

**SM Hotels – Service Request Management System**

Project Documentation Submitted

To the Faculty of School of Computing and Information Technology

Of Asia Pacific College

In Partial Fulfillment of the Requirements for the subject

Applied Projects 2 or Software Development

Submitted by:

Lurenne Tangi

Project Manager / Documenter

Kenneth Abuel

Project Developer / Analyst

Table of Contents

Executive Summary1

List of Figures and Notations2

I. Introduction2

1.1 Project Context2

1.2 Purpose and Description3

1.3 Objectives 3

1.4 Scope and Limitations4

II. Review Related System5-13

III. Technical Background14

3.1 Software Requirements14-15

3.2 Hardware Requirements15

IV. Methodology16

4.1 Context Diagram16

4.1.1 Diagram Level 017

4.1.2 Diagram Level 318

4.2 Entity Relationship Diagram19

4.3 Data Dictionary20-21

4.4 Activity Diagram22

4.5 Gap Analysis23

4.6 Use Case Diagram24

4.7 Other Diagrams25

4.7.1 Composite Diagram25

4.7.2 Component Diagram26

4.7.3 Deployment Diagram26

4.7.4 Interaction Overview Diagram27

4.7.5 Sequence Diagram27

4.7.6 State Machine Diagram28

4.7.7 Use Case Package Diagram28

4.7.8 Object Diagram29

4.7.9 Class Diagram29

V. Appendices30

5.1 Relevant Source Code39-42

5.2 Screen Layouts43-45

5.3 Project Vision and Scope Document46-52

5.2 Software Requirements Specification53-64

5.2 Change Management 64-71

5.2 Quality Plan72-77

5.2 Risks Plan78-35

5.2 Curriculum Vitae33-35

References36-38

**Executive Summary**

Our client told us that they are using Microsoft Excel to input the details of the request of the Hotel Guest. The team thinks that they needed us to change the system they’re using. Our system has different functions that can make the Request department use it easier. Our system is more detailed, more user friendly and easier to use than Microsoft Excel that they are using currently.

Our client also needs a web based system that is actually related to our system that uses Web based system and not required to use a Mobile app. So our team thinks that our system will be a good match for their needs so they can work a lot easier than before.

Team’s objective is to improve the system of the Taal Vista Hotel’s Service Request System and we think our system can definitely improve their system in a better way. That’s the only objective that are we looking for to improve their system and the rest is good.

Our team recommended our system to be their main system so that they can have a better system use for requesting needs of a hotel guest.

# **List of Figures, List of Tables, List of Notations**

1. Context Diagram
2. Diagram Level 0 and Level 1
3. Object Diagram
4. Class Diagram
5. Communication Diagram
6. Sequence Diagram
7. State Machine Diagram
8. Composite Structure Diagram
9. Interaction Over Diagram
10. Deployment Diagram
11. Component Diagram
12. Use Case Package Diagram
13. ERD Diagram
14. Activity Diagram
15. Use Case Diagram
16. Data Dictionary

**CHAPTER I**

**Introduction**

* 1. **Project Context**

Shoemart Hotels and Conventions Corporation was established to address the vast potential of tourism in the country. It is now developing and operating hotels and convention centers all throughout the archipelago with a current portfolio of 1,514 rooms housed in the Taal Vista Hotel, Pico Sands Hotel, Park Inn by Radisson in Davao, Park Inn by Radisson in Clark and a deluxe 5-star hotel, Conrad Manila, located at Mall Of Asia Complex. (SM Prime, 2016) All these allow guests to experience luxury and the world-renowned Filipino hospitality, made more memorable by the natural beauty. Also SHMCC operates convention centers and trade halls through SMX Convention Center, which has become a popular venue for both locals and international events.

When it comes to having an efficiency and a better performance in a hotel management, upgrading to a Hotel Management System is an excellent way to do because hotels can no longer achieve best service by relying on spreadsheets or old software.

Hotel Service Management system would provide the employees an ease of work and providing a better experience to the customers because the Service Request Management System can automate the handling of guest requests and thus ensuring high quality service and high staff productivity.

* 1. **Purpose and Description**

The team’s purpose is to identify what are the features of the current system, the problems of the departments that they are experiencing in delivering service management and to find a way on how the hotel are going to provide a better way of having a service management.

The team also need to focus on problems that the hotels encounter while providing service management in order to develop the most suitable hotel service management system that they need so that it would reduce service management errors and hotel’s customer service department will have more efficient way of servicing their hotel guest

* 1. **Objectives**

**General Objective**

The project aims to improve the service request handling of the SM Hotels by developing an automated system that will handle and monitor the service request of the hotel guest. This will help the SM hotels in improving their monitoring of services requested by their hotel guest.

**Specific Objective**

* To develop an automated system that will electronically assign the guest service request to their employees.
* To have an organize list of service requested details that can help to minimize the delays of rendering the service to the hotel guest also to avoid confusion to prevent wrong requested item deliveries
* To generate a summary reports for the common services that are being requested by the hotel guest which can be viewed by daily and monthly basis.

**Scope and Limitations**

The scope of this study is to improve the current system of the SM Hotels for the handling of the requested service of their hotel guest. With a better system it will improve the way of providing service management in SM Hotels. The study is limited only to the different departments that provides services to the hotel guests, also the reports statistics which is needed by the quality assurance department of the SM Hotels.

**CHAPTER II**

**Review of Related Systems**

**2.0 Requested Systems**

Other companies are using automated systems for their hotels and convention systems, automated systems help to facilitate the hotel and conventions management and their personnel all through a single piece of software. This automated system can replace the old-fashioned paper based methods that can slow the process of the hotel and convention centers. There are several systems that can be used as a reference for the project.

Know Service can automate the handling of guest’s requests, complaints and the maintenance jobs, thus ensuring high quality service and high staff productivity. They also have the same function that we will use in our proposed system because the requests details are logged in either by hotel staff by the guests using an interactive guest application.

Opera Property Management System is a comprehensive and scalable solution that comes in three levels (Premium, Standard, and Lite) and also available for both cloud and installed deployment. The system also provides the same function as the Know Service but also include more functions that can be used in improving the Hotel Management.

Hotelogix is well known for its booking system but it also has request system that the other people don’t know.

eZee Frontdesk by eZee Technosys, this automated system is focusing on bookings reservation management system but it also has had a rate management that tracks the inventory of the hotel. Aside from booking, it also features the allocation of request service.

roomMaster by InnQuest, is a booking engine for the room reservation. Aside from that, it is also used for requesting for the pillows, beddings and etc.

MSI CloudPM developed by MSI, is a cloud based PMS that is used to look for hotel reservation of room. This PMS also accepting a request from the hotel guest.

CloudPM saves money by eliminating capital expenditures for property technology, increasing the operating efficiencies and eliminating pricey on-property hardware requirements. It also features the allocation of request service.

Frontdesk is one of the most popular system for hotels because of having an easy to use interface, customizable availability calendar and having a personalized profile for their guests and travel agent. With a one simple screen, it provides everything you need just like requesting for your needs in order to enjoy you stay in the hotel

Hostpos runs a well-established customer based installed. The work is organized around a common project that reunites all necessary resources which are totally guaranteed by the business areas in order to be able to give the client best expectations. Hostpos is composed of different department like reservation, requesting and housekeeping.

Rezlynx PMS is a fully configurable, PCI compliant property management system to enable any sized hotel or group to manage their bookings and operations efficiently and profitably. Operations are accepting of request of the hotel guest and also the housekeeping job who will handle the request of the customer.

RDPWin can consequently send messages to all visitors, proprietors, travel specialists and gatherings who reserve a spot. These affirmations can be totally redone for the coveted data and appearance. It is also the same format for the request system that will use an web based system.

Maestro PMS has risen as a top level arrangement supplier of hotel innovation arrangements and prides itself on an extraordinary customer mind benefit record that has for quite some time been perceived for giving customers the innovation arrangements that fit both their operational and administration needs. This PMS has the same record as our Requested system goes on.

Skyware Hospitality Solutions, serving the hospitality industry with 24/7 service and state-of-the-art technology, is widely recognized for providing hotels, resorts, and management companies with flexible software solutions. Skyware is in need of property that’s why they used a requested system for it and pass it to housekeeping department to do the job.

Hoteliga is a cloud-based inn administration framework that enables you to perform effortlessly the day by day elements of your lodging. It has a simplest approach for the reservation job and it makes the housekeeping and requested system job easier.

Cloud-based property management system with a booking engine and channel management. Also has a range of additional modules to increase the efficiency of your hotel management. This PMS is all-around it accepts request from Hotel Guest, do the reservation job and many more.

Elina provides a full set of Property Management, Revenue, Marketing and Sales Management tools as well as Stakeholder Management and Reporting and Analytics, enabling you to spend less time on daily operations, and spend more time with your guests and growing your business.

Genkan is a complete cloud based solution for holiday rental, short term and vacation property management. The solution incorporates all the required tools such as email and SMS Marketing, Inventory management, trust accounting, Survey, payment gateways, inspections in one 'Real Time' software solution plus being multi lingual and multi-currency. Real estate agents and holiday rental managers who are in the business of managing short term and holiday vacation short term rental property. It also features the allocation of request service.

Cloudbeds connects your property to hundreds of channels with real-time, two-way integration. We are the no-sweat, all-in-one hotel management system that makes you more money, saves time, and makes guests happier. It works best for small to medium-sized independent property owners including but not limited to, hotels, hostels, bed and breakfasts, inns, vacation rentals, apartments, campgrounds and more. It also features the allocation of request service.

RezOvation Web is the leading web-based Bed & Breakfast software designed to provide Innkeepers with the tools to save them time, increase their occupancy, and provide them with the freedom and peace of mind to run their business online securely from anywhere. It also features the allocation of request service.

KWHotel is a hotel management software designed for small and medium accommodation facilities. This is suited for hotels, hostels, B&B’s villas and any other small – medium accommodation facilities. It also features the allocation of request service.

Bookalet is an online booking management system for owners and agents to manage every aspect of renting out holiday accommodations. It is used for vacation and holiday rentals. It also features the allocation of request service.

Magna Timeshare Software or enterprise timeshare software for timeshare resorts with ASP or server on-site models. Sales automation, tour appointment automation, minivac management, sales contracts, tour commissions, OPC commissions, sales commissions, mortgage and finance automation and management, Real-time web based reports, statistical reports, and KPI reports. Sistem Otel PMS is an on premise hotel management solution for hotel businesses of all sizes. The solution is compatible with windows operating systems and offers support for multiple languages. Hotel software includes sales, reservation, cashier, POS, front desk and back office modules for hotels and hotel chains. It also features the allocation of request service.

Open Hotel PMS is a PMS that was used for reservation of rooms and foods that also uses request system for the requested foods and beverages.

Smart Hotel Software is a software that uses a request system the same as our system that our team uses.

Rezserve is more on reserving a room but it also uses request system as other features of this PMS.

iRez Systems has developed a reservations system that is openly definable and customizable to match your unique and specific business needs. Rezware has easy to use state of the art features developed with industry standard tools, for a variety of platforms ranging from multi-user Windows based computers, to internet, and enterprise based reservations capabilities. It also features the allocation of request service.

Hotel Management is highly integrated that can help hotels automate the entire gamut of operations with maximum ease. Monk HMS is suitable for small midsize large and group of hotels also resorts boutique hotels. It also features the allocation of request service.

WinHMS Express is created by Winsar Infosoft that uses by Hotels Lodge Resorts Guest house SPA Golf Banquet Motels. It is easy to use and intuitive in every way. WINHMS aims at simplifying and speeding up hotel management and accounting needs. It also features the allocation of request service.

RezEasy Cloud PMS & Booking Engine is a powerful web based Property Management System designed to meet all of your front and back office needs. Includes commission-free Booking Engine &Agent/Corporate Client module. The system is mobile-friendly and includes a mobile optimized booking engine plus PC and Tablet interfaces for the Front Desk system. It also features the allocation of request service.

I-Pro Booking System are experts in the vacation rental industry providing a streamlined solution to allow you to manage your rental business whether you have 1 property or over 500 properties. Track Leads, Manage Bookings via phone, email or online, manage payments, invoices. It also features the allocation of request service.

Corrigo CMMS property management is created by Corrigo that is used in commercial property management, residential property management, hospitality property management, parking management, and municipal properties. Corrigo also accepting a request from the hotel guest.

Mirage Hotel systems is completely integrated property management solution for hotels, motels, inns, and resorts. It also features the allocation of request service.

Guardian is created by ofek technologies that is fully integrated suite of hotel automation products consisting of modules that can be easily added or expanded. It also features the allocation of request service.

Protel PMS is used by innovative hotels, from large multi-site to smaller independents, who rely on technology to do most of the heavy-lifting in their daily operations. We have ideal product variations for all-comers. This is an all-in-one hotel management solution from small individual hotels to large international hotel chains. It also features the allocation of request service.

HoteloPro is a web-based hotel management solution built specifically for small hotels, inns, bed and breakfasts (B&Bs), guest houses, and vacation apartments. HoteloPro makes it easy for small hoteliers to organize their business, save time, and acquire more clients. It is used by small hotels, inns, bed and breakfasts (B&B’s), guest houses, and vacation rentals. It also features the allocation of request service.

Hospitality property management solution offering full front of house features and reporting, room management, E-POS, menu costing, stock control, Inventory and asset management, full accounting and reporting all seamlessly integrated into one user friendly, real time effective system. It is an ideal solution for SME property owners and managers wanting to have real time access to reports on the various aspects of their business for informed decision making. It also features the allocation of request service.

SMS|Host is created by Springer-Miller Systems that is used by Luxury Hotels and Resorts Mountain and Ski resorts condo timeshare hotel golf resort beach resort wellness resorts and retreats. It also features the allocation of request service.

Resort Manager is created by Little Fish Technologies which is used by Hospitality industry including Villas, Hotels, Resorts, Restaurants, Boutiques and other retail outlets. This is a premium one-stop solution for all operational system needs for small/medium-sized hotels, villa complexes, golf courses and resorts. It also features the allocation of request service.

Guest Centrix is a flexible and tailorable hospitality property management solution for hotels and resorts of all sizes. It also features the allocation of request service.

Clerk is the perfect online tool designed for hotel management in the cloud. Keep track of your hotel from anywhere. Nice and Simple. It allows people to manage bookings, stays, arrivals, departures, closing sales, and all the important operations of your hotel, quickly and efficiently, so you can spend less time managing and more time paying attention to your customers. It also features the allocation of request service.

Innkey PMS is the next generation property management system, which automates your business with an easy-to-use enterprise platform that provides centralized controls and reporting while enabling each property to run at maximum efficiency. It also features the allocation of request service.

**CHAPTER III**

**Technical Background**

1. **Software Requirements:**

**Client interface**

**Google Chrome**

Chrome is a free Internet browser officially released by Google. Chrome offers tight integration with Google sites and services, such as YouTube and Gmail, and manages its system resources differently than other browsers. Its V8 JavaScript engine was developed from scratch at Google, and may improve experience on script-heavy websites and applications.

**Mozilla Firefox**

Firefox supports most basic Web standards including HTML, XML, XHTML, CSS (with extensions), JavaScript, DOM, MathML, SVG, XSLT and XPath.

**Web Framework**

**Yii Framework**

Yii is a high-performance, component-based PHP framework for developing large-scale Web applications rapidly. It enables maximum reusability in Web programming and can significantly accelerate your Web application development process.

**Client Operating System**

**Windows OS**

The most widely used operating system for desktop and laptop computers. Developed by Microsoft, Windows primarily runs on x86-based computers. Windows provides a graphical user interface and desktop environment in which applications are displayed in resizable, movable windows on screen.

**Programming Language**

**PHP**

PHP is a server-side-scripting language designed primarily for web development but also used as a general-purpose programming language. PHP code may be embedded into [HTML](https://en.wikipedia.org/wiki/HTML) or HTML5 [markup](https://en.wikipedia.org/wiki/Markup_language), or it can be used in combination with various [web template systems](https://en.wikipedia.org/wiki/Web_template_system), web content management systems and web frameworks.

**Database**

**MySQL**

For our Database we will useMySQL, it is a free, open-source database management system that has been around for years. It is very stable and has a big community that helps maintain, debug and upgrade it

1. **Hardware Requirements:**

**Client Computer and Server**

A computer will be the device that would be used to access the implemented automated system. The minimum requirements were based on the research that the researchers made.

Computer

Operating System : Windows 7 or higher

Processor : Dual-core 2.5 GHz or higher

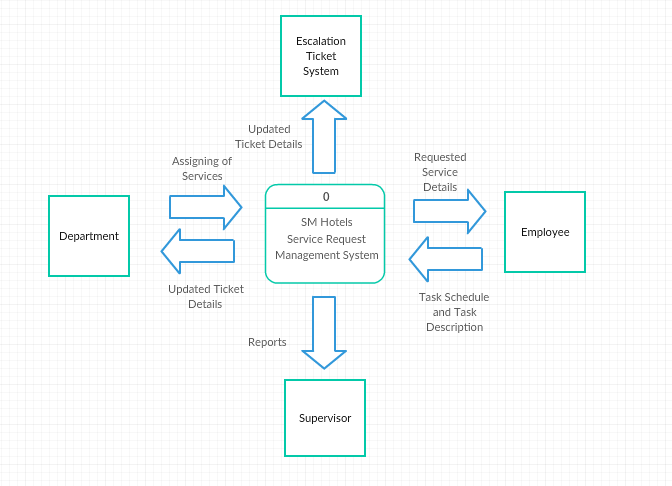
RAM : 4GB

Internal Storage : Minimum of 500GB

**CHAPTER IV**

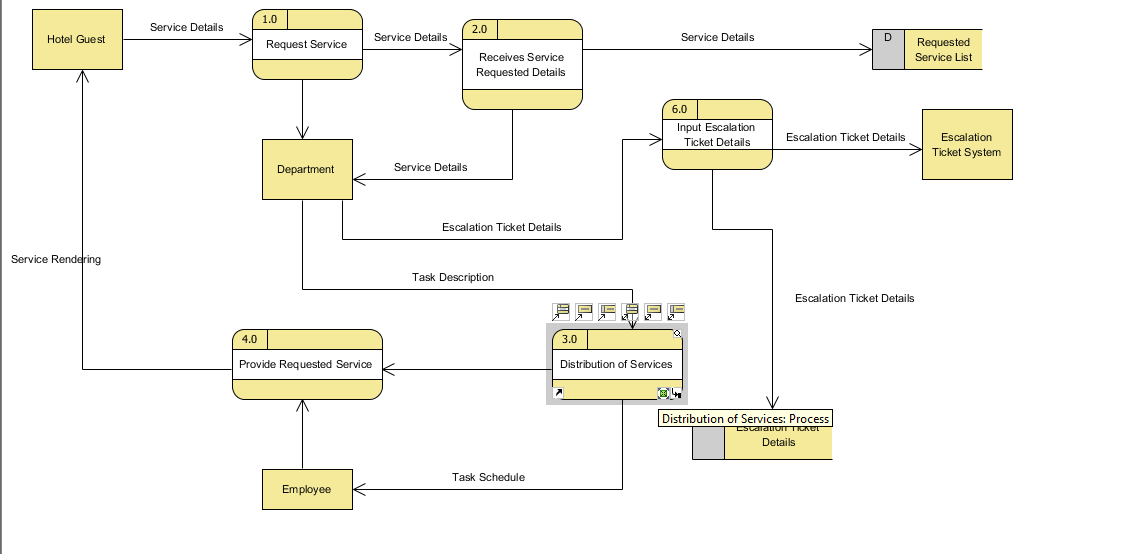
**Methodology**

**4.1 Context Diagram**



**Figure 1: Context Data Flow Diagram for the SM Hotels Service Request Management System**

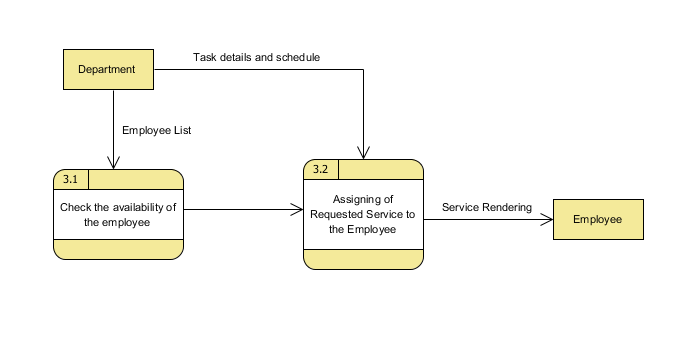
When a hotel guest makes a request the responsible employee for handling the request will input the requested service in the system, the department head can assign a service employee that will render the service to the hotel guest. If the hotel guest is not satisfied or has a complaint to the service the updated ticket details will be forward to the escalation ticket system. The reports will provided for the supervisor which is needed for their statistics and data archives.

**4.1.1 Diagram Level 0**

**Figure 1.1: Diagram Level 0 for the SM Hotels Service Request Management**

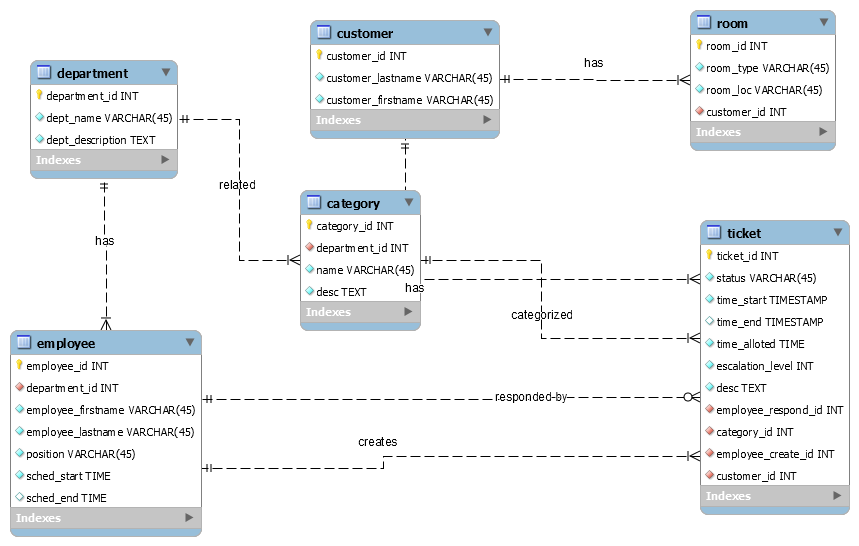
The Diagram Level 0 shows that when the Hotel Guest makes a request, the requested service details will be received by a specific Department and the details will be recorded into the system. The department staff will find an available Service Employee then the staff will assign the service to an available Service Employee then the requested service will be provided to the Hotel Guest. After the service requested has been provided, the operator of the system will update the details in the SRMS.

**4.1 2 Diagram Level 3 Assigning of services**



**Figure 1.2: Level 3 Diagram**

Figure 1.2 shows the process of assigning of services that will be provided for the request of the hotel guest. After the Customer Service Department prepares the service requested, they will check first the availability of their Service Employee if there is someone who is available then they will allocate the requested service to the Service Employee.

**4.2 Entity Relationship Diagram**

**Figure 2: Entity Relationship Diagram of the SM Hotels Service Request Management System**

The Entity Relationship Diagram consist of 5 entities, a hotel guest has 1 to many rooms and when a hotel guest makes a request it generates a ticket. A department has 1 to many employees and an employee inputs the details of the requested service of the hotel guest, also an employee is the one who renders the service to the hotel guest. Each ticket is categorized by a specific department.

**4.3 Data Dictionary for the Entity Relationship Diagram**

**Department Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data Type | Field Length | Constrains |
| department\_id  dept\_name  dept\_description | INT  VARCHAR  VARCHAR | 11  45  TEXT | Primary Key  Not Null  Not Null |

**Customer Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data Type | Field Length | Constrains |
| customer\_id  customer\_lastname  customer\_firstname | INT  VARCHAR  VARCHAR | 11  45  45 | Primary Key  Not Null  Not Null |

**Employee Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data Type | Field Length | Constrains |
| employee\_id  employee\_firstname  employee\_lastname  position  department\_id  sched\_start  sched\_end | INT  VARCHAR  VARCHAR  VARCHAR  INT  TIMESTAMP  TIMESTAMP | 11  45  45  45  11 | Primary Key  Not Null  Not Null  Not Null  Not Null  Not Null  Not Null |

**Ticket Table**

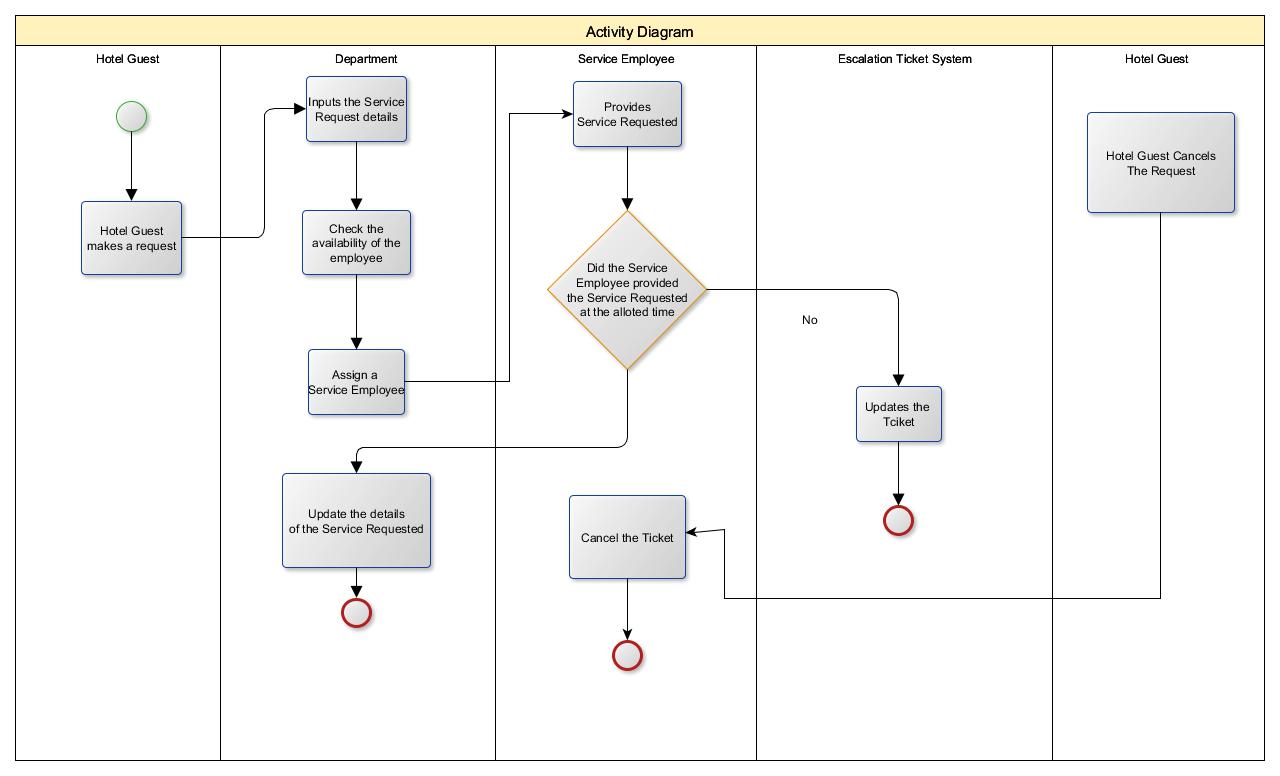
|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data Type | Field Length | Constrains |
| ticket\_id  status  time\_start  time\_end  time\_alloted  escalation\_level  desc  employee\_respond\_id  category\_id  customer\_id  employee\_create\_id | INT  VARCHAR  TIMESTAMP  TIMESTAMP  TIMESTAMP  INT  TEXT  INT  INT  INT  INT | 11  45  11  11  11  11  11 | Primary Key  Not Null  Not Null  NOT NULL  NOT NULL  NOT NULL  Foreign Key  Foreign Key  Foreign Key  Foreign Key |

**Room Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data Type | Field Length | Constrains |
| room\_id  room\_type  room\_loc | INT  VARCHAR  VARCHAR | 11  45  45 | Primary Key  Not Null  Not Null |

**Category Table**

|  |  |  |  |
| --- | --- | --- | --- |
| Attribute Name | Data Type | Field Length | Constrains |
| category\_id  category\_name  Desc  deparment\_id | INT  VARCHAR  TEXT  INT | 11  45  11 | Primary Key  Not Null  Foreign Key |

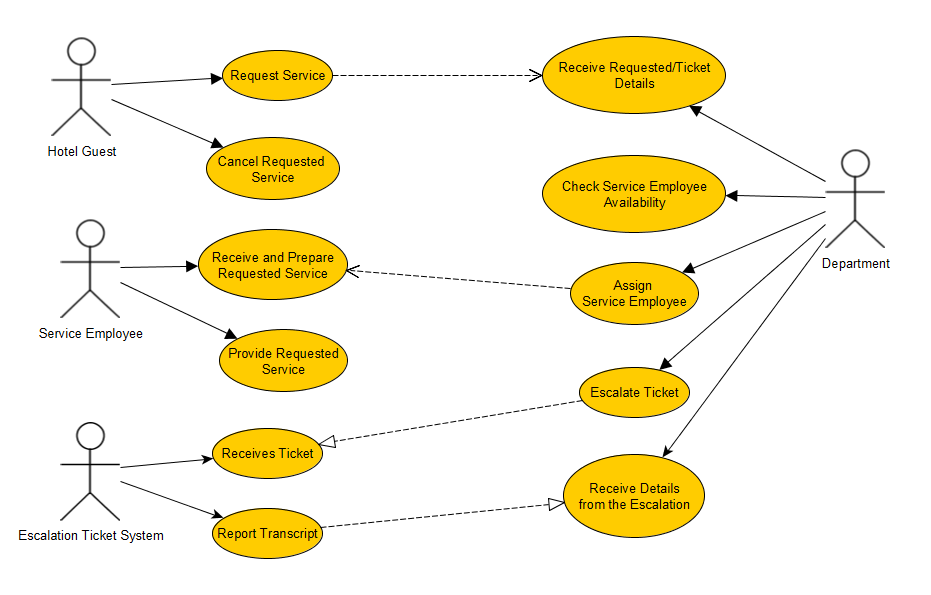
**4.4 Activity Diagram**

**Figure 4: Activity Diagram for the SM Hotels Service Request Management System**

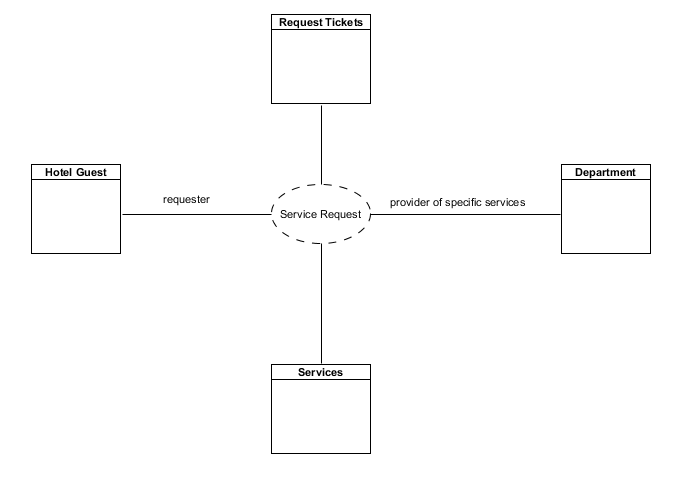
The activity diagram shows that when a hotel guest makes a request for a service, the requested service details will be received by a specific department for its specific services, while preparing the requested service a staff will check the availability of a Service Employee then if there is an available Service Employee the Service Employee will be assigned to provide the requested service by the Hotel Guest. The Service Employee also needs to provide a summary report after providing the requested service. If the request has been cancelled the Service Employee will cancel out the ticket.

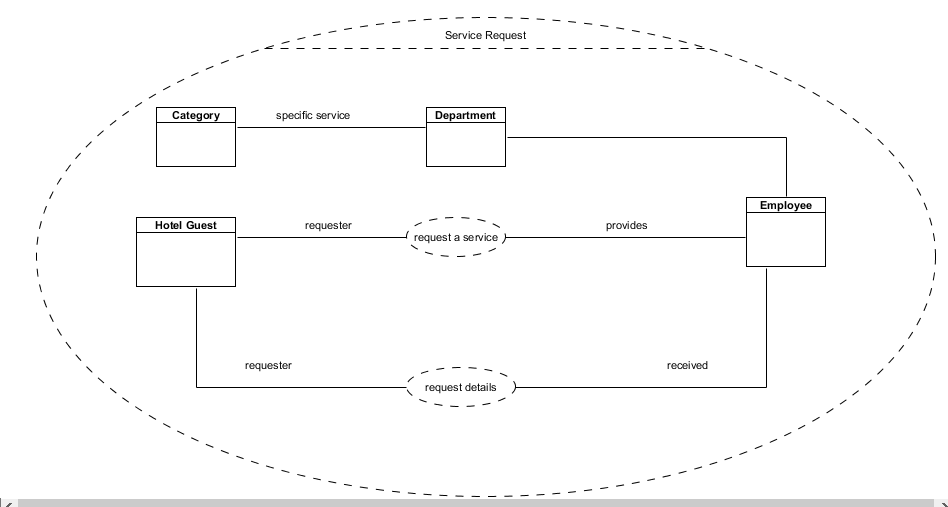
**4.5 Gap Analysis**

|  |  |  |
| --- | --- | --- |
| User Requirements | Current System | Proposed System |
| The Service Requested details must be inputted properly | The details of the Service Requested are currently inputted on Microsoft Excel | There will be a detailed form that you can easily input the details of Service Requested |
| The operator and the customer service department can see the details and the status of the requested service. | Needs to rely on the assigned service employee to find out what are the necessary service requested details. | A dashboard that will show the on-going, pending service request and the details of the requested service. |
| A system that can record summary reports | Reports are done through Microsoft Word and they are not sorted out | The system will show the details of the summary report |
| Assigning of employees must be accurate. | There are no current accurate list of currently available service employee | All available and non-available employee will be displayed in the system |

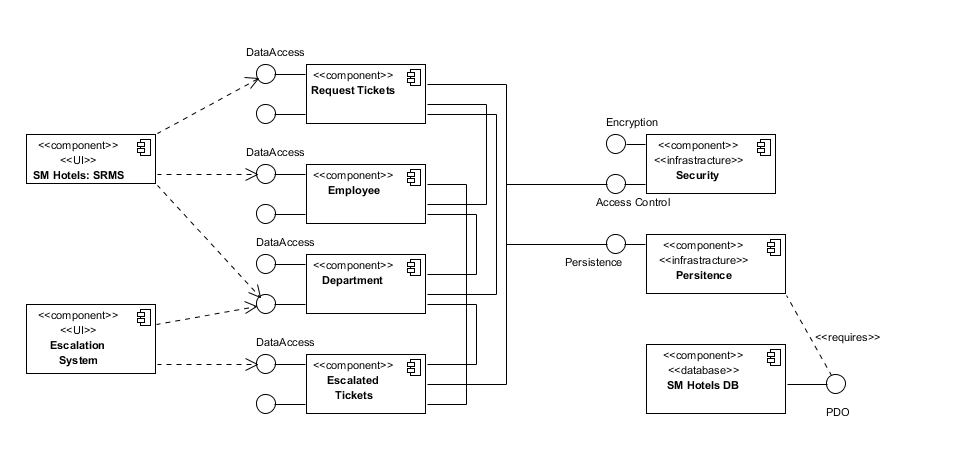
**4.6 Use Case**

**4.7 Other Diagrams**

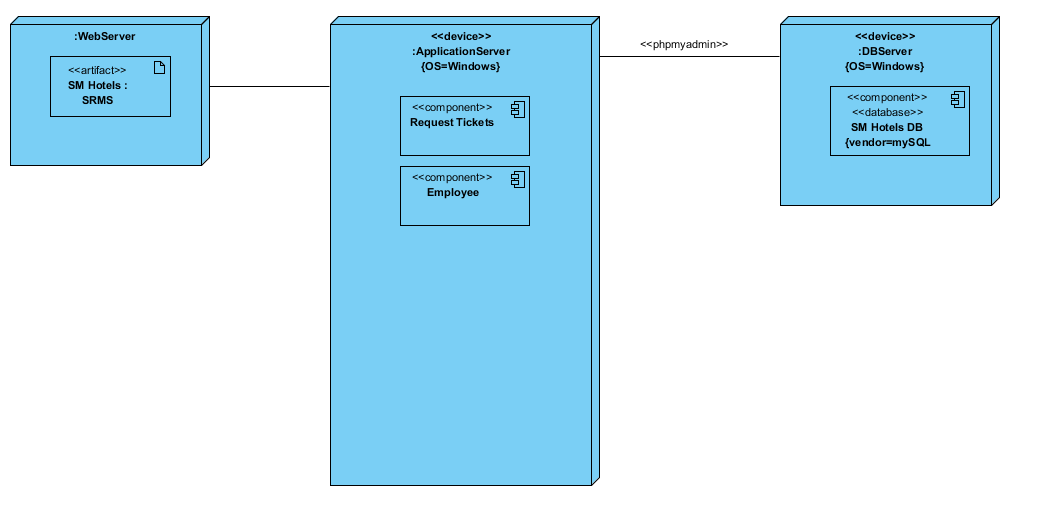
****

****

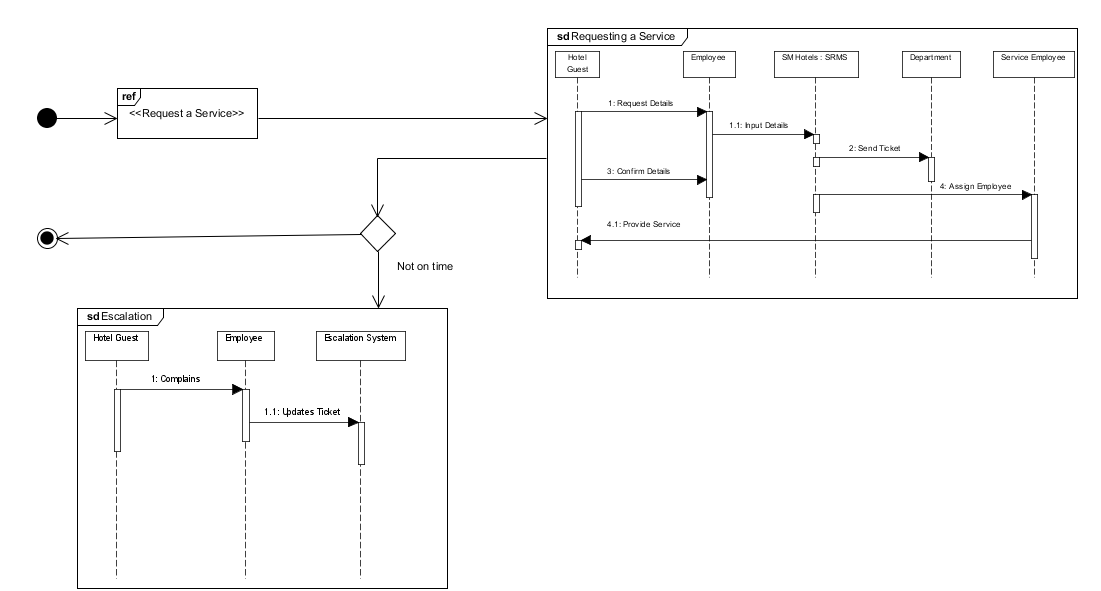
**Figure 4.7.1 Composite Diagram**

****

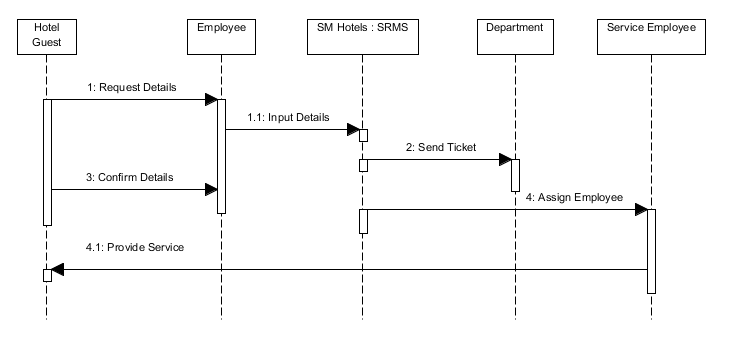
**Figure 4.7.2 Component Diagram**

****

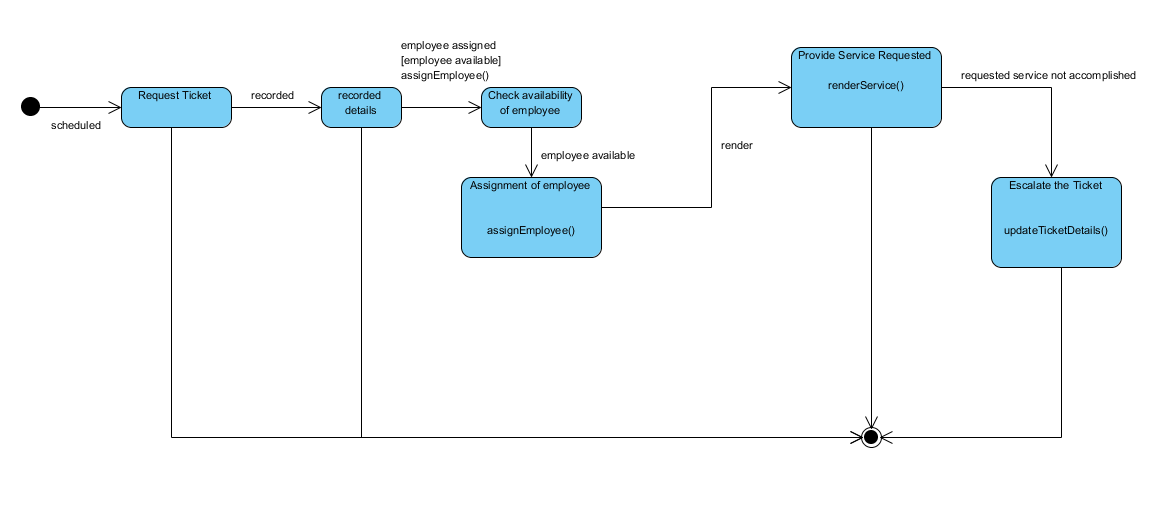
**Figure 4.7.3 Deployment Diagram**

****

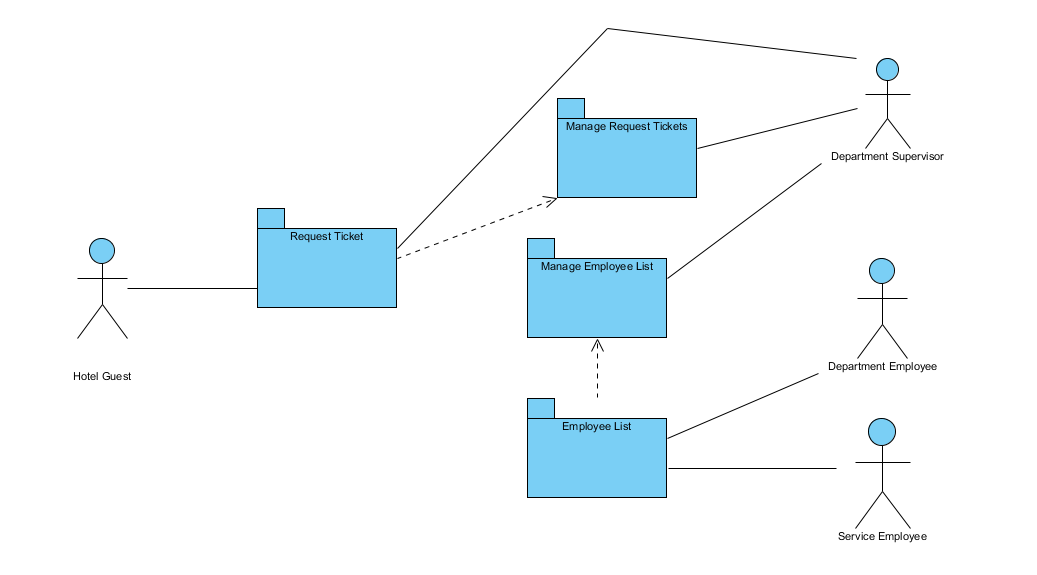
**Figure 4.7.4 Interaction Diagram**

****

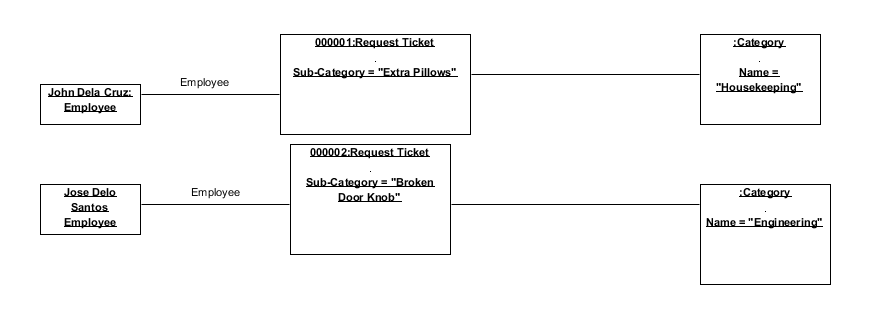
**Figure 4.7.5 Sequence Diagram**

****

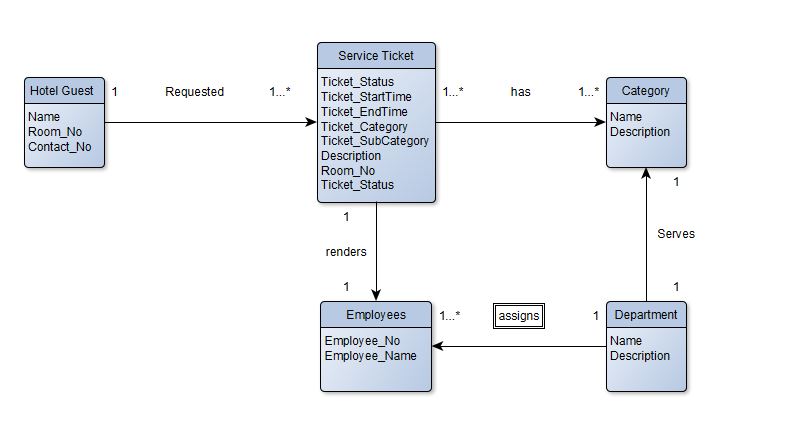
**Figure 4.7.6 State Machine Diagram**

****

**Figure 4.7.7 Use Case Package Diagram**

****

**Figure 4.7.8 Object Diagram**

****

**Figure 4.7.9 Class Diagram**

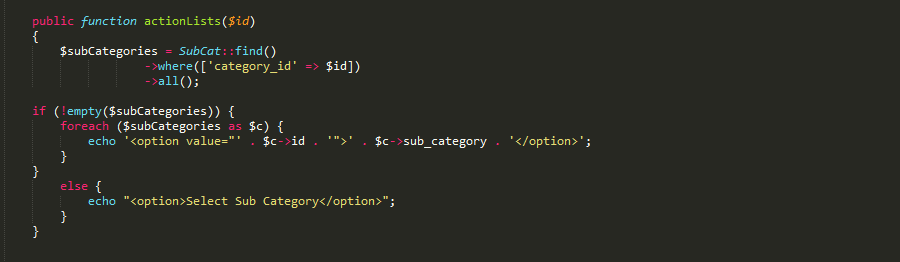
**CHAPTER V**

**Appendices**

**5.1 Relevant Source Code**

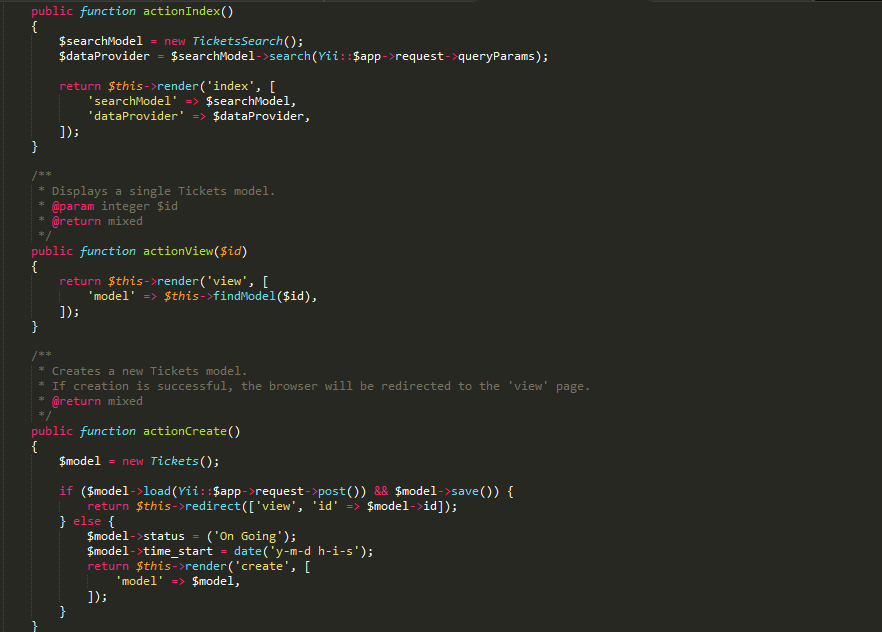


**Figure 5.1.2 Main.php**

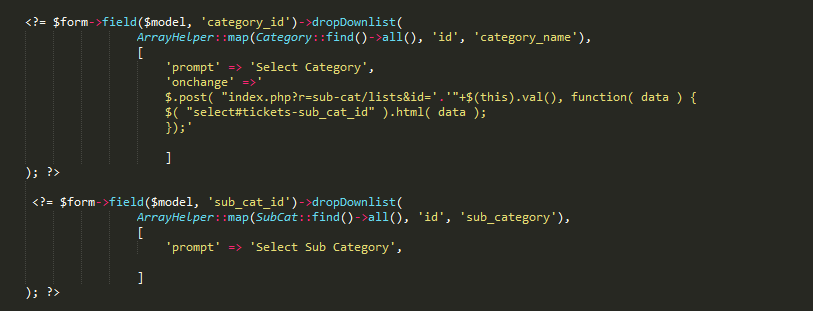


**Figure 5.1.3 Dependent Dropdown for Category snippet**





**Figure 5.1.4 TicketsController.php**



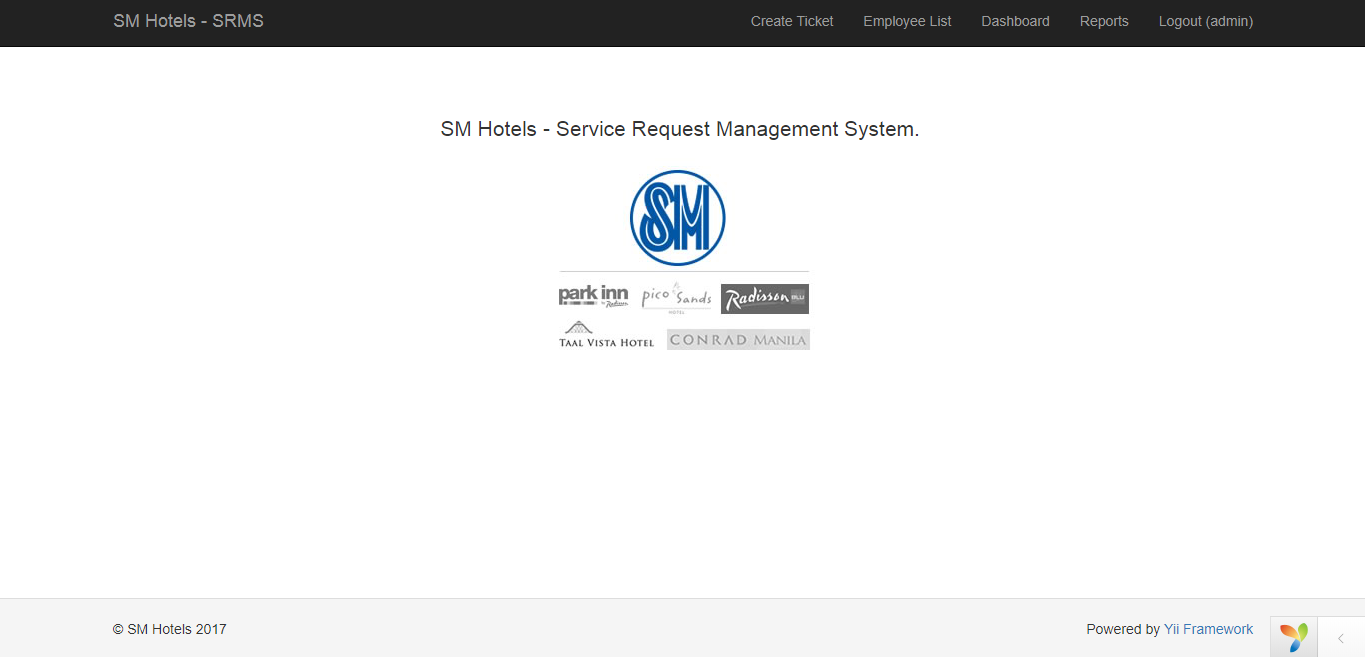


**Figure 5.1.5 TicketsForm.php**

**Github Repository Link:**

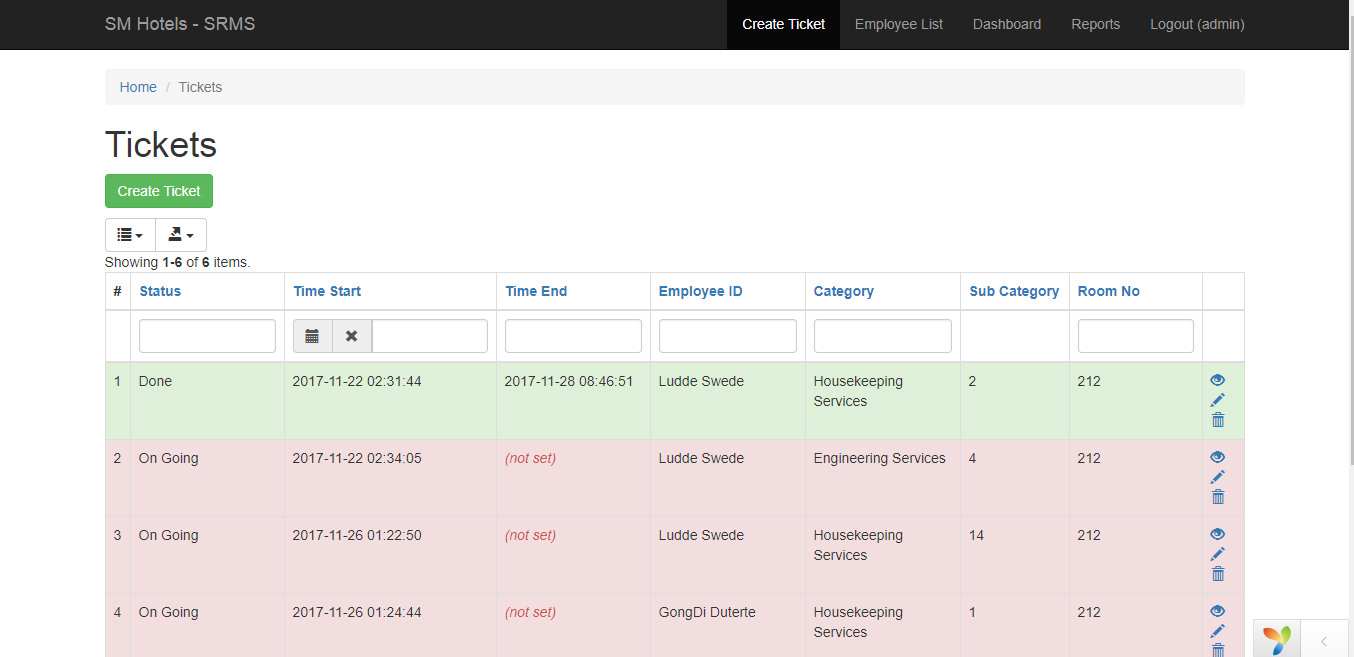
https://github.com/lrenetngi/apc\_sysadd\_mi151\_05/

**5.2 Screen Layouts**



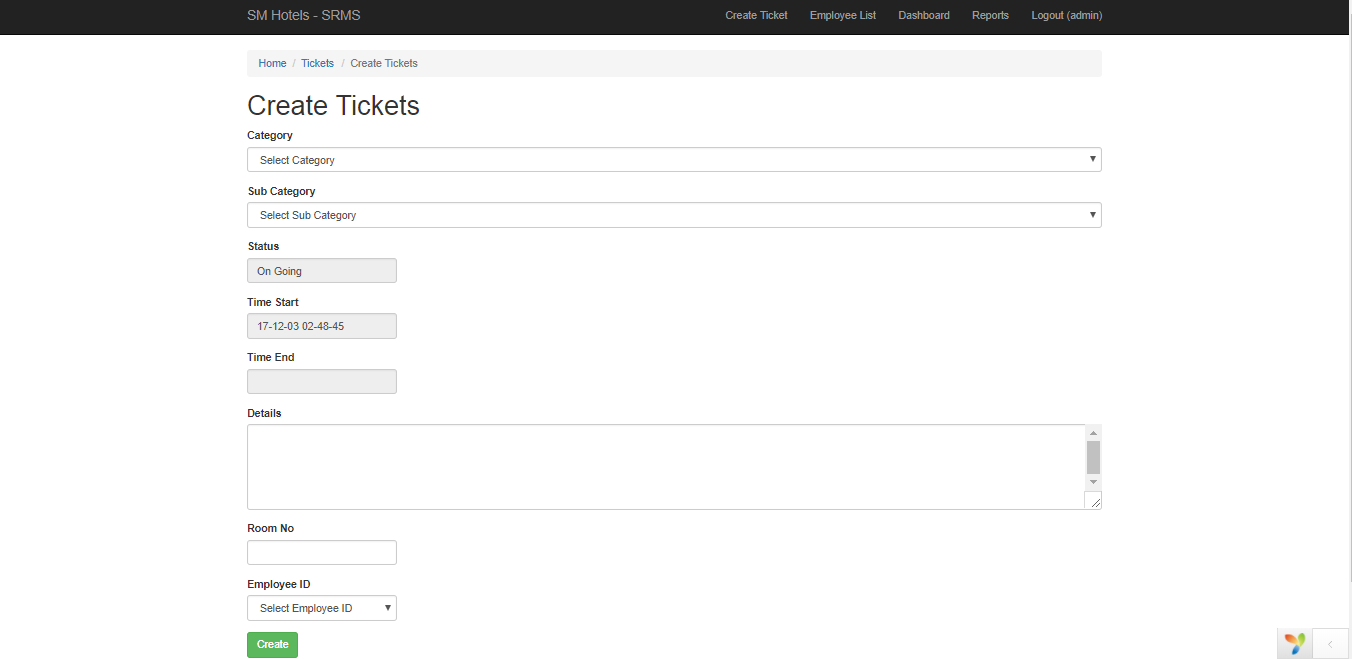
**Figure 5.2.1 Navigation Bar**

The navigation bar contains buttons that will redirect you to the specific pages of SRMS



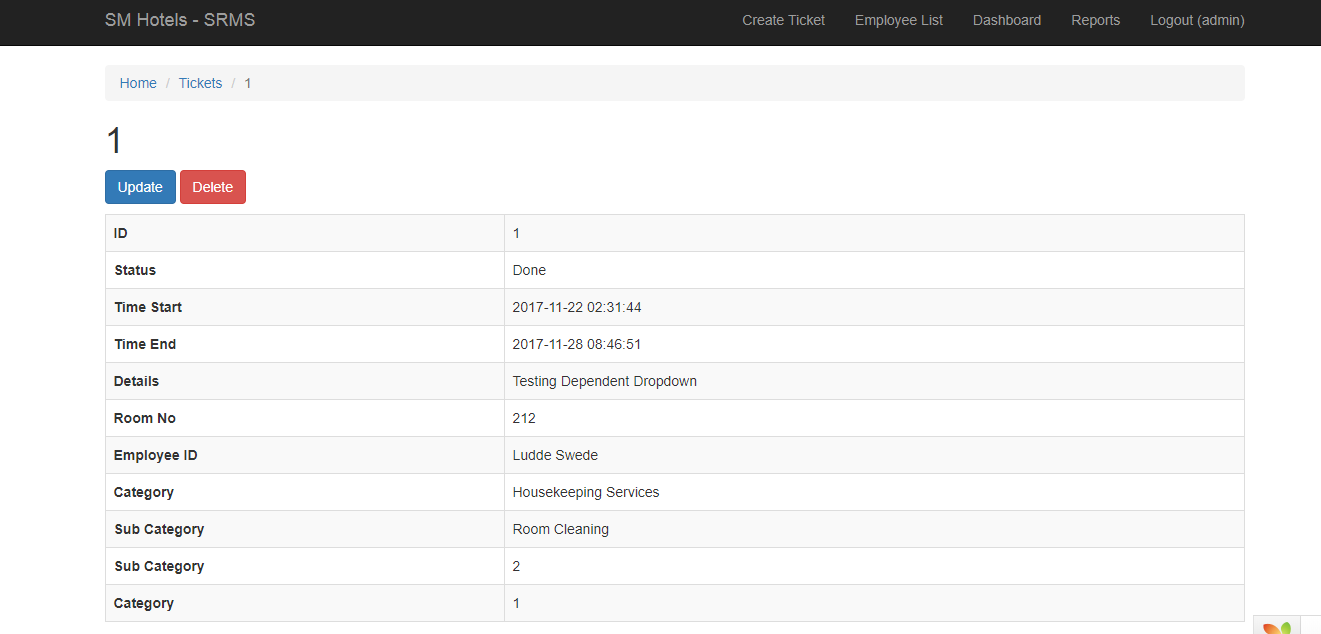
**Figure 5.2.2 Tickets Dashboard**

The Tickets Dashboard shows the current pending and closed tickets. It also contains the summary details of a specific ticket.



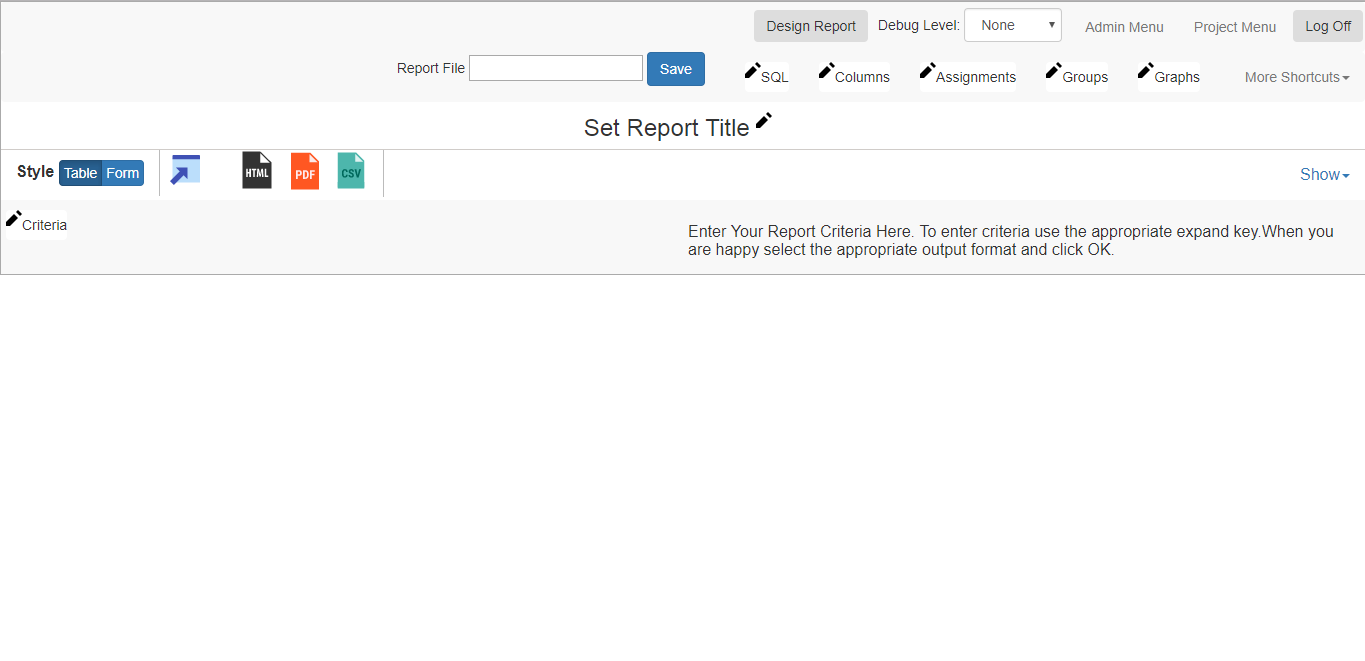
**Figure 5.2.3 Tickets Form**

The requested details of the hotel guest will be inputted in the Tickets Form.



**Figure 5.2.3 Ticket View**

The Ticket View contains the detailed information of a specific ticket.



**Figure 5.2.4 Reports Dashboard**

This is where the reports, tables, and charts are generated. Reports can be exported in html, pdf, and csv files. You can also format style by selecting table and forms.





**Vision and Scope Document**

**For**

**SM Hotels: Service Request Management System**

**Version 1.0 approved**

**Prepared By:**

**Kenneth Abuel**

**Lurenne Tangi**

**School of Computing and Internet Technologies**

**October 2, 2017**

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Kenneth Abuel | 10/2/2017 | Added Business Requirements and Backgrounds | 1.0 |
| Lurenne Tangi | 10/4/2017 | Added Business Opportunity, Objectives and Success Criteria, Customer and Market Needs and Business Risks | 1.1 |
| Kenneth Abuel | 10/8/2017 | Revised Errors and Completed the Document | 1.2 |

1. **Business Requirements**

SM Hotels Service Request Management System will provide the SM Hotels a web based system that will help them to monitor the services requested by their hotel guest, it will also provide a reporting module that will help to identify what are the common requested services by the hotel guests. This web based system will improve their current system that they are using right now which through Microsoft excel, the web based system will provide the best monitoring services and reporting module with a friendly interface.

**1.1. Background**

The SM Hotels currently have their own existing systems right now, for the monitoring of the requested services of the hotel guests the system that they are using for now is a Microsoft Excel, they used it to keep track of the tickets that contains the details of the requested service by the hotel guest. It also contains who’s the one who provided or rendered the service to the hotel guest. The team suggested a web-based system with a user-friendly interface that will help them to improve the current system, the team believes that in order to have a better service management system, a user-friendly interface comes first.

**1.2. Business Opportunity**

The team found out that the SM Hotels are still using Microsoft Excel to track and monitor the service request records, excel spreadsheets tends to become problematic as the data grows over time. For example, if there is a new column or a row added the user needs to modify the formula that is being used to calculate the records which will lead to data confusion and the formulas might not update consistently. The team decided to create a user friendly interface web based system that can help to monitor the services requested by their hotel guests.

**1.3. Business Objectives and Success Criteria**

The team’s main objective is to provide a service request management system that will help to automate the tickets of the requested service of the hotel guests. This will help to have an accurate ticket details that will be needed for reporting purposes.

**1.4. Customer or Market Needs**

The common problem that the hotel guests encountering are the wrong service requested deliveries, the team’s proposed system will automate the creation of ticket and it will have a more accurate or detailed list. It will help to reduce the wrong requested service errors.

**1.5. Business Risks**

With the developing of the new system there might be a few risks that will be encountered like the user acceptance, the hotel employees must be trained in order to use the new system efficiently.

**2. Vision of the Solution**

The system will provide a long term support in the SM hotels, the developer intends to create a stable system that will able to satisfy the SM hotel’s needs.

**2.1. Vision Statement**

The team aims to create a better service request management system that will satisfy the client needs and the client’s customer. With a better Service Request Management system it will help them to improve their services towards their customers and it will also help to increase their employee’s productivity

**2.2. Major Features**

The team is currently developing a system that will have the following features:

* Automation of Creating Tickets.
* A more detailed list of available employees and details of the tickets.
* Importing and Exporting of data from the system.
* A user friendly interface.

**2.3. Assumptions and Dependencies**

The team assumed that the system will be fully implemented without problems and the system will satisfy the client and their customers.

**3. Scope and Limitations**

The scope of this project is the automation of the service request tickets, also the project will be more beneficial at the department that provides services in the hotel. The project is only limited at the automation, handling and monitoring of the service management.

**3.1. Scope of Initial Release**

The team intends to provide the following feature at the initial release of the product:

* Automation of Tickets
* List of Tickets and Available Employees
* A detailed view of Ticket information
* Importing and Exporting of ticket data

**3.2. Scope of Subsequent Releases**

When the system has been fully implemented the team will probably add more feature if the client wants to change or add something to the scope.

**3.3. Limitations and Exclusions**

The stakeholders might anticipate a mobile application that will handle the service request management through mobile smartphones, but still the team designed the system to be responsive in any kind of smartphones that has an available mobile browser.

**4. Business Context**

**4.1. Stakeholder Profiles**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Stakeholder** | **Major Value** | **Attitudes** | **Major Interest** | **Constraints** |
| Executives | Increased Revenue  Improvement of the System | N/A | Better feature than the competitors | N/A |
| *Customer Service, Engineering, Housekeeping, Food and Beverages and Quality Assurance Department* | Fewer Errors in Work | N/A | Ease of Use;  High Reliability | Require use of Mobile Phone |
| *Service Employees, Department Employees* | Quick Access To Data | N/A | Use Friendly System and Easy to Learn | No budget for training |

**4.2. Operating Environment**

The system is only accessible in the premise of SM hotels, the system administrator is the one who is responsible in registering the specific employees that will use the system. The system will work on low end workstations so that the SM hotels won’t need to upgrade their workstations that will cost the stakeholders money.

The Service Employee also needs to have mobile phones so that they can access the system and they will be able to view the request that are assigned to them.

**Software Requirements**

**Specification**

**For**

**SM Hotels: Service Request Management System**

**Version 1.0 approved**

**Prepared by Lurenne Tangi, Kenneth Abuel**

**School of Computing and Information Technology**

**October 8, 2017**

# **Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Date** | **Reason For Changes** | **Version** |
| Lurenne Tangi | 10/8/2017 | Document Created, Added Purpose | 1.0 |
| Kenneth Abuel | 10/8/2017 | Added Document Conventions, Intended Audience, Product Scope, Operating Environment and Reference | 1.1 |
| Kenneth Abuel | 10/9/2017 | Minor Revisions. | 1.2 |
| Kenneth Abuel | 10/9/2017 | Minor revisions | 1.3 |
| Kenneth Abuel | 10/15/2017 | Minor Revisions | 1.4 |
| Kenneth Abuel | 11/10/2017 | Minor Revisions, Fixed Grammar Errors.  Added New Information for the functions. | 1.5 |
| Kenneth Abuel | 12/1/2017 | Minor Revisions for Features | 1.6 |

1. **Introduction**
   1. **Purpose**

The purpose of this SRS is to provide information to the people who will involve in the service request system. In the system, it will help people especially the customers or the Hotel Guest to have a better requesting system. With this, the department will also have a better service for the hotel guest. This will be the biggest part of the system.

* 1. **Document Conventions**

In this document the font has already been set to “Arial” with a font size of 12, the titles and subtitles are already in bold text, the team decided to add some minor changes in the document. The team also did some revisions in the spacing of the document.

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

The document is intended for the following readers:

* Client – In order to have a better understanding in the system.
* Users – In the document we provided a user manual so that the user won’t have any hard time using the system
* Developers – The document can be used as a reference for the future projects of the other developers
  1. **Product Scope**

Our product the SM Hotels Service Request Management System, is a system that handles and monitors the Service Request Tickets of the SM Hotels. The system also has a function that automatically generates a ticket when a hotel guest requested a service. The team’s goal is to provide a user-friendly interface system that will help the SM Hotels to provide a better service management.

* 1. **References**

Know Service. (10/8/2017). Retrieved from https://www.knowcross.com/know-service/

The Most Overlooked Hotel Management Technology. (10/8/2017). Retrieved from https://blog.capterra.com/guest-request-management-the-most-overlooked-hotel-management-technology/

Hospitality Technology Matters. (10/8/2017). Retrieved from https://info.aliceapp.com/blog/guest-request-management-the-most-under-prioritized-hotel-management-technology

1. **Overall Description**
   1. **Product Perspective**

Currently the SM Hotels does not have yet a Service Request or Guest Request Management System they currently using Microsoft Excel to record or handle the request tickets. The SM hotels decided that they needed a Service Request system in order to have a more efficient way of providing service to their hotel guests.

* 1. **Product Functions**

The major function of the SM Hotels Service Request Management System:

* Automates the ticket generation
* List of available and non-available service employees
* A detailed view of ticket information and employee information
* Importing and Exporting of Data
  1. **User Classes and Characteristics**
* Department Supervisor / Manager – They are responsible in monitoring and handling of the service tickets
* Quality Assurance Supervisor – The supervisor is able to view the reports of the most common requested services.
* Service Employee – The Service Employee can view the tasks that are assigned to them but it is only limited on viewing.
  1. **Operating Environment**

The system will operate on the workstations at the SM Hotels, it will work on different kind of operating system. It will also work on low specification workstations; the software does not require a more advanced specification. The system will use MySQL as the database all data will be stored in it.

* 1. **Design and Implementation Constraints**

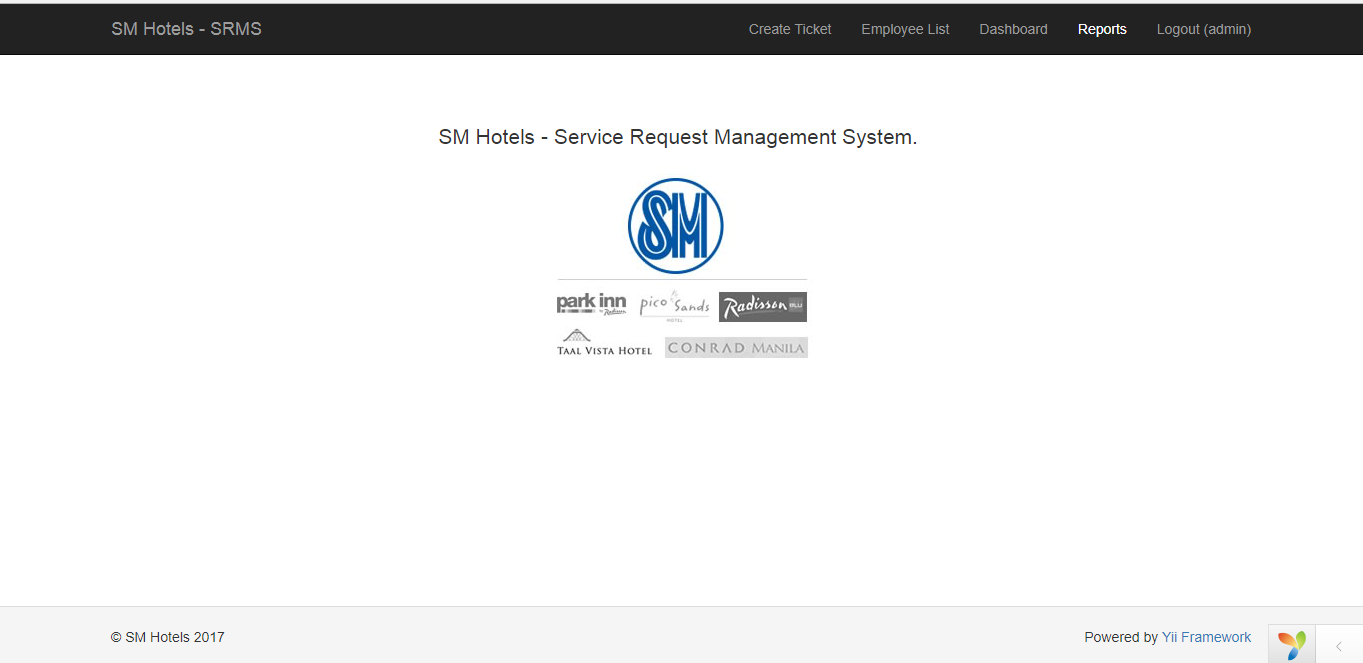
The only implementation constraints that the development team are concerned about.is that the one using the SM Hotels – SRMS needs to be tech savvy because even the team designed the SRMS to be user friendly, the user still needs to understand the basic functions of what the team has developed. In order for the user to understand the SRMS the project team might conduct a training if the SM Hotels will allow it, so that the users will be able to easily figure out the SM Hotels – SRMS.

1. **External Interface Requirements**
   1. **User Interface**

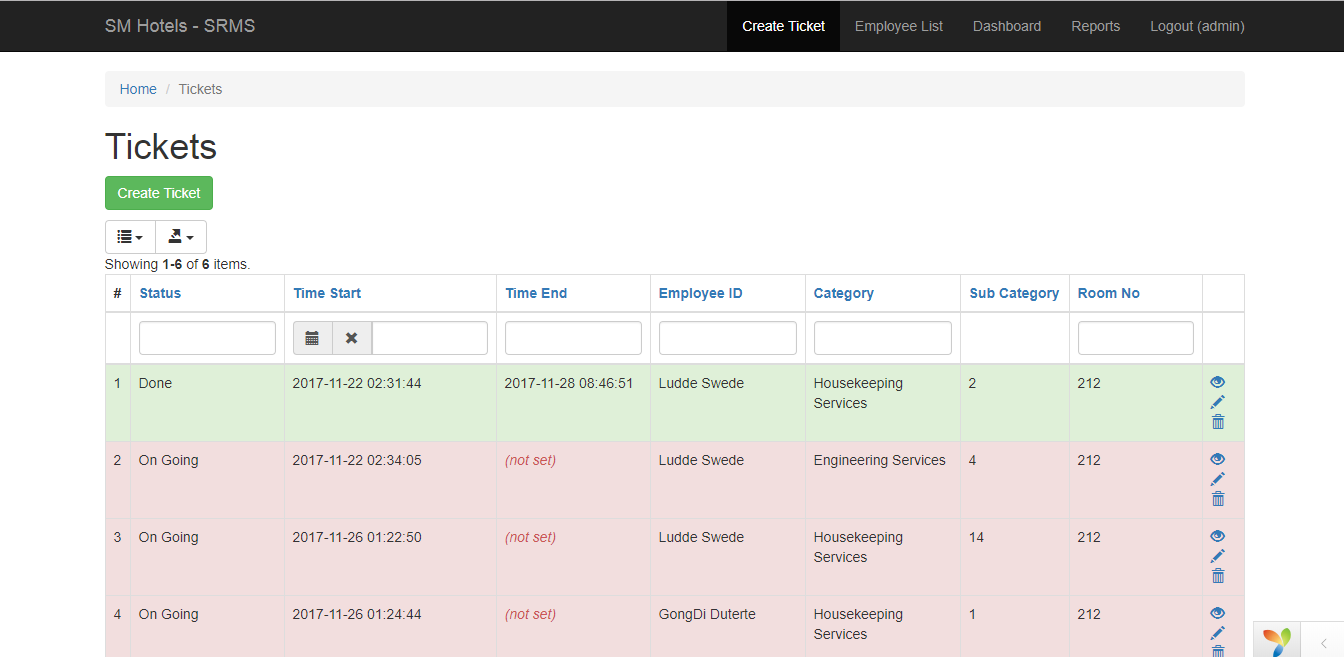
The project team designed the SM Hotels – SRMS to be user friendly in order for the users to easily understand the SRMS. The SRMS uses the latest twitter-bootstrap css framework for the development of the interface and design of the SM Hotels – SRMS.

Sample Images:

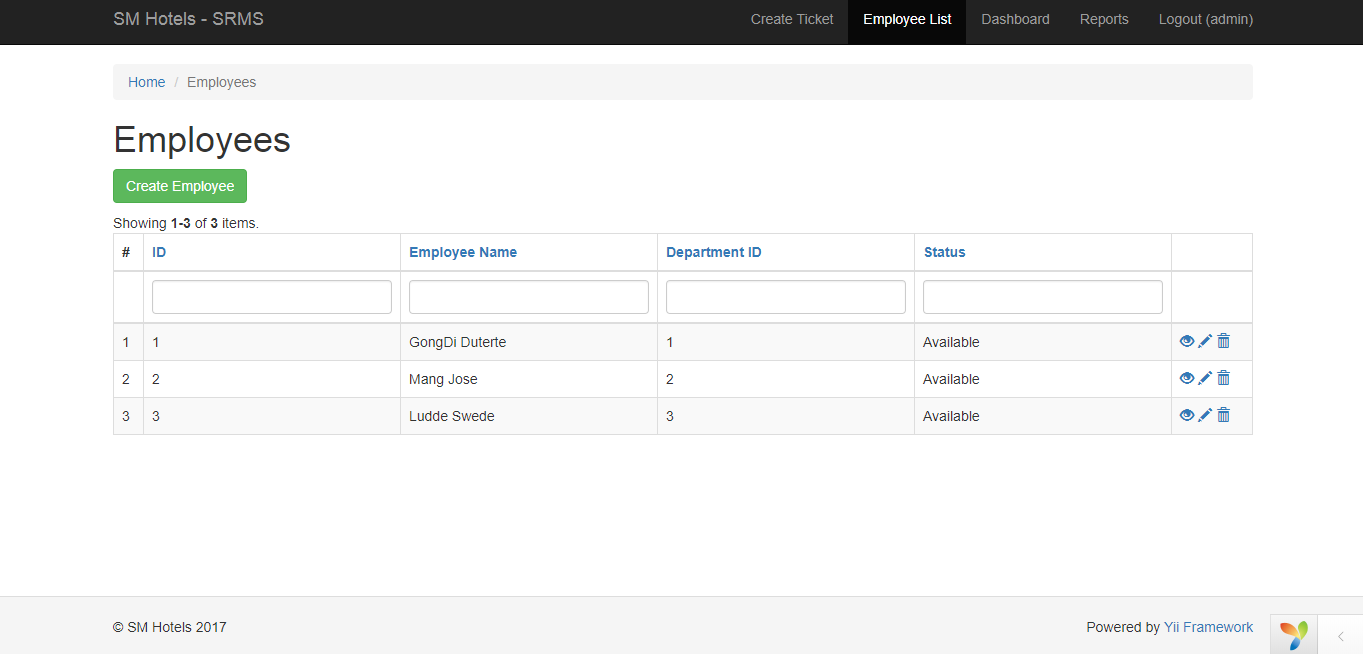
Homepage: The homepage only contains the navigation bar for the specific functions of the SRMS.



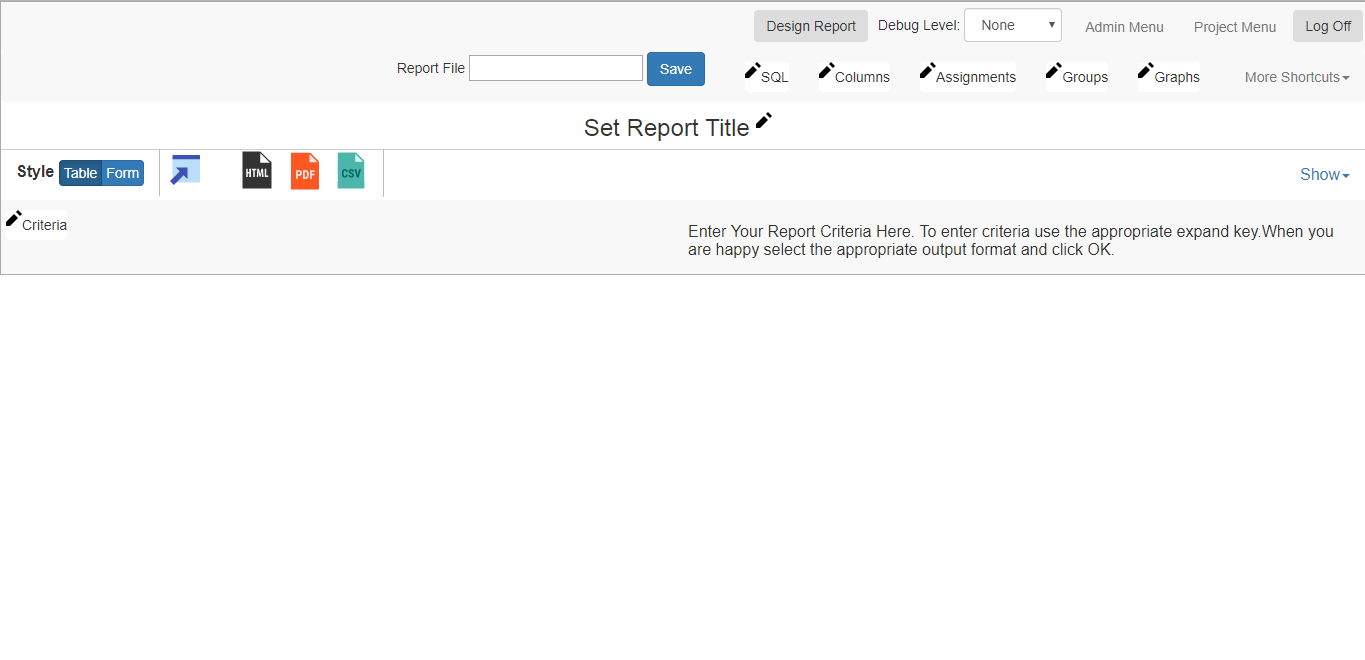
Dashboard: In the dashboard, the user will be able to monitor the requests and create new tickets if someone from the hotel guests request something.



Employee Lists: This page contains who are the currently available Service Employees at the moment.



Reports: This is where the reports, charts, and graphs are created.



* 1. **Hardware Interface**

A user computer is the only hardware that needs to be used in the SM Hotels – SRMS, the SRMS does not require a high spec computer just to run. The project team included the minimum or recommended computer specification for the SM Hotels – SRMS in the project document.

* 1. **Software Interface**

The SM Hotels – SRMS uses the other following software components:

* Yii2 Framework – is a high-performance modern PHP framework best for developing both web applications and APIs.
* MySQL – The SM Hotels – SRMS uses the MySQL database for holding its data, it is one of the most popular open source databases.
* Google Chrome / Mozilla Firefox / Microsoft Edge: The SM Hotels – SRMS can run with the most commonly used web browsers in the world, the web browsers can also be used to run the pdf reports
* Microsoft Excel / Adobe Reader: Reports can be either exported and save to .csv, html, and pdf file.
  1. **Communications Interface**

In order to view the assigned service ticket to a specific service employee, the service employee needs a smartphone that can access the system, the service employee will be able to view the service request ticket assigned to him/her.

1. **System Features**

Here are the following features that has been developed throughout the project time.

* 1. **Automatically Generate Ticket**

Description and Priority

When a hotel guest, that operator of the system creates a ticket and the system will automatically get the time when the ticket was created and it will automatically assign an employee who is currently available.

4.1.2 Stimulus/Response Sequences

* Hotel Guest makes a request
* The system administrator will assist the hotel guest and will create the ticket
* The system administrator will log the details of the service request then will assign an available employee to the ticket
* The service employee will render the service to the hotel guest
* The service employee will close the ticket after rendering the service to the hotel guest
  1. **Service Reports**

Description and Priority

Any kind of data from the SRMS can be exported, the SRMS has a report functionality that can get and export any data from the database.

4.1.2 Stimulus/Response Sequences

* Quality Assurance Manager requires reports
* Quality Assurance Manager access SRMS reports
* Filter monthly reports
* Generate Reports

1. **Other Nonfunctional Requirements**
   1. **Safety Requirements**

There are no really concern about the safety requirements of the system as long as the user doesn’t accidentally delete any kind of data that the client needs.

* 1. **Security Requirements**

The team used Yii Framework for the development of the SM Hotels: SRMS, Yii’s security comes as standard, it is equipped with many security measures to help prevent the web application from attacks such as SQL Injection, Cross Site Scripting and many more.

* 1. **Software Quality Attributes**

In the development of the system the team used Yii Framework, it is a high performance modern PHP framework best for developing both web applications and APIs. The system helps to ensure an extremely efficient, extensible and maintainable product. The team ensures that the system will be extremely optimized because the framework that we used was written in PHP5 that promotes clean, DRY design and encourages rapid development.

1. **Other Requirements**

The other requirements that team needed was the proper terms that needs to be labeled in the SM Hotels: SRMS, which is why the team conducted an interview to the client.

**CHANGE MANAGEMENT PLAN**

**SM Hotels – Service Request Management System**

**SM Hotels**

**DATE**

**11/25/2017**

# **INTRODUCTION**

The Change Management Plan was created for the SM Hotels – SRMS in order to have a guide on how the project team will manage the changes, the purpose and the roles of the change control board, and overall the change management process. The project team already expected that the stakeholders are going to submit a request for a change to the SH Hotels – SRMS project. All requests for changes and submission will follow the process detailed in this document.

# **CHANGE MANAGEMENT APPROACH**

The Change Management approach for the SM Hotels – SRMS Project will ensure that all proposed changes are going to be reviewed first by the Project Manager, after reviewing it the Project Manager will the proposed changes details to the CCB. The CCB will also reviewed it and they will either approve or disapprove the proposed change. This approach will ensure that the only changes within the scope of this project are approved and implemented.

The Change Management approach is not to be confused with the Change Management Process which will be detailed later in this plan. The Change Management approach consists of four areas:

* Ensure changes are within scope and beneficial to the project
* Reviewed proposed change
* Determine how the change will be implemented
* Manage the change as it is implemented

The Change Management process has been designed to make sure that the Change Management Approach is being followed for all changes in the scope of the project. With this approach, the SM Hotels – SRMS Team will prevent unnecessary change from occurring and focusing its resource only on beneficial changes within the entire project scope.

# **DEFINITIONS OF CHANGE**

The project team already knows that there are several changes that will be requested and approved for the SM Hotels – SRMS Project. The changes depend whether it's a change in the scope or project documentation, all of these changes will be required to be reviewed and approved by the CCB and will ensure all stakeholders are notified. Types of changes include:

* Scheduling Changes: The project schedule will be affected if there's a request for a change, these changes may require fast tracking, crashing or re-baselining on the project schedule. All of these depends on the impact in the schedule.

* Budget Changes: The changes will also have an impact to the approved project budget. The changes may require additional funding or releasing the funding that won't be needed anymore for the project.

.

* Scope Changes: If there is a request for the scope, the project schedule and the project budget will be also affected. The Work Breakdown Structure, project scope statement and other project documentation will be required for revisions.

The project stakeholders will be notified by the project manager that there are changes that has been approved. As the changes are approved the project manager will log it in the project documentation, the project team and project stakeholders will be notified about the updates in the documentation.

# **CHANGE CONTROL BOARD**

The Change Control Board (CCB) are the one who approves the proposed change requests for the SM Hotels - SRMS Project. The Change Control Board will review all changes request, determine the change impacts on the project risks, scope, cost, and schedule. They can also either approve or deny each change request. The following table provides the list of the CCB Members for the SM Hotels – SRMS Project:

|  |  |  |
| --- | --- | --- |
| **Name** | **Position** | **CCB Role** |
| Mr. Neil Rumbaoa | SRMS Project Sponsor | CCB Chair |
| Mr. Joe Gene Quesada | SRMS Project Advisor | CCB Co-Chair |
| Mr. Manuel Sebastian S. Sanchez | CSPROJ2 Advisor | CCB Co-Chair |
| Lurenne Tangi | SRMS Project Manager | CCB Member |
| Kenneth Abuel | SRMS Project Developer | CCB Member |

As change requests are submitted to the SRMS Project Manager by the project team/stakeholders, the Project Manager will log the requests in the change log and the Change Control Board will review all change request and they will determine if the change request is going to be approved. For a change request to be approved, all Change Control Board members must vote in favor. In the event more information is needed for a particular change request, the request will be deferred and sent back to the requestor for more information or clarification. If a change is deemed critical, an ad hoc Change Control Board meeting can be called in order to review the change prior to the next scheduled bi-weekly CCB meeting.

# **ROLES AND RESPONSIBILITIES**

The following are the roles and responsibilities for all change management efforts related to the SM Hotels - SRMS

Project Sponsor:

* Approve all changes to budget/funding allocations
* Approve all changes to schedule baseline
* Approve any changes in project scope
* Chair the CCB

Project Manager:

* Receive and log all change requests from project stakeholders
* Review the change request
* Conduct preliminary risk, cost, schedule, scope analysis of change prior to CCB
* Seek clarification from change requestors on any open issues or concerns
* Make documentation revisions/edits as necessary for all approved changes
* Participate on CCB

Project Team/Stakeholders:

* Submit all change requests on standard organizational change request forms
* Provide all applicable information and detail on change request forms
* Be prepared to address questions regarding any submitted change requests
* Provide feedback as necessary on impact of proposed changes

# **CHANGE CONTROL PROCESS**

The Change Control Process for the SM Hotels – SRMS Project will follow the organizational standard change process for all projects. The project manager has overall responsibility for executing the change management process for each change request.

1. Identify the need for a change (Stakeholders) – Change requestor will submit a completed change request form to the project manager.
2. Log change in the change request register (Project Manager) – The project manager will keep a log of all submitted change requests throughout the project’s lifecycle.
3. Evaluate the change (Project Manager, Team, and Requestor) – The project manager will conduct a preliminary analysis on the impact of the change to risk, cost, schedule, and scope and seek clarification from team members and the change requestor.
4. Submit change request to CCB (Project Manager) – The project manager will submit the change request, as well as the preliminary analysis, to the CCB for review.
5. Obtain Decision on change request (CCB) – The CCB will discuss the proposed change and decide whether or not it will be approved based on all submitted information.
6. Implement change (Project Manager) – If a change is approved by the CCB, the project manager will update and re-baseline project documentation as necessary.

## **SPONSOR ACCEPTANCE**

Approved by the Project Sponsor:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Mr. Neil Rumbaoa

VP Marketing at SM Hotels and Conventions

Quality Plan

SM Hotels – Service Request Management System

1. **Introduction**

This document, together with other referenced documents, defines the responsibilities and procedures to be adopted to ensure that the data and information produced as part of Project 255 are reliable, fit for purpose and consistent with documented objectives and deliverables. It summarizes the system of internal management that governs the decisions and instructions concerning project quality assurance.

**2. Project Contractual Information**

|  |  |
| --- | --- |
| Project: | SM Hotels – Service Request Management System |
| Project Number: | 255 |
| Programme Co-ordinator: | Mr. Joe Gene Quesada |
| Principal Investigators(s): | Mr. Manuel Sebastian Sanchez |

**3. Scope of Work and Quality Objectives**

|  |  |
| --- | --- |
| Scope of work: | Handling, Monitoring of Service Request Tickets and Generate Reports through the system. |
| QA Requirement: | The requirement needs to be met and the changes must be tested. |

**4. Project Organisation**

|  |  |
| --- | --- |
| Project Manager(s): | Lurenne Tangi |
| Task Manager(s): | Kenneth Abuel |
| Quality Assurance: | Kenneth Abuel |
|  |  |
| Other Team Members: | N/A |
| User Community: | SM Hotels |
| Technical Reviews: | Mr Joe Gene Quesada. |

**5. Project Duration and Scheduling**

|  |  |
| --- | --- |
| Start Date: January 20, 2017 |  |
| Completion Date: December 14, 2017 |  |
| Scheduling of Activities: | Gantt charts may be used to clarify complex scheduling; any milestones or holdpoints should be identified. |

**6. Deliverables**

Deliverables specified for the project include:

1. Running System
2. APC Project Wiki
3. Github Repository
4. Project Documentation
5. Progress Reports
6. Project Software Requirement Specification
7. Project Vision and Scope
8. Work Breakdown Structure
9. Gantt Chart
10. Change Management Plan
11. Risk Management Plan
12. Quality Plan
13. UML Diagrams

**7. Review of Quality Plan**

The project team will review and will follow the quality plan with the Project Adviser every month. The system will be also analyse and check every week.

**8. Document and Record Control**

The project documents, records and data will be stored and controlled in Asia Pacific College Library by the project team. The document will be labelled and stored properly at the specific room where developed systems documents are stored.

The Quality Plan and Data Management Plan will be issued to all members of the consortium.

Project Progress Reports will be issued to the following:

List of names:

* Lurenne Tangi – Project Manager
* Kenneth Abuel – Project Developer / Project Analyst

**9. Documented Procedures**

The project team uses the Agile Methodology to the development of SM Hotels – SRMS. Give the references of any in-house and/or published methods or procedures used during the project. References need not include the issue/version number, providing that staff are informed separately of modifications to Procedures. Otherwise, provide a basic resume of methodology with an indication of how it will be archived for future reference. Any centrally administered documents that relate to quality assurance should also be referenced.

**10. Additional Information**

Unless included in associated technical procedures, any other information that has direct relevance to the quality of the product or service being provided should be included in the Quality Plan. This could include [add or delete as necessary]:

1. special requirements for the procurement of services or goods, including subcontractors;
2. additional procedures and controls for the review and verification of deliverables or other documents;
3. special requirements for the identification and traceability of products, including, where applicable, the traceability of staff performing specific duties;
4. special criteria for identifying the status of inspection and test products;
5. minimum qualifications, training or experience required of staff to undertake certain activities, or any specialist staff training;
6. process control requirements, including monitoring of activities;
7. special procedures for the handling, storage, packaging, preservation and delivery of product;
8. requirement for servicing of a product for which ongoing maintenance is required;
9. Specialist statistical techniques required.

Prepared by: Date: 11/27/2017

Kenneth Abuel

Checked by: Date: 12/4/2017

Mr Manual Sebastian Sanchez

Approved by: Date: 12/4/2017

Mr Manual Sebastian Sanchez

**References**

Know Cross (2017). Know Cross Service [online]. Available: http://www.knowcross.com/know-service/ (2017)

Oracle (2017). Oracle Hospitality for Hotels – Opera Property [online]. Available: https://www.oracle.com/industries/hospitality/products/opera-property-services/index.html (2017)

Hotelogix (2017). Hotelogix Online PMS [online]. Available: http://www.hotelogix.com/ (2017)

eZee (2012). eZee PMS [online]. Available: http://www.ezeefrontdesk.com/ (2017)

Roommaster (2017). Roommaster inQuest software [online]. Available: http://roommaster.com (2017)

Frontdesk Anywhere (2017). Frontdesk Anywhere Hotel Management Software [online]. Available: http://www.frontdeskanywhere.com/features/hotel-management-software (2017)

HostPMS (2014). Hostpos [online] Available: http://hostpms.com/en/solutions/hotel-management-systems/hostpos (2017)

Guestline (2016). Rezlynx Guestline PMS [online] Available: https://www.guestline.com/products/operational-solutions/rezlynx-pms.html (2017)

ResortData (2017). RDPWin [online] Available: http://www.resortdata.com/rdpwin/ (2017)

Maestro (2015). Maestro PMS [online] Available: http://www.maestropms.com/?q=company-profile (2017)

Skyware (2009). Skyware Hospitality Solutions [online] Available: http://www.skywaresystems.com/about/index.html (2017)

Hoteliga (2014). Hoteliga [online] Available: http://www.hoteliga.com/en/faq (2017)

Clock (1996). ClockPMS [online] Available: https://www.clock-software.com/company-aboutus/index.html (2017)

Elina (2007). Elina Property Management [online] Available: https://www.elinapms.com/about-us/ (2017)

Genkan (2010). Genkan [online] Available: https://www.genkan.com.au/wp/genkan/history-genkan/ (2017)

CloudBeds (2017). CloudBeds PMS [online] Available: https://www.cloudbeds.com/our-story/ (2017)

ResOvation (2017). RezOvation Web [online] Available: https://www.rezovation.com/about

KWHotel (2017). KWHotel PMS [online] Available: http://kwhotel.com/en/about-us/

Bookalet (2017). BookaletPMS [online]. Available: https://www.bookalet.co.uk/aboutus (2017)

MagnaTimeshare (2017). Magna Timeshare Software [online]. Available: https://www.magnatimesharesoftware.com/about-us/ (2017)

SistemHotel (2005). Sistem Hotel PMS [online]. Available: http://www.sistemhotelsoftware.com/ (2017)

OpenHotel (2017). Open Hotel PMS [online]. Available: https://openhotel.com/pms.cfm (2017)

Smart Hotel (2017). Smart Hotel Software [online]. Available: http://www.smarthotelsoftware.com/html/support.html (2017)

Ibelsa (2017). The All-in-one PMS [online]. Available: https://www.ibelsa.com/en/help-support/overview/ (2017)

Kott (2017). Hospitality Management [online]. Available: http://www.kottsoftware.com/About/GEN-About.aspx (2017)

Capterra (2017). Keepmebooked PMS [online]. Available: http://www.capterra.com/hospitality-property-management-software/spotlight/101333/Keepmebooked/Keepmebooked (2017)

Hoteline (2017). HotelinePMS [online]. Available: http://hotelline.biz/ (2017)

Rezserve (2004). Rezserve PMS [online]. Available: http://www.rezserve.com/our-team/ (2017)

Rezware (1992). IRez [online]. Available: http://www.rezware.com/about.html (2017)

Monkport (2017). Monk HMS [online]. Available: http://www.monkport.com/hotel-management-software.html (2017)

Winsar Infosoft (2015). WinHMS Express [online]. Available: http://www.winhms.com/aboutus.html (2017)

Hallisoft (2015). RezEasy Cloud PMS [online]. Available: https://hallisoft.com/RezEasy\_Cloud/ (2017)

Ipo-software (2017). I-Pro Booking System [online]. Available: https://www.ipro-software.com/about-us/ (2017)

Corrigo (2017). Corrigo CMMS [online]. Available: http://www.corrigo.com/about-corrigo/ (2017)

Mirage Hotel (1985). Mirage Hotel Systems [online]. Available:

http://www.miragehotelsystems.com/about-us-hotel-software/ (2017)

Ofek (1994). Guardian PMS [online]. Available: http://www.ofek.co.in/company.html (2017)

Protel (2017). Protel PMS [online]. Available: http://www.protel.net/company/ (2017)

HoteloPro (2011). HoteloPro PMS [online]. Available: https://www.hotelopro.com/reservations-management.html (2017)

Panstrat (2016). Hospitality Property Management [online]. Available: http://www.panstrat.co.za/about-us/ (2017)

SpringMiller (1984). SMS|Host PMS [online]. Available: http://www.springermiller.com/about/ (2017)

LittleFishcom (2000). ResortManager PMS [online]. Available: http://www.littlefishcom.net/About-Us (2017)

CMSHospitality (1983) GuestCentrix PMS [online]. Available: https://www.cmshospitality.com/about/ (2017)

ClerkHotel (2017). Clerk PMS [online]. Available: http://www.clerkhotel.com/management/ (2017)

Innkey (2017). Innkey PMS [online}. Available: https://www.innkeypms.net/Home/AboutUs (2017)

Mancloud (2016). ManCloud PMS [online]. Available: https://www.mancloud.eu/en (2017)

IHotellligence (2009). IHotel PMS [online]. Available: http://www.ihotelligence.com/index.php/sample-page/our-company/ (2017)