State of Michigan

(Insert System or Project Name Here)

Requirements Specification

# General Information

|  |  |  |  |
| --- | --- | --- | --- |
| System or Project ID/Acronym: |  | Creation Date: |  |
| Client Agency: |  | Modification Date: |  |
| Author(s): |  | DTMB Authorized by: |  |

# Privacy Information

This document may contain information of a sensitive nature. This information should not be given to persons other than those who are involved with this system/project or who will become involved during its lifecycle.

# Change Control

| Revision Date | Author | Section(s) | Summary |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

# 1. Overview

Requirements are statements of business problems and/or needs in as much detail as will fully explain the problems and/or needs. Requirements are NOT statements of a solution to a problem or need. Requirement elements may include business, functional and technical detail. Each requirement must be stated as a unique objective that is:

* **Necessary** (i.e., absolute requirements that are to be verified are identified by “must” or “shall”)
* **Correct** (i.e., an accurate description of a feature or process)
* **Unambiguous** (i.e., can have only one interpretation)
* **Complete** (i.e., answers the questions who, what, when, where, why, and what if)
* **Consistent** (i.e., is not in conflict with other requirements)
* **Verifiable and Testable** (i.e., is stated in concrete terms and measurable quantities. Can be used to create one or more clear tests to verify the requirement has been met.)
* **Modifiable** (i.e., the structure and style of the requirement are such that any necessary changes to the requirement can be made easily, completely, and consistently)
* **Traceable** (i.e., the origin is clear and can be tracked in future development activities and tests)

# 2. Business Requirements Detail

| Business Req. No. | Detailed Business Requirement Description | Priority | Source | Status | Status Date | Comments |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |

# 3. Functional Requirements Detail

| Functional Req. No. | Detailed Functional Requirement Description | Source |
| --- | --- | --- |
|  |  |  |
|  |  |  |

# 4. Technical Requirements Detail

| Technical Req. No. | Detailed Technical Requirement Description | Priority | Source |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

# 5. Functional Baseline

A baseline consists of those things that serve as the basis for measurement or comparison. The functional baseline, sometimes called a system requirements baseline, is the main technical work product of the Requirements Definition Stage. The approved Requirements Specification document (SEM-0402) is the official agreement and authorization to use the requirements for the product design. Approval implies that the requirements are understood, complete, accurate, and ready to be used as the basis for the subsequent lifecycle stages. Once the requirements are identified and approved, any changes to the requirements must be managed under change control procedures established in the Software Configuration Management Plan. Approved changes must be incorporated into the Requirements Specification document.

# Approval Information

The signatures relay an understanding of the purpose and content of the document by those endorsing it.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Approve |  | Approve with Modifications |  | Reject |

Comments:

**Initial Approval Signatures**

| Role | Name/Title | Signature | Date |
| --- | --- | --- | --- |
| Client Sponsor |  |  |  |
| DTMB Sponsor |  |  |  |
| Project Manager |  |  |  |

**Final Approval Signatures**

| Role | Name/Title | Signature | Date |
| --- | --- | --- | --- |
| Client Sponsor |  |  |  |
| DTMB Sponsor |  |  |  |
| Project Manager |  |  |  |

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State of Michigan

Requirements Specification

Instructions

# General Information

**Author(s)**

Record the name of all authors contributing to this document.

**DTMB Authorized by**

Enter the name of the DTMB Client Service Director (CSD) or Information Officer (IO) authorizing DTMB resources to work on the project.

# Privacy Information

# Change Control

This information is to be used to control and track changes made to this system/project document throughout its lifecycle.

# 1. Overview

See SEM Chapter 4.3 for more information.

Use the Requirements Traceability Matrix (SEM-0401) to trace the requirements.

# 2. Business Requirements Detail

Define requirements that identify the business owners’ needs and objectives.

Items to consider:

* **Performance**

Define performance requirements such as number of concurrent users and response time required. See SEM Chapter 4.3.3 for more information.

* **Business Continuity**

Define essential business processes or information that must be protected or restored in the event of damage or loss. Also consider availability requirements such as hours and days that business needs must be met. See SEM Chapter 4.3.8 for more information. Additional information may be documented in the Maintenance Plan (SEM-0301).

Further information on Business Continuity can be found on the DR Planning tab of the **Enterprise Architecture Solution Assessment** worksheet (located on the DTMB Forms Sorted Alphabetically site).

* **Data Archiving**

Define the data preservation and restoration requirements of the business. These may include legal or statutory mandates that could come from State and/or Federal regulations (i.e., the data and corresponding program**/**programs need to be kept for 6 years). See SEM Chapter 4.3.8 for more information.

* **User Interface/Access**

Define requirements for differing users, such as users in different geographic locations or with differing needs from other users. See SEM Chapter 4.3.4 for more information. Examples: browser vs. Client server, Internet vs. Intranet.

* **Reporting**

Define information that must be reported whether internal or external. This is not, however, as specific as a data element list. See SEM Chapter 4.3.2 for more information.

* **Preliminary Implementation**

Define business requirements for implementation such as timing in terms of budget, the schedule of other business projects, mandates for a specific timetable to meet business or external entity needs. See SEM Chapter 4.3.9 for more information.

* **System Interface**

Define the external entities that must be considered. It may be a requirement to obtain information from an external entity or provide information to an outside entity. See SEM Chapter 4.3.5 for more information.

* **Testing Requirements**

Define all test types (e.g., unit, function, integration, system), information about those test types, and testing documentation required for all Commercial Off-the-Shelf (COTS) or Custom COTS products. See the Testing Process Manual for more information.

**Business**

**Req. No.:** The requirement number should be a sequential number (e.g., 1.0, 1.1, 1.2). To create further detail, break numbering down by extending the decimal place (e.g., 1.1.1, 1.1.2 below 1.1). To add a new requirement, select the next sequential whole number (e.g., 2.0, 3.0).

**Priority:** 1 = Mandatory (Must Have)

2 = Preferred (Improves Business Process)

3 = Optional (Nice to Have)

**Source:** JAD Sessions, agency policy, State and Federal law, interviews, facilitated sessions, rapid prototyping, individuals or organizations, etc.

**Status:** A = Approved

N = Not Approved

# 3. Functional Requirements Detail

Define the detailed functional requirements generated by the business requirements above. Include requirements for all functions whether manual or automated. See SEM Chapter 4.3.1 for more information.

**Functional**

**Req. No.:** The requirement number should be a sequential number expanding upon applicable business requirements (e.g., 1.1, 1.2 would expand upon business requirement 1.0). To create further detail, break numbering down by extending the decimal place (e.g., 1.1.1, 1.1.2 below 1.1).

**Source:** JAD Sessions, agency policy, State and Federal law, interviews, facilitated sessions, rapid prototyping, individuals or organizations, etc.

# 4. Technical Requirements Detail

**This section is to be completed by the Technical Lead or Project Manager.**

Technical core requirements are to be selected from the State of Michigan (SOM) Enterprise Architecture (EA) Technical Requirements Guide (see reference below) then copied and pasted into the table. Modify descriptions for each specific requirement, as appropriate. Additional technical requirements can be added as needed.

Define technical requirements that support the business and functional requirements and allow this solution (system/program) to be hosted and supported by the Department of Technology, Management and Budget (DTMB).

Requirements to consider:

* **System Interface**

Define the technical requirements required to interface external entities that have been identified. See SEM Chapter 4.3.5 for more information.

* **Communications/Computer Security and Access**

Define business connectivity and access requirements between user locations and/or security and access requirements at all levels of the business organization, unless already present in the DTMB-0170, Security Assessment Form. In particular, identify any business needs for high security, encrypted data, and limited data access. See SEM Chapters 4.3.6 and 4.3.7 for more information.

* **State of Michigan (SOM) Technical Requirements**

See the **Enterprise Architecture Technical Requirements Guide** section headings (e.g., Client/Workstation, Documentation and Standards, Installation, Product Development, Application Security, Identity Management, Network Security, Server Security, Reporting, Application Server, Database Server, Web Server, Solution Architecture, Solution Integration, System Administration and Licensing, and System Performance) for detailed requirements.

Further information on technical requirements can be found in the following two documents on the DTMB Forms Sorted Alphabetically site. **NOTE: If the documents can not be found on the DTMB Forms site, send an email to:** [EA-Administrator@michigan.gov](mailto:EA-Administrator@michigan.gov) **for a copy.**

* + Enterprise Architecture Technical Requirements Guide
  + Enterprise Architecture Solution Assessment

**Technical**

**Req. No.:** The requirement number should be a sequential number that may expand upon applicable business requirements (e.g., 1.1, 1.2 would expand upon business requirement 1.0). To create further detail, break numbering down by extending the decimal place (e.g., 1.1.1, 1.1.2 below 1.1). Technical requirements may also stand alone.

**Priority:** 1 = Mandatory (Must Have)

2 = Preferred (Improves Business Process)

3 = Optional (Nice to Have)

**NOTE: Any technical requirements pulled from the Enterprise Architecture Technical Requirements Guide must be re-prioritized as a 1, 2 or 3, upon completion of the requirements gathering process.**

**Source:** JAD Sessions, agency policy, State and Federal law, interviews, facilitated sessions, rapid prototyping, individuals or organizations, etc.

# 5. Functional Baseline

See SEM Chapter 4.7 for more information.

# Approval Information

# Requirements Management Checklist

The following checklist is intended to provide system owners, project managers, and other information system development and maintenance professionals with guidance in identifying and planning requirements management activities. The checklist reflects recognized requirements management activities to be performed throughout the information systems project lifecycle.

Requirements management is generally characterized as a process for establishing an understanding between the customer and the project staff about the requirements that will be addressed by the project.

The objectives of requirements management are summarized as the following:

* Establish baseline system requirements from which to develop and control the project
* Ensure the traceability of lifecycle activities (design, testing, etc.) to the requirements
* Provide a consistent method for reviewing, documenting, and changing the system requirements

**NOTE:** The degree to which the following requirements management activities are applied may vary with the nature, scope, size, and complexity of a project.

| Requirements Management Checkpoint | | Comments |
| --- | --- | --- |
|  | A Project Plan has been created. |  |
|  | PMM and SEM methodologies are being used. |  |
|  | Responsibility for analyzing and selecting project requirements is established. |  |
|  | Requirements are documented and a baseline established. |  |
|  | Adequate resources and funding for managing the requirements are provided. |  |
|  | Project team and other related staff are trained to perform requirements management activities. |  |
|  | Plans, products, and activities are kept consistent with project requirements. |  |
|  | The project team has reviewed all selected requirements for accuracy/validity before incorporation into the project. |  |
|  | The project team uses the selected requirements as the basis for project plans, work products, and activities. |  |
|  | Requirements changes are reviewed and incorporated into the project using a Request For Change documented process. |  |
|  | Metrics and Stage Exits are developed to determine the status of requirements management activities, metrics and Stage Exits. |  |
|  | Requirements management activities are reviewed periodically with senior management. |  |
|  | Requirements management activities are reviewed with the Project Manager/Leader periodically and as needed. |  |
|  | A Requirements Traceability Matrix is used to trace requirements throughout the project lifecycle to the final work products. |  |