point - if the tested object fulfills all requirements and does not need any further improvement.

0.5 point – if the tested object sufficiently meets the requirements but some aspects are done wrong or are not presented.

0 points – if the tested objects does not meet the requirements and cannot be accepted.

Validation and acceptance rules:

We sum up all the scores from particular measurements and divide them against the total possible amount of points:

100%-90% - the project is complete and totally fulfills the customer needs. It does not need any further examinations, tests and corrections.

75%-90% - the project is complete and generally satisfies customer needs but still needs some corrections and enhancements to be done.

0%-75% - the project may not be complete and does not sufficiently satisfy customer needs and expectations. Therefore the structure and logic of the project and all of its modules should be reconsidered, analyzed and developed in a proper and acceptable way.

1. Technical documentation metric

The maximum score for this section is 4 points.

The technical documentation will be judged under following aspects:

- the length of the technical documentation
 - 1 – 800 to 900 A4 pages
 - 0.5 – 600 to 800 A4 pages
 - 0 – everything what excludes both sets
- the completeness of the technical documentation
 - 1 – each technical aspect of the project is covered
 - 0.5 – not more than 0.5% of all aspects are missing
 - 0 – more than 0.5% of all aspects are missing
- the exactitude of the technical documentation
 - 1 – the description of each technical aspect is accurate
 - 0.5 – not more than 0.5% of all aspects are inaccurately described
 - 0 – more than 0.5% of all aspects are inaccurately described

- the legibility of the technical documentation
 - 1 – if the technical documentation is formatted into sections, subsections, paragraphs, has appendixes, an index, preface, table of contents, glossary, colophon
 - 0.5 - if technical documentation is formatted the same way as above but without a colophon, preface and appendixes
 - 0 - if technical documentation is formatted the same way as above but without a glossary, index and table of contents

2. User manual metric

The maximum score for this section is 4 points.

The user manual will be judged under following aspects:

- the length of the user manual
 - 1 – 100 to 150 A4 pages
 - 0.5 – 40 to 100 A4 pages
 - 0 – everything what excludes both sets
- the completeness of the user manual
 - 1 – each user-oriented feature is covered
 - 0.5 – not more than 0.5% of all user-oriented features are missing
 - 0 – more than 0.5% of all user-oriented features are missing
- the exactitude of the user manual
 - 1 – the description of each user-oriented feature is accurate
 - 0.5 – not more than 0.5% of all user-oriented features are inaccurate described
 - 0 – more than 0.5% of all user-oriented features are inaccurate described
- the legibility of the user manual
 - 1 – if the user manual is formatted into sections, subsections, paragraphs, has appendixes, an index, preface, table of contents, glossary, colophon
 - 0.5 - if user manual is formatted the same way as above but without a colophon, preface and appendixes
 - 0 - if user manual is formatted the same way as above but without a glossary, index and table of contents

3. Administrator manual metric

The maximum score for this section is 4 points.

The administrator manual will be judged under following aspects:

- the length of the administrator manual
 - 1 – 300 to 400 A4 pages
 - 0.5 – 200 to 300 A4 pages
 - 0 – everything what excludes both sets
- the completeness of the administrator manual
 - 1 – each administrator-oriented feature is covered
 - 0.5 – not more than 0.5% of all administrator-oriented features are missing
 - 0 – more than 0.5% of all administrator-oriented features are missing
- the exactitude of the administrator manual
 - 1 – the description of each administrator-oriented feature is accurate
 - 0.5 – not more than 0.5% of all administrator-oriented features are inaccurately described
 - 0 – more than 0.5% of all administrator-oriented features are inaccurately described
- the legibility of the administrator manual
 - 1 – if the administrator manual is formatted into sections, subsections, paragraphs, has appendixes, an index, preface, table of contents, glossary, colophon
 - 0.5 - if administrator manual is formatted the same way as above but without a colophon, preface and appendixes
 - 0 - if administrator manual is formatted the same way as above but without a glossary, index and table of contents

4. Security metric

The maximum score for this section is 4 points.

The security will be judged under following aspects:

- intranet security
 - 1 – if no unauthorized access performed via the intranet to the project can be granted
 - 0.5 – if unauthorized access to not more than one module can be granted via the intranet
 - 0 – if unauthorized access to more than one module can be granted via the intranet
- data security
 - 1 – if proper backup techniques are implemented and used and the possibility of data loss during system failure is equal 0%.
 - 0.5 – if proper backup techniques are implemented and used and the possibility of data loss during system failure is between 0% and 20%.
 - 0 – if no proper backup techniques are implemented and used or the possibility of data loss during system failure exceeds the limit of 20%.
- process security
 - 1 – if under any circumstances no segmentation fault errors will occur
 - 0.5 – if there is a possibility of a scale not more than 7% that segmentation fault errors will occur
 - 0 – if there is a possibility of a scale more than 7% that segmentation fault errors will occur

5. Implementation metric

The maximum score for this section is 4 points.

The implementation will be judged under following aspects:

- code length
 - 1 – 30-40 KDSI
 - 0.5 – 20-30 KDSI
 - 0 – less than 20 KDSI

- invested money
 - 1 – invested amount of money according to preceding estimations
 - 0.5 – invested amount of money according to preceding estimations with a standard deviation of 10%
 - 0 – invested amount of money according to preceding estimations with a standard deviation more than 10%

- invested resources
 - 1 – invested amount of resources according to preceding estimations
 - 0.5 – invested amount of resources according to preceding estimations with a standard deviation of 10%
 - 0 – invested amount of resources according to preceding estimations with a standard deviation more than 10%

- invested time
 - 1 – invested amount of time according to preceding estimations
 - 0.5 – invested amount of time according to preceding estimations with a standard deviation of 10%
 - 0 – invested amount of time according to preceding estimations with a standard deviation more than 10%

6. Conservation metric

The maximum score for this section is 4 points.

The conservation will be judged under following aspects:

- invested money
 - 1 – invested amount of money according to preceding estimations
 - 0.5 – invested amount of money according to preceding estimations with a standard deviation of 10%
 - 0 – invested amount of money according to preceding estimations with a standard deviation more than 10%

- invested resources
 - 1 – invested amount of resources according to preceding estimations
 - 0.5 – invested amount of resources according to preceding estimations with a standard deviation of 10%
 - 0 – invested amount of resources according to preceding estimations with a standard deviation more than 10%

- invested time
 - 1 – invested amount of time according to preceding estimations
 - 0.5 – invested amount of time according to preceding estimations with a standard deviation of 10%
 - 0 – invested amount of time according to preceding estimations with a standard deviation more than 10%

- accomplishment factor
 - 1 – all scheduled modules were conserved according to the technical documentation
 - 0.5 – all scheduled modules were conserved according to the technical documentation with a standard deviation of 10%
 - 0 – all scheduled modules were conserved according to the technical documentation with a standard deviation more than 10%

7. Performance metric

The maximum score for this section is 2 points.

The performance will be judged under following aspects:

- overall performance under normal conditions
 - 1 – if the project performance meets the estimated value of performance under normal conditions
 - 0.5 – if the project performance meets the estimated value of performance under normal conditions with a standard deviation of 10%
 - 0 – if the project performance meets the estimated value of performance under normal conditions with a standard deviation more than 10%
- overall performance under unusual conditions
 - 1 – if the project performance meets the estimated value of performance under unusual conditions
 - 0.5 – if the project performance meets the estimated value of performance under unusual conditions with a standard deviation of 10%
 - 0 – if the project performance meets the estimated value of performance under unusual conditions with a standard deviation more than 10%

8. Stability metric

The maximum score for this section is 1 point.

The stability will be judged under following aspects:

- stability measurement
 - 1 – if all performed operations done among the project are considered as stable
 - 0.5 – if all performed operations done among the project are considered as stable with a standard deviation of 10%
 - 0 – if all performed operations done among the project are considered as stable with a standard deviation more than 10%