

ARCHITECTURE AND DESIGN PROCESS

**Version1.0**

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**17/07/2017**

**VERSION HISTORY**

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| **Version #** | **Date** | **Author** | **Editor** | **Content** | **Status** |
| 1.0 | 17/07/2017 | Tan Huynh |  |  |  |

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# Introduction

## Purpose

This document identifies all the work in the architectural design phase. The document will guide you how to build the system and support the architecture design team. The primary activities to be performed include:

* identifies Architecture Driver
* Provide an architectural model
* Create User Interface Specification for detailed design
* Create detailed design for the project system

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| STT | Readers | Reason for reading |
| 1 | Project Manager | Capture the schedule of the architectural stages and update the plan of the project. |
| 2 | Mentor | Review, re-evaluate and guide the system architecture development plan. |
| 3 | Architecture & Design Leader | Use this document to manage and update schedules in each design phase. |
| 4 | Architecture & Design Engineer | Read the document to understand the architectural design plan and based on that to work appropriately in each stage. |
| 5 | Requirement Leader | Use this document to manage and update schedules in each design phase. |

## 1.2. Definitions, Acronyms and Abbreviations

|  |  |  |
| --- | --- | --- |
| No | Definitions | Description |
| 1 | SRS | Software Requirement Specification |
| 2 | ADD | Architecture Driver Document |
| 3 | SAD | Software Architecture Design |
| 4 | SDS | Software Design Specification |
| 5 | GUI | Graphic User Interface |

# Architecture Design Process

## 2.1. Architecture

### 2.1.1. Objectives

The process will determine how to analyze and design the system architecture, how to collect system architecture processes, provide an overview of the system, and check the accuracy of the related documentation.

### 2.1.2. Process



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| ID | PHASES | DESCRIPTION | INPUT | OUTPUT | ROLE |
| ARCHITECTURE DRIVER DOCUMENT | | | | | |
| 01 | Discover Architecture Drivers | * To solve the problem, the architecture team needs to work together to find solutions. * For each solution, each team member will have a different solution: * Good solution but not enough time, funds for implementation, maintenance,. . . * Possible solution but not solve the core problem. * Impossible solution * The stakeholder system presents and introduces the project. * • Determine the Architecture Drivers from the discussions of system stakeholders. * Review and evaluate the results of analysis, design with customers. | ADD (draft)  SRS document | Architecture drivers are analyzed and specified (ADD Draft versions) | Architecture Leader  Architecture Engineer |
| 02 | Establish project scope | * When the best solution is available, the team starts the design stage. * Design based on customer requirements. * Software Design Process * Gather information about the project:   + Get information, content provided by the customer.   + Obtain additional information from other sources   + Synthesize information processing before project implementation * Analyze the project design including: * Analyze content, business requirements of the system. * Solve problems with the best solutions. | Architecture drivers are analyzed and specified | Architecture driver document version | Architecture Leader  Architecture Engineer |
| 03 | Review | * kết hợp với khách hàng với khách hàng để thực hiện các giai đoạn này * Khách hàng đánh giá bản Beta của hệ thống:   + Khách hàng kiểm tra 1 lần phiên bản beta (bản thử nghiệm)   + Kiểm tra giao diện   + Nếu chưa giải quyết được vấn đề. cần một ý tởng mới để giải quyết vấn đề. * Chỉnh sửa (nếu có)   + Chỉnh sửa các lỗi, bug, vấn đề chưa giải quyết khiến khách hàng không hài lòng ở phiên bản Beta.   + Thêm mới những ý tưởng của khách hàng (nếu có)   + Đánh giá lại hoat động của nhóm và mổ xẻ các vấn đề chưa hợp lý. | All Requirements and Architect Driver must be analyzed clearly during the time. | Architecture drivers are baseline  ADD final | Requirement Leader, Architecture Leader  Architecture Engineer |
| SOFTWARE ARCHITECTURE DESIGN | | | | | |
| 05 | Create/ Refine Architecture | * Các bên liên quan hệ thống giới thiệu về dự án * Xác định Architecture Driver từ những bên liên quan hệ thống * Team review và xác nhận với khách hàng * Thiết kế kiến trúc ban đầu hoặc tinh chỉnh kiến trúc thiết kế dựa vào kết quả đầu ra (output) của bản đánh giá thiết kế. * Nhóm cùng trao đổi và xem xét lại hệ thống | Tất cả các Yêu cầu và Architect Driver phải được phân tích rõ ràng theo thời gian | System architecture are defined  Software Architecture Document versions | Architecture Leader  Architecture Engineer |
| 06 | Architecture Review | * Đánh giá kiến trúc hệ thống * Team review lại và xác nhận với khách hàng | System architecture are created and agreed by team | System architecture are baseline  SAD Approved | Project Manager, Requirement Leader, Architecture Leader |
| 07 | The Go/ No-Go Decision | * Đánh giá danh sách các issue được giải quyết và xem xét các issue được giải quyết như thế nào * Thảo luận và xác nhận lại với khách hàng, | Feedback of reviewer | Go/ No-go decision | Architecture Leader  Architecture Engineer |
| END | | | | | |
| 08 | End | * Quyết định “go” có nghĩa là Artchitecture đã phù hợp và sẵn sàng cho giai đoạn tiếp theo: giai đoạn hoàn thiện sản phẩm. * Quyết định “no-go” có nghĩa là artchitecture cần sàng lọc và đánh giá, tinh chỉnh lại cho phù hợp |  | ADD Approved  SAD Approved |  |

## 2.2. Evaluate document process



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| --- | --- | --- | --- |
| ID | PHASES | DESCRIPTION | ROLE |
| 01 | Planning & Preparation | * Architecture Leader prepares a plan for the time and venue for the meeting * Prepare project-related documents to assess common requirements | Architecture Leader  Architect Engineer |
| 02 | Collection of evaluation data | * Project Manager & Requirement Leader prepares information related to the evaluation, which focuses on customer requirements for mapping to documents on the system's design architecture. | Project Manager  Requirement Leader |
| 03 | Analysis & Reflection | * Analyze information in each stage of the architecture for members to have an overview and evaluation. * Then compare comparison, improve the quality of analysis of the group * Use the analyzed information to continue writing, editing, or upgrading the architecture document. | Architecture Leader  Architect Engineer |
| 04 | Make recommendation | * Create new proposals / proposals for architectural design documents based on the analysis review the previous section, and then decide on a proposed system, including:   + Architecture Driver Document   + Software Architecture Design * Afterwards, the team members review the levels and materials completed | Architecture Leader  Architect Engineer |
| 05 | Agree/Disagree on actions | * Evaluate the data collected * Give feedback to all members involved in the group. * Evaluate performance based on collected data | Project Manager Requirement Leader |
| 06 | Synthetic reviews | * Evaluate the results * Provide ADD documentation, SAD has been evaluated to apply the process. | Architecture Leader  Architect Engineer |

## 2.3.Role and responsibility

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| No. | Role | Responsibilities |
| 1 | Project Manager | Collect, record all information, results, difficulties, solutions resolved among stakeholders. |
| 2 | Architecture Leader | Responsible for architecture design and decision making. |
| 3 | Architecture Engineer | Responsible for architecture design and detailed design. |
| 4 | Requirement Leader | Assist with document development and assignment and acceptance so that design teams conduct SRS document analysis. |