**Architecture Design Document**

**For**

**MRBS**

**Meeting Room Booking System**

**Prepared by K15T1-Team01**

**Van Lang University**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| Version | Date | Author | Content |
| 1.0 | 7 - August | Huy Son | * Add part 1 - introduction * Add part 2 – architecture the driver over view * Add part 3 – system architecture over view. * Add part 4 – detail architecture |
| 1.2 | 9 – August | Huy Son | * Update C&C model * Update Module view. |
| 1.2 | 12 – August | Huy Son | Review.  Update data model view. |
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1. **Introduction.**
   1. **Purpose.**

This document describe the architecture design of MRBS, consist of physical perspective, dynamic perspective, static perspective, use for developing and detail design.

* 1. **Scope**.

In project, our team gives a description of the analysis and design of the MRBS at architectural level and develop MRBS base on design.

* 1. **Intended Audience and Reading Suggestions.**

|  |  |  |
| --- | --- | --- |
| No | Intended Audience | Reading Suggestions |
| 1 | Architecture & Design Team | Deployment View, C&C View, Module View |

|  |  |  |
| --- | --- | --- |
| No | Glossary | Description |
| 1 | MBRS | Meeting Room Booking System |
| 2 | ADD | Architecture Design Document |
| 3 | UC | Use Case |
| 5 | QA | Quality Attribute |
| 6 | BC | Business Constraint |
| 7 | TC | Technical Constraint |

* 1. **Reference.**

|  |  |  |
| --- | --- | --- |
| No. | Document | Description |
| 1 | Software Requirement Specification |  |

* 1. **Document overview.**

Document include 4 parts, provide to reader a big picture of system architect.

* Introduction.
* Architecture the driver overview.
* System architecture overview and background.
* Detail architect design.
  1. **Project overview.**
     1. **Project description.**
* **Project name: MRBS**
* **Purpose:** develop system architect for customer business, system architect that satisfy customer requirements.
* **Deliverable:** read MRBS master plan file.
* **Duration. From 21st may to 13th August.**
  + 1. **Project team.**
* 5 team members.
  + 1. **Scope and vision.**

Software develop team will design architect for booking room system include features that described in **SRS document**. System will help customer manage booking room operation.

1. **Architecture the driver overview.**
   1. **Use case.**

*Please read* **SRS document** *for more detail*

* 1. **Business constraints.**

*Please read* **SRS document** *for more detail.*

* 1. **Technical constraints.**

*Please read* **SRS document** *for more detail*

* 1. **Quality attributes.**

*Please read* **SRS document** *for more detail.*

1. **System architecture overview.**

## System Context

System will provide a set of feature help customer and system administrator control the booking operation, handling conflict, manage room, manage borrowers accounts, user account and statistic – report.

The following table will describes roles and responsibility of system.

* 1. **System users.**

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| Administrator | Manage booking room manager account list. |
| Booking room manager | Manage and control booking room activities. |

## Overview.



*System context diagram.*

1. **Detail architect design.**
   1. **Deployment view.**
      1. **Primary presentation.**



*Deployment style*

* + 1. **Element catalogue.**

|  |  |
| --- | --- |
| **Element** | **Description** |
| Server | Support windows server 2003, SQL server 2005. |
| User machine | Booking manager PC or administrator PC, use to access system. |
| Database | Store database of MRBS |

* + 1. **Relationship and their properties.**

|  |  |
| --- | --- |
| **Element** | **Description** |
| Network connection | Using TCP/IP protocol communicate in internal network. |

* 1. **Components and connections view.**
     1. **Packet 1: manage booking room activities.**
        1. **Primary presentation (Multi tier style).**



* + - 1. **Element catalogue.**

|  |  |
| --- | --- |
| **Element** | **Description** |
| Booking room business control | Business layer.   * Control booking activities, check in, check out, change booking room and handing conflict. * Contact with data object layer and GUI layer to get input data, query to database and show output after processing. |
| Booking room data object | Data object layer.   * Define and restructure booking room information. |
| Booking room data access | Data access layer   * Connect and query data of booking room record in database. |
| Email business control | Business layer.   * Control sending email activities, send email, store email, check internet, set template for sending email. * Email business control will send email for following case  1. New account. 2. Notify about booking status.  * Contact with data object layer and GUI layer to get input data, query to database and show output after processing |
| Email template | * Xml file to store email template of system. |
| Email object | Data object layer.  Define and restructure email information. |

* + - 1. **Relationship and their properties.**

*Presented in primary presentation.*

* + - 1. **Element behavior.**



* + 1. **Packet 2: Management activities.**
       1. **Primary presentation (Multi tier style).**



* + - 1. **Element catalogue.**

|  |  |
| --- | --- |
| **Element** | **Description** |
| Borrower business control | Business layer   * Control borrower management activities. Create new borrower, import borrower list, edit borrower information, create new group of borrowers, edit group of borrowers, add borrower to group. * Contact with data object layer and GUI layer to get input data, query to database and show output after processing |
| Borrower data object | Data object layer   * Define and restructure borrower information. * Define and restructure borrower group information. |
| Borrower data access | Data access layer   * Connect and query data of borrower from database. |
| Borrower list file | Excel file, contain borrowers list information. |
| Account business control | Business layer   * Control account management activities. Create new account, edit account information, reset password. * Control login, logout activities. * Contact with data object layer and GUI layer to get input data, query to database and show output after processing. |
| Account data object | Data object layer   * Define and restructure account information. |
| Account data access | Data access layer   * Connect and query data of account from database. |
| Room business control | Business layer   * Control room management activities. Create new room, edit room information. * Contact with data object layer and GUI layer to get input data, query to database and show output after processing. |
| Room data object | Data object layer   * Define and restructure room information. |
| Room data access | Data access layer   * Connect and query data of room from database. |

* + 1. **Packet 3: statistic and report.**
       1. **Primary presentation (Multi tier style).**



*Multi tier style*

* + - 1. **Element catalogue.**

|  |  |
| --- | --- |
| **Element** | **Description** |
| Statistic and report control | Business layer   * Control room statistic and report activities. Statistic by type, export report file. * Analyze booking information to get data for statistic and report. * Contact with data object layer and GUI layer to get input data, query to database and show output after processing. |
| Room data access | Data access layer   * Connect and query data of booking room record from database. |
| Export file | * Excel file to export data from system. |

* 1. **Decomposition view (module).**
     1. **Primary presentation.**



*Decomposition view diagram*

* + 1. **Element catalogue.**

|  |  |
| --- | --- |
| Element | Description |
| Data object layer | Define and restructure object information |
| Business layer | Contact with GUI and data object layer, control system activities. |
| Graphic user interface layer | Present information to user. |
| Data access layer | Connect to database, query to database, update data, create and delete data in database. |

* 1. **Layers view.**
     1. **Primary presentation.**



*Layer view diagram*

* + 1. **Element catalogue.**

|  |  |
| --- | --- |
| Element | Description |
| Data object layer | Define and restructure object information. |
| Business layer | Handle data from GUI layer, restructure information by using data object layer.  Use data access layer to get data from database. |
| Graphic user interface layer | Use data get from business layer after processing then present to user.  Send data input by user and send to business layer for processing. |
| Data access layer | Get data, update record, create new record in data base. |

* + 1. **Relationship and their properties.**

|  |  |
| --- | --- |
| Relationship | Description |
| Use | A relation between 2 layers. In this case, that mean this layer can use another layer. |

* 1. **Data model view.**
     1. **Primary presentation.**