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| Cristor |
| CS 2062 – Object Oriented Software Development |
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| --- | --- |
| A.B.P.R.Lakshani | : Team leader |
| H.L.M. Hansini | : Document manager: |
| S.G. Kumarawadu | : System Analyst |
| C.M.N.D. Pathirana | : Developers: |

# Introduction

**Composition and responsibilities of each team player:**

* Team Leader: A.B.P.R. Lakshani
  + Coordinating with internal and external communication during the project
  + Responsible for overall project
* Document manager: H.L.M. Hansini
  + Responsible for maintenance of project documentation and final preparation
* System Analyst: S.G. Kumarawadu
  + Dealing with the business environment and analysing the requirements of the client
* Developers: C.M.N.D. Pathirana
  + Responsible for developing the software systems in accordance with the client’s requirements

## Client

**Name of the business**: “Hotel T.K. Green Garden”

**Register Number** : MA/1/227

**Contact Details**

1. Name of the client: Mr. Tennyson Kumarawadu
2. Position hold/relationship to the owner Proprietor of the business
3. Postal Addres Hotel T.K. Green Garden,

Polhena,

Matara

1. Telephone 041-2222603

**Company structure**

The Hotel consists of 16 rooms with A/C and non A/C facilities including 5 exceptional luxury rooms, 1 wedding hall which has the capacity of nearly 300 people. In addition, the selected organization is expecting to extend their service to start a catering service for the area.

**Staff details**

Figure 1.1: Hierarchical view of the staff

## Business Problem

The client expects an automated information system to keep track of the bookings (room and hall) and two simple integrated subsystems to keep track of details of the staff members and transaction details for each day.

Furthermore in order to achieve the goal of the expansion plan for next 3 years, client wishes to have a website for the selected organization which will helps in provide the facility advertising and online room bookings, in order to a give broad exposure for the company.

## Vision

### System objectives:

Increase the efficiency and reliability in the process of information management in the business by replacing the manual information system which the currently use.

### Business benefits

* Replace the manual methods by computerized system.
* Provide online boking facility for customers
* Provide a user friendly and centralized information system with controlled access to each party
* Publicize services and facilities provided by the hotel

### System capabilities

* Manager of the hotel is provided with an interface which has access to all the details and the ability to enter details.
* Monthly/ annual reports should be generated by the system itself and should be accessible by the manager or the relevant party.
* Receptionist should be provided with an interface which has the ability to access information about the available rooms and wedding halls and enter details on bookings.
* Customer logs and details will be stored with secured acces.
* System is capable of storing staff details

### System scope

# Inception Phase

## Introduction

## Stakeholder Analysis

Identify stakeholders and their category, role, product focus, schedule focus and cost focus .

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Stake Holder Category** | **Stake Holder name** | **Project role** | **Product focus** | **Schedule focus** | **Cost focus** |
| Executive | Tennyson Kumarawadu | Steering committee | High | High | Hight |
| Operational Staff | Ishara  Karunatilake | Requirements definition | Low | Low | Low |
| Business users |  | Requirement definition | Low | Low | Low |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
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## Risk Identification and Feasibility analysis

Identify any possible risks and analyze the feasibility of the project.

## Requirement analysis

### Requirement gathering methods

In order to gather detailed information required to build the project we mainly used the methods mentioned below.

* Using interviews
* Reviewing previous manually created documents
* Reviewing booking websites currently in operation

Interviews

Interviews were conducted with the Manger who is the owner of the Hotel and the main stake holder of the project. And also we conducted several discussions with the receptionist who will actively engaged with the deployed systems.

Reviewing previously created documents.

As we are focused on replacing the manually operated system (currently on operation) using an automated system. We got information related to the current process from the documents maintained by the manager and the Receptionis

Reviewing booking websites currently in operation

As we are new to the field of website development, we launched a research to identify the factors which are required to building an eye catching website to promote the Hotel as well as to facilitate online booking. For that we reviewed websites of Famous hotels in Sri Lanka.

### Essential Use Case list

Identify and **LIST** the most critical use cases in your business scenario. (Detailed descriptions are not required)

Briefly describe any non-functional requirements of the system.(Detailed descriptions are not required. Maximum half a page)

# Elaboration Phase

## Introduction

Clearly state individual contributions.

## Domain Modeling

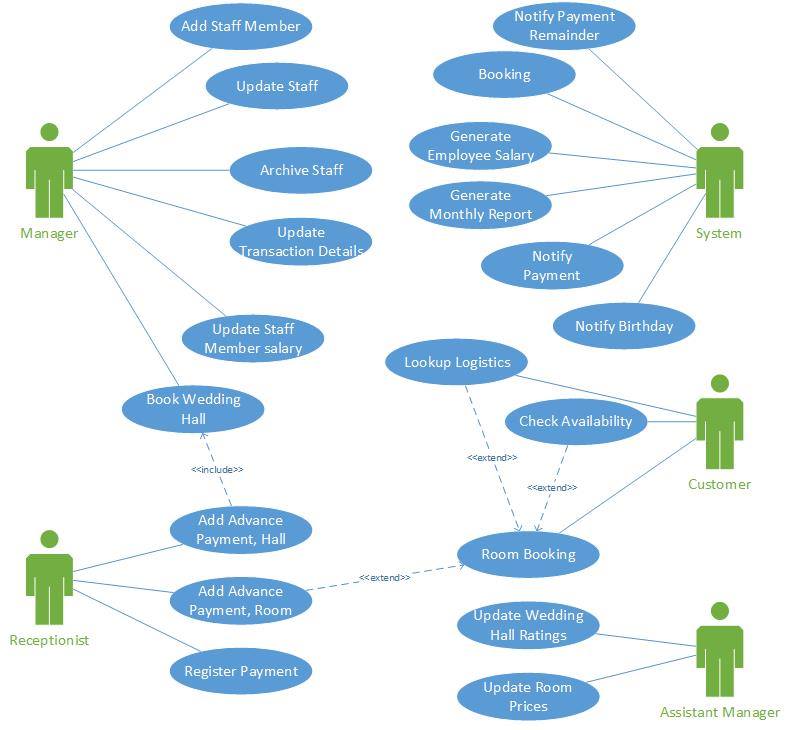
### Event table

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Event** | **Triggered** | **Use case** | **Source** | **Response** | **Destination** |
| 1. Room booking by customers | Booking request | Reserving room | Customer | Message of confirmation | Customer |
| 1. Customer Check availability of rooms | Room detail inquiry | Look up room details | Customer | Message of availability | Customer |
| 1. Customer asking for details | Logistic detail inquiry | Look up logistic details | Customer |  | Customer |
| 1. Wedding hall bookings by the customer | Wedding hall booking Request. | Book wedding hall | Manager  Or receptionist | Message of confirmation |  |
| 1. Updating the room prices and special Offers. | System update Request | Updating rates | Admin | Message of confirmation | Admin |
| 1. Update wedding hall ratings | System update Request | Updating rates | Assistant Manager | Message of confirmation |  |
| 1. Adding details of advance payments by the Manager | Transaction detail update request | Update transaction details | Receptionist | Message of confirmation |  |
| 1. Notify about wedding hall bookings | “2 days before the booked date” | Notification for Assistant Manager and Manager |  | Notification | Manager Assistant Manager |
| 1. Receptionist register payments | Transaction update request | Update payment | Receptionist |  |  |
| 1. Notify remainder to pay | 12.00am on the day of departure | Notify receptionist |  | Balance notification | Receptionist |
|  | | | | | |
| 1. Adding a staff member to the system by Manager | Add employee request | Adds a new employee | Manager | Message of confirmation |  |
| 1. Updating details of staff members Manager | Edit request | Update employee details | Manager | Message of confirmation |  |
| 1. Archiving staff member details by Manager | Staff detail change request | Updating archived staff table in database | Manager | Staff member detail being archived |  |
| 1. Generate employee salary report | “End of month” | Calculating salary of employees by the system |  | Employee salary report | Manager  Assistant manager |
| 1. Adding details of extra payments for employees by Manager | Salary update request | Update employee salary details | Manager  Or assistant manager | Message of confirmation |  |
| 1. Notify birthdays of employees | “1 hour before birthday” | System notification |  | Notification or a reminder | Assistant manager |
|  | | | | | |
| 1. Adding details  of the total gain for the day by Manager | Update transaction details | Transaction detail update request | Manager | Message of confirmation |  |
| 1. Adding details of expenditure of the day Manager | Update transaction details | Transaction detail update request | Manager | Message of confirmation |  |
| 1. Generate Monthly report by the system | Generating monthly report | “End of the month” |  | Monthly report | Manager |

**Event based approach**

### Use case diagram

Figure 3.1:Use case diagram for the project



### Use case detailed descriptions

Provide use case detailed descriptions ***at least*** for the essential use case list identified for 2.6.2.

Each member of the group should prepare at least one **essential** use case description.

### Activity Diagrams

Activity diagrams ***at least*** for the essential use case list identified for 2.6.2.

### System Sequence Diagrams

SSD s ***at least*** for the essential use case list identified for 2.6.2.

**Entity based approach**

### Domain class diagram

Domain class diagram for the full system

### State chart diagrams

Identify the objects that have multiple states during their lifecycle, and draw the state chart

# Conclusion

## Tools Used

* **Microsoft Visio** 

Microsoft Viso is a diagramming and vector graphics application and is part of the Microsoft Office family. The product was first introduced in 1992, made by the Shapeware Corporation. It was acquired by Microsoft in 2000. Visio offers thousands of shapes that meet industry standards, including BPMN 2.0, UML 2.4 and IEEE (new). Users can easily create UML use case diagrams using Microsoft Visio. There are special communication shapes to indicate relationships between use cases and actors. The application supports for several file types so that the user can save the diagram in many file formats.

* **Microsoft project**

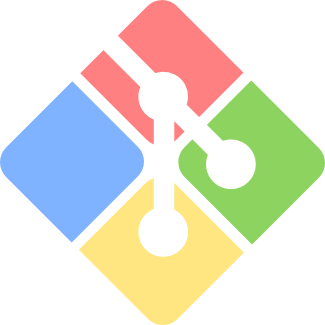
Microsoft Project is a project management software program, developed and sold by Microsoft, that is designed to assist a project manager in developing a plan, assigning [resources](https://en.wikipedia.org/wiki/Resource_(project_management)) to tasks, tracking progress, managing the [budget](https://en.wikipedia.org/wiki/Budget), and analysing workloads.



For our project we used Microsoft Project to build the Work breakdown system which lists all the activities and tasks needed to be completed in the project.

* **Git**

Git is a [free and open source](https://git-scm.com/about/free-and-open-source) distributed version control system designed to handle everything from small to very large projects with speed and efficiency.



In our project we started using Git to record changes to files that we are working on. As we are a 4 member team it helps us to compare changes over time, see who last modified something that might be causing a problem, who introduced an issue and when.

* **Adobe Photoshop**

Adobe Photoshop is a [raster graphics editor](https://en.wikipedia.org/wiki/Raster_graphics_editor) developed and published by [Adobe Systems](https://en.wikipedia.org/wiki/Adobe_Systems) for [Windows](https://en.wikipedia.org/wiki/Microsoft_Windows" \o "Microsoft Windows)and [OS X](https://en.wikipedia.org/wiki/OS_X).

In our project we used Adobe Photoshop for designing purposes.

* **Netbeans:**

NetBeans is a [software development](https://en.wikipedia.org/wiki/Software_development) platform written in [Java](https://en.wikipedia.org/wiki/Java_(programming_language)). The NetBeans [Platform](https://en.wikipedia.org/wiki/Platform_(computing)) allows applications to be developed from a set of modular [software components](https://en.wikipedia.org/wiki/Software_component) called modules.



In our project we started using Netbeans IDE as it is a Fast & Smart Code Editing tool which facilitates Unit testing needed to verify the functionality of software class methods. Netbeans IDE is also known for Rapid User Interface Development and as an Easy & Efficient Project Management tool.

* **Atom**

Atom is a [free and open-source](https://en.wikipedia.org/wiki/Free_and_open-source_software) [text](https://en.wikipedia.org/wiki/Text_editor) and [source code editor](https://en.wikipedia.org/wiki/Source_code_editor) for [OS X](https://en.wikipedia.org/wiki/OS_X), [Linux](https://en.wikipedia.org/wiki/Linux), and [Windows](https://en.wikipedia.org/wiki/Windows) with support for [plug-ins](https://en.wikipedia.org/wiki/Plug-in_(computing)) written in [Node.js](https://en.wikipedia.org/wiki/Node.js), and embedded [Git Control](https://en.wikipedia.org/wiki/Git_(software)), developed by [GitHub](https://en.wikipedia.org/wiki/GitHub). Atom is a desktop application built using web technologies. Most of the extending packages have [free software licenses](https://en.wikipedia.org/wiki/Free_software_license) and are community-built and maintained.



Atom text editor was used to view source code of web templates.

## Project Status

Currently we are in the end of Elaboration Phase. We started implementing key parts of the system. For the information system we started building software classes from the domain class diagram.

As interface of the system plays a key role for the success of the project. Storyboarding is on progress to convince the client about the final outcome from the project.

In order to facilitate the Hotel with an online booking service we are planning on launching a website. Hence our team players are on research to identify Web site templates which are suitable for the hotel and attractive.

With that current state in our project, after analysing feedback given by the client about the interface we are planning on building the interface for the system simultaneously while implementing business logic.

## Problems encountered