

REQUIREMENT PROCESS

**Version1.0**

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**VERSION HISTORY**

|  |  |  |  |  |  |
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# 

1. **Introduction**

This document provide overview and clearly about the process requirement. Step by step clarify each phase of process requirement (each Phase of Process Requirement is Sub Process Requirement). Detail for each Phase of Sub Process. Descriptions detail about: Purposed, Activities, Roles, Input, Output, Entry and Exit conditions, Tool of each Sub Process. It help team member understand clearly, unambiguous and catch those document output after each phase, from that to start next phase.

1. **Process**
   1. **Requirement development process**



*Figure 1. Requirement development process*

* + 1. **Purpose**
* Establish common understand among stakeholders and developers
* Identify business problems or issues
* Understand stakeholders` needs and expectations
* Fill in the gap between the needs and expectations
* Discover the “unstated” expectations
* Establish requirement from stakeholders` views
* Establish scenario: How stakeholders will use the system
* Explain the context for using the product
* Validate that needs and expectations are being met
  + 1. **Entry and exit conditions**
  + **Entry condition**
* Business goals are defined
  + **Exit condition**
* Have common understand among stakeholders and developers
* Haverequirement from stakeholders` views
* Have scenario: How stakeholders will use the system
* All important function must approach and don’t lack.
* All requirement must clarify and response business problems or issues
* Feature must fill in gap between the needs and expectations
* All requirement must be confirmed with stakeholder
  + 1. **Role and Activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Step** | **Activities** | **Input** | **Output** |
| Requirement Lead | * Elicitation | * Determine the need of Stakeholder * Establish check list and survey to collect Requirement * Verify assumption with Stakeholder * Establish meeting with customer | * Check list * Survey * Ambiguity requirements | * Vision and Scope * Concept of Operation * User Requirement Document * Software Requirement Specification |
| Requirement Engineer | * Analysis | * From preliminary requirement, Requirement leader develop list of function (aggregated requirement into groups) * Prioritize their needs before allocating * The techniques of deciding which features are appropriate for the product based on priority of function * Develop propose process for each function what approached * Develop prototype |
| * Specification | * Identify and define Quality Attributes for system * Develop business rule * Develop use case * Specific all requirement into Software Requirement Specification document |

* 1. **Elicitation process**



*Figure 2. Elicitation process – Throwaway prototype*

* + 1. **Purpose**
* Discover, note and understand the stakeholder`s need
* Collect all preliminary requirement and build quickly a vision with preliminary requirement or parts of that systems to get feedback from customer to clarify the ambiguity requirement.
  + 1. **Entry / Exit conditions**
  + **Entry condition**
  + Business goals has defined
  + **Exit condition**
* Collection of requirements for analyzing
  + 1. **Roles and activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Step** | **Activities** | **Input** | **Output** |
| Requirement Lead | * Develop survey, check list | * Identify all Stake holder * Develop survey to collect requirement from end user (Visitor) * Develop checklist to get requirement of end user (Staff of faculty) from meeting | * Business goal | * Preliminary requirement document |
| Requirement Engineer | * Collect Requirement | * Send survey and check list to end user, and collect requirement |
| Requirement Lead | * Summary and store all requirement | * After collect all requirement, Requirement lead must summary into draft document, store and verify with customer to ensure don’t miss |

*Table 1. Elicitation roles and activities*

* + 1. **Tools**
* Axure RP Pro 8.0
* Microsoft word
* Survey monkey
  + 1. **Training**
* Develop Checklist technique
* Develop Survey technique: Survey Monkey
  1. **Analysis process**



*Figure 3. Analysis process*

* + 1. **Purpose**
* Used techniques that decide which features are appropriate for the product based on stakeholders’ needs
* To effectively analyze requirements, Software Engineers need to understand, define and verify the requirements from the stakeholders’ view so they can prioritize their needs before allocating requirements to software.
* Requirements elicited from stakeholders must be complete and clear to validate later after analysis
  + 1. **Entry and exit conditions**
  + **Entry condition**
    - Preliminary requirement collect from elicitation must confirm before go on analysis
  + **Exit condition**
    - All requirement was chosen must analysis clearly
    1. **Roles and activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Step** | **Activities** | **Input** | **Output** |
| Requirement Engineer  Requirement Lead | * Verify scope of system | * Identify all function of system * Review all requirements to ensure them align with business goals and objectives * Define project scope | * Business requirement * User requirement * System requirement * Business and technique constraint | * List of function * Vision and scope document * Current process * Propose process * Concept of operation document * Prototype |
| * Identify priority level of requirement | * Develop Vote (Yes/No) to identify level of necessary for function (Must Have, Should Have, Nice to have) |
| * Analysis propose process | * Analysis capability of team * Select function will be approached * Confirm with customer |
| * Develop prototype | * From propose process requirement engineer develop prototype to clarify propose and easily verify with customer |
| * Baseline | * Verify requirement with customer that were analyzed. From that can specific them in document |

*Table 2. Analysis roles and activities*

* + 1. **Tools**
  + Microsoft word
  + Visio 2016
  + Microsoft excel
  + Xampp, Local Host
    1. **Template**
* ECB\_RE\_Function list\_Ver1.0.xlsx
* ECB\_RE\_Vision And Scope\_Ver1.0.doc
* ECB\_RE\_Concept Of Operation\_Ver1.0.doc
* ECB\_RE\_Propose System\_Ver1.0.doc
* ECB\_RE\_Software Requirement Specification\_Ver1.0.docx
* ECB\_RE\_User Requirement Document\_Ver1.0.docx
* ECB\_RE\_Use Case List\_Ver1.0.docx
  1. **Specification process**



*Figure 4. Specification process*

* + 1. **Purpose**
* Requirements specification is the process of elaborating, refining, and organizing requirements into documentation
* The development of a document that clearly and precisely records each of the requirements of the system or product
* A baseline agreement between stakeholders and project teams
* A description of system behavior under various conditions
* A document describing the characteristics and behavior of the proposed system from the user’s point of view
* The basis for subsequent planning, design and coding
* The foundation for system testing, and user documentation
* A bridge between user needs and the software requirements specification that the project team will use to develop the system
  + 1. **Entry and exit conditions**
  + **Entry condition**
  + All requirements are analyzed
  + Appropriate features are defined
  + **Exit condition**
  + All necessary specifications are completely documented.
    1. **Roles and activities**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Role** | **Step** | **Activities** | **Input** | **Output** |
| Requirement Engineer | * Develop use case | * A description of system behavior under various conditions * A document describing the characteristics and behavior of the proposed system from the user’s point of view | * List of function * Vision and scope document * Current process * Propose process * Concept of operation document * Prototype | * Use case list * Software requirement specification document |
| Requirement Leader | * Develop quality attributes | * A description non – function requirement of customer with system * Propose list quality attributes with customer, both two side discuss and decide quality attributes for system * Requirement engineer must define, assign quality attributes as requirements are discovered and refined and verify with customer |
| Requirement Engineer | * Specific all requirement | * Requirement engineer will specific requirement document what were confirmed with customer, on the summary document (Software requirement specification) |
| Requirement Leader, Customer | * Verify software requirements | * Verify Software requirement specification document with stakeholders to ensure enough feature that customer suggest * If customer don’t verify because lack of feature reason, must come back “Specific all requirement” step |

*Table 3. Specification roles and activities*

* + 1. **Tools**
* Microsoft word
* Microsoft excel
* Enterprise architect
  + 1. **Template**
* ECB\_RE\_VisionAndScope\_Ver1.0.doc
* ECB\_RE\_Concept Of Operation\_Ver1.0.doc
* ECB\_RE\_Propose System\_Ver1.0.doc
* ECB\_RE\_Software Requirement Specification\_Ver1.0.docx
* ECB\_RE\_User Requirement Document\_Ver1.0.docx
* ECB\_RE\_Use Case List\_Ver1.0.docx