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| **QUALITY ASSURANCE PLAN** | | | | | |
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| **7.1 OBJECTIVES**  The objective of the HyperIT Tech Bhd in producing this Quality Assurance Plan is as following:   * 1. To ensure that the software being produced is of good quality and is capable of meeting the expectations of the customer.   7.2 **QUALITY POLICY**  The quality policies for the HyperIT Tech Bhd are as following: -   * 1. To provide the highest attainable quality of service to customers. All the services of the company will be acceptable and delivered in accordance with the quality specifications of the client for their standard use.   2. Working towards extensive customer satisfaction and complete reliability of services including maintenance of software. To achieve this, HyperIT Tech Bhd works under a quality management system that is reviewed at scheduled intervals to ensure continued suitability and efficacy. This continuous review ensures that the services they provide meet or exceed the requirements of their clients.   7.3 **PRELIMINARY PLAN**  The preliminary plan is divided into 5 main area as following   * 1. Exception Handling   2. Procedure – Change Control Procedure   3. Event Identification   4. Standard Documentation and Testing   5. Service Level Agreement | | | | | |

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| 1.1 **Exception Handling**  Error handling refers to programming, application and communication errors being anticipated, detected, and resolved. It is method that can is used to solve the problem occurs. (Rouse, 2010)   * Risk Analysis * In determining risks associated with the e-Donation Application, we utilized the following model for classifying risk:   **Risk = Threat Likelihood x Magnitude of Impact**  And the following definitions:  **Threat Likelihood**   |  |  | | --- | --- | | **Likelihood (Weight Factor)** | **Definition** | | High (1.0) | The source of the threat is highly motivated and sufficiently capable, and controls are ineffective to prevent the vulnerability | | Medium (0.5) | The threat source is motivated and capable, but there are controls in place that can impede the vulnerability's successful exercise. | | Low (0.1) | The threat source lacks motivation or ability, or controls are in place to prevent the vulnerability from being exercised, or at least significantly impede it | | | | |

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| **Magnitude of Impact**   |  |  | | --- | --- | | Component | Description | | High (100) | The loss of confidentiality, integrity, or availability could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.  Examples:   1. Major data loss includes all the data of donation application, the applicant’s details and yearly report of donation 2. Major financial loss such as the amount of the donation | | Medium (50) | The loss of confidentiality, integrity, or availability could be expected to have a serious adverse effect on organizational operations, organizational assets, or individuals.   1. Significant data loss includes all the data of donation application, the applicant’s details and yearly report of donation 2. Significant financial loss such as the amount of the donation. | | Low (10) | The loss of confidentiality, integrity, or availability could be expected to have a limited adverse effect on organizational operations, organizational assets, or individuals.   1. Minor data loss includes all the data of donation application, the applicant’s details and yearly report of donation 2. Minor financial loss such as the amount of the donation | | | | |
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| Risk was calculated as follows:   |  |  |  |  | | --- | --- | --- | --- | | Threat Likelihood | Impact | | | | Low (10) | Medium (50) | High (100) | | High (1.0) | Low Risk (10 x 1.0 = 10) | Medium Risk (50 x 1.0 = 50) | High Risk (100 x 1.0 = 100) | | Medium (0.5) | Low Risk (10 x 0.5 = 5) | Medium Risk (50 x 0.5 = 25) | Medium Risk (100 x 0.5 = 50) | | Low (0.1) | Low Risk (10 x 0.1 = 1) | Low Risk (50 x 0.1 = 5) | Low Risk (100 x 0.1 = 10) |   Risk Scale: High (>50 to 100); Medium (>10 to 50); Low (1 to 10)  The following potential vulnerabilities were identified.   |  |  | | --- | --- | | **Vulnerability** | **Description** | | Password strength | Passwords used by the web application is not strong which do not require special characters and numbers. Attackers could guess the password of a user to gain access to the system. | | Disaster recovery | There are no procedures for ensuring the system's continued operation in the case of a major company disruption or catastrophe. | | Lack of Documentation | The progress of the system from the planning stage to the implementation is not documented for future reference. | | | | |
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| Threat Statement The team identified the following potential threat-sources and associated threat actions applicable to the e-Donation Application.   |  |  | | --- | --- | | **Threat-Source** | **Threat Actions** | | Hacker | * Unauthorized system access. * Steal user’s information (personal information) | | Computer Virus | * Worms (Spread from computer to computer, but unlike a virus it has the capability to travel without any human action) * Trojan Horse | | Computer Criminal | * Spoofing (Is a sort of scam where criminals try to acquire private data from someone) * Identity Theft (is when thieves steal your personal information in order to take over or open new accounts) | | Environment | * Natural disaster |  |  |  |  |  |  | | --- | --- | --- | --- | --- | | Threat/Likelihood | Magnitude of Impact | | | | | High (1.0) | 10 | 50 | 100 | | Hacker |  |  | Risk:  100 x 1.0 =100 | | Medium (0.5) |  | | | | Computer Virus |  | Risk:  50 x 0.5 = 25 |  | | Computer Criminal |  |  | Risk:  100 x 0.1 =100 | | Low (0.1) |  | | | | Environment |  |  | Risk:  100 x 1.0 =100 | | | | |

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| **1.2 PROCEDURE**   * Change Request Procedure   A change request is a significant document that is component of the change management process as it sets out the information and reasons for the change in an application or system. Change Control Procedure is the process used by a company to document, recognize and authorize modifications in an IT environment. It decreases the likelihood of unauthorized modifications, disruptions and mistake. (Techopedia.com, n.d.)  Change Request Procedures is representing steps of 6 as below.   1. **Identification of potential changes**   Project Manager will identify the changes request from any stakeholders. For example, client requests to add a new requirement that generates a report based on type of organization or department rather than an annual report. The project manager will recognize these modifications and discuss them further. | | | |
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| 1. **Analysis of change request**   Feasibility study is carried out by Project manager as to evaluates the possible change to guarantee the value of the possible change. The project manager will discuss to the team members about the modifications. The modifications will be assessed to evaluate the suitability for the project. The feasibility study will be conducted to guarantee that the modifications are valuable.   1. **Evaluation of change request**   In order to comply with the necessary changes, the project manager will also discuss the impact of implementing the change with team member, client. If the debate is agreed by all stakeholders, the next step will be followed by the changes. If no agreement has been reached, the amendments will not continue.   1. **Planning of change**   If the request for change is agreed, the possible modifications for a project plan will be prepared. If the modification application has not been decided, there will be no planning.   1. **Implementation**   The request for change will be introduced according to the plan. Monitoring of the modifications proposed will take place. Monitoring is done by evaluating, testing, and verifying. So that the implemented modifications can be effective.   1. **Reviewing and closing**   Project manager will carry out inspections and reviews to verify the improvements. When the changes have been efficiently finished, the change control cycle is complete. It will not be reviewed and closed unless stakeholders have agreed on the request for change. | | | |

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| * 1. **EVENT IDENTIFICATION**   Events Identification is the method of defining critical occurrences in the life cycle of software development to confirm that system development is on the correct track of the final project being created.   1. Walkthrough   Walkthrough is step by step test to verify if all aspects of an environment, plan or process is ready for its intended purpose. (Annapragada, 2008)   1. Review   Review is referred to the process of examination for defects by individuals other than the person who produced it. (Annapragada, 2008)   1. Inspection   Inspection is an engineering practice to detect and correct software artifact flaws and to prevent them from leaking into field activities.  Quality Assurance Tools which are walkthrough, review and inspection will be used in every phase of system development as below. (Annapragada, 2008)   1. System Planning    * + - Review Project Plan        - Review feasibility analysis report.        - Inspects of Quality Assurance Plan 2. System Analysis  * Review and inspect System Requirement Specification  1. System Design  * Walkthrough database design. * Walkthrough system process * Walkthrough interface system * Review and inspect System Design Specification  1. Implementation  * Review test plan * Inspect code * Review user manual | | | |
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| **1.4** **STANDARDS FOR DOCUMENTATION AND TESTING**   * The standards that is being used in producing quality documentation is Harvard Referencing /IEE * the methods of testing that is being used in validating user’s requirements is Black box, UAT, Quality Control (Walkthrough, Inspection, Review)   1. **SERVICE LEVEL AGREEMENTS**   Explain what is service level agreement:  A **service-level agreement** (**SLA)** is a contract between a service provider and its inner or external clients to document the services that the supplier will provide and define the service requirements that the supplier is required to fulfill. (Margaret Rouse, n.d.)   * Introduction – The purpose of this SLA is a document of mutual agreement between HyperIT Tech Bhd and KPM Beranang in developing e-Donation Application. * Scope of work – The agreement involved development’s time duration which is 3 Months and the development cost which is RM15, 300, under agreed scope which is hardware cost, software cost, development cost, utilities bill, staff salary and system maintenance by HyperIT Tech Bhd to deliver complete products   + Services Providences * Warranty – The warranty is to provide correction to the system in 6 months after delivery of the system. After 6 months, cost is under client’s responsibility.   + - Service Period and Time – The duration for system maintenance of e-Donation application is 1 time per month for 2 year)     - Hardware & Software – Agreed hardware and software specification | | | |

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| |  |  | | --- | --- | | Specification | Adobe Dreamweaver CS6 | | Processor | Intel® Pentium® 4 or AMD Athlon® 64 processor | | Memory | 512 MB of RAM | | Hard disk | 1 GB of available hard-disk space for installation; additional free space required during installation | | Graphic Display | 1280 x 800 display with 16-bit graphics adapter |  * + - Optional Request – For other request, it will follow the service period and time and also in term of warranty that has been agreed. If additional request are made after the warranty period, the charges will be made accordingly to the degree of request made.     - Compensation – HyperIT tech Bhd will make compensation if the error or failure of the system is because of developer’s team fault. | | | |

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| **References**   1. RAVI.R, D. (2016). Why does Feasibility Study is Important for any Business ?. [online] Linkedin.com. Available at: https://www.linkedin.com/pulse/why-does-feasibility-study-important-any-business-athesh-ravi-r [Accessed 29 Jul. 2019]. 2. Rouse, M. (2010). *What is error handling? - Definition from WhatIs.com*. [online] SearchSoftwareQuality. Available at: https://searchsoftwarequality.techtarget.com/definition/error-handling [Accessed 26 Jul. 2019]. 3. Techopedia.com. (n.d.). *What is a Change Request? - Definition from Techopedia*. [online] Available at: https://www.techopedia.com/definition/13935/change-request [Accessed 28 Jul. 2019]. 4. Annapragada, S. (2006). *Reviews, Inspections, and Walkthroughs*. [online] Geekswithblogs.net. Available at: http://geekswithblogs.net/srkprasad/archive/2003/10/27/281.aspx [Accessed 27 Jul. 2019]. 5. Margaret Rouse, M. (n.d.). *What is service-level agreement (SLA)? - Definition from WhatIs.com*. [online] SearchITChannel. Available at: https://searchitchannel.techtarget.com/definition/service-level-agreement [Accessed 28 Jul. 2019]. | | | |