Sri Lanka Institute of Information Technology

Hotel Management System

For

Muthuweli Beach Resort Moratuwa

Project Report

Information Technology Project 2017

Project ID: **ITP-MLB-12**

Submitted by:

1. IT16156470– Silva L.C.U.
2. IT16067066– Harshitha M.P.K.R.
3. IT16010918– Ishara T.M.
4. IT16013124– Bandara K.K.
5. IT16025790– Jeyanthiran V.
6. IT16019928– Kagenthiran P.
7. IT16157538-M.Q.Fazal.

Submitted to:

……..

11.05.2018

Abstract

A Hotel Management System for Hotel Muthuweli Beach Resort situated at 7/1A, New Gall Road, Egodauyana, Moratuwa is a fully computerized system,

In which all the process and functions are created to enhance their current methods in managing the hotel & restaurant.

This Hotel Management System focuses on many aspects of the Hotel's main procedure such as reserving room, managing employee, maintaining stock and inventory, event management, restaurant and bar management, customer management including administrative facilities.

By the use of this new system, the Hotel Muthuweli Beach Resort could perform their tasks in an effective and sufficient way than the existing file based recording and account system.

This Hotel Management system saves time, energy, expenses and benefits the hotel with more advantages by producing greater results.

Acknowledgement

We would like to express our sincere gratitude to all those who provided us the information and time to complete this project. A special thanks we give to our lecture in charge who gave us good lectures to do every single document and project. Her encouragement helped us to collaborate our project.
As well as a special thanks goes to the group members, who contributed in this project from the start and till the end by sharing resources, suggestions and etc. Last but not least, many thanks go to the client of Muthuweli Beach Resort who have gave us time and clear vision to us that helped the team in achieving the goal. We have to appreciate the guidance given by other supervisors as well as the panels especially in our project presentation that has improved our presentation skills thanks to their comment and advices specially.

Declaration

We declare that this project report or part of it was not a copy of a document done by any organization, university any other institute or a previous student project group at SLIIT and was not copied from the Internet or other sources.

Project Details

Project Title	Hotel Management System for Muthuweli Beach Resort, Moratuwa
Project ID	ITP-MLB-12

Group Members

Reg. No	**Name**	**Signature**
1. IT16156470	Silva L.C.U.	
2. IT16067066	Harshitha M.P.K.R.	
3. IT16010918	Ishara T.M.	
4. IT16013124	Bandara K.K.	
5. IT16025790	Jeyanthiran V.	
6. IT16019928	Kagenthiran P.	
7. IT16157538	M.Q. Fazal	

Table of Contents

List of Figures

List of Tables

List of Acronyms and Abbreviations

GUI – Graphical User Interface

SRS – System Requirements Specification

1. Introduction

1.1 Problem Statement

Employee Management – The hotel uses a paper based documentation system to store and manage the details of the Employees. It takes much space and effort to keep track of physical documents and also searching and upgrading the details is a tedious task to do. The accountant calculates the monthly salary of the employees based on the basic salary, number of leaves they have taken and Over Time hours. A manual Payroll system typically requires lots of paperwork. Tracking the leaves of the employees can be mistaken when it is handled manually.

Customer and Reservation Management- The beach resort uses a paper based documentation system to store and manage the details of the Customer who has been recruited. It takes much space and effort to keep track of physical documents and also searching and upgrading the details is a tedious task to do.

Events Management– Event details are recorded in large numbers of files. It is very hard to retrieve data when needed because the clerk will have to search though every single file to get the particular event details to get things ready.

Restaurant Management–Order details are recorded in large numbers of files. It is very hard to handle data when needed. And invoice will write by hand it time wasting and can make human mistake.

Inventory Management- Due to the inefficient stock management techniques, mostly 20% of the stock is getting wasted. The reasons behind the wastages are failing to keep track of the expiring dates of food equipment, not being able to maintain furniture, decoration and other equipment properly.

Accounts Management – Due to account management the used lot of paper works. It is very hard to huddle And it is waste space and that account had human errors. In this system it done by automatically.

Boutique and Assets System – The client requested a boutique system to maintain the products and assets of the new boutique that they intend to open within the beach resort. The system maintains a system to store and manipulate product details with an efficient barcode system. The re-stocking and billing interfaces generate bills for the supplier and customer respectively. The Boutique assets can be maintained too, which is an efficient way to maintain and track the assets of the Boutique scope.

1.2 Product Scope

The Hotel management system comes with a centralized database. The system gives a simple pictorial interface to the user to handle the system easily. It makes sure that the data access is reliable and efficient and also can be overcome from the existing system. It helps in managing and controlling of all the processes and operations being carried out in the hotel. It also maintains records of data of the entire hotel management system which can be used when required. Main advantage of the system is all the functions are combined together and centralized.

- User friendly GUI
- Centralized database
- Easy to handle without extra knowledge in IT
- Simple calculations
- Better security

1.3 Project Report Structure

This project report for the creation of the system for Hotel Management is completely designed according to the standards of IEEE, document standards. It will give the reader a friendlier environment to understand the content of it. If this project is used for further development in the future, this kind of document standard will also give a perfect approach to the development team also, to understand the system well and work of the modifications they want to achieve.

2. Methodology

2.1 Requirements and Analysis

We analyzed the functions and identified the inputs, outputs and the processes required. Also we identified the nonfunctional requirements the system should consist. Then we got a clear understanding on the functionality.

Requirement gathering in the particular project was mainly done through conducting interviews with different kinds of people of management hierarchy of the hotel such as supervisors, managers and general staff.

In this situation, they were very enthusiastic and supported us by giving relevant information. Formal system is well defined by the forms, reports, policy manuals and organization charts. Above mentioned tactic helped a lot in providing a clear view of the Operational management system.

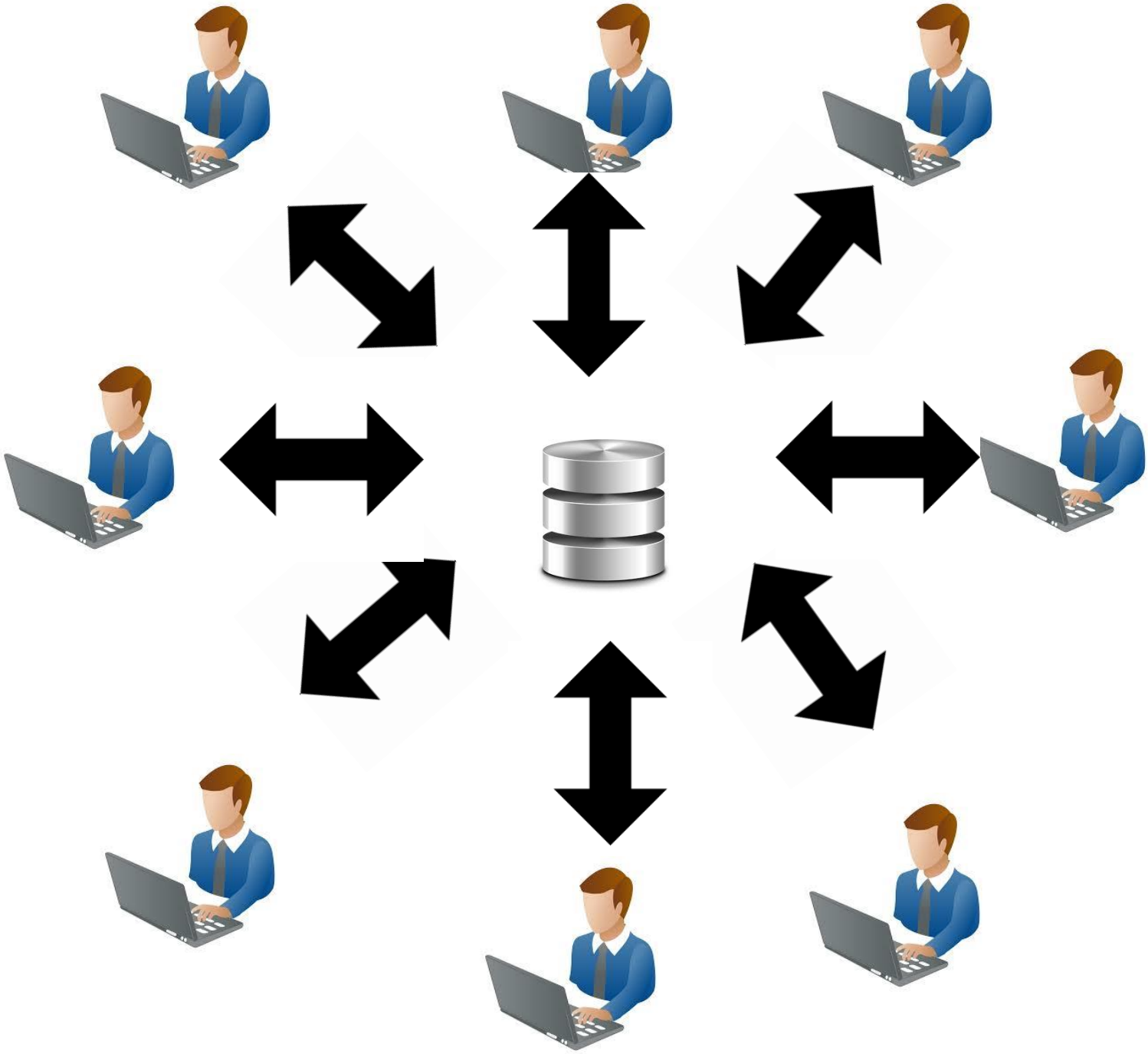


Figure 2.1.1 High Level Architecture diagram of the Hotel Management system

2.2 Design

The Operational management system project is designed and implemented in windows platform. Only the Administrators/HR manager/Accountants/Cashier and Receptionists can access the system and every user must keep their system password secretly. This system is designed in English language and the delivered system must be maintained by client and client pc should full fill software and hardware requirements.

We have utilized a set of UML diagrams which were conceptualized. Given below are some of these diagrams.

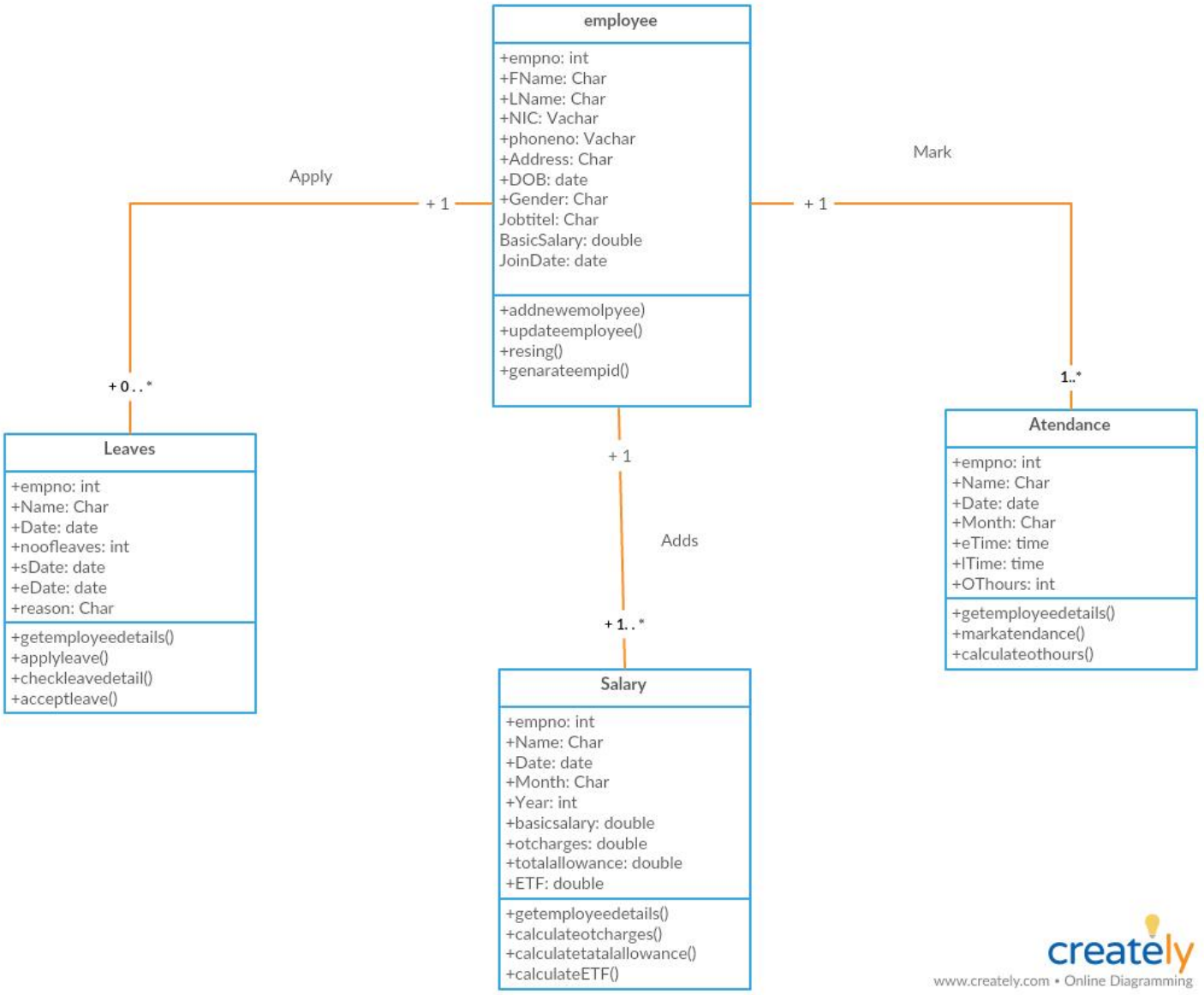


Figure 2.2.1 Class Diagram for Employee Management System

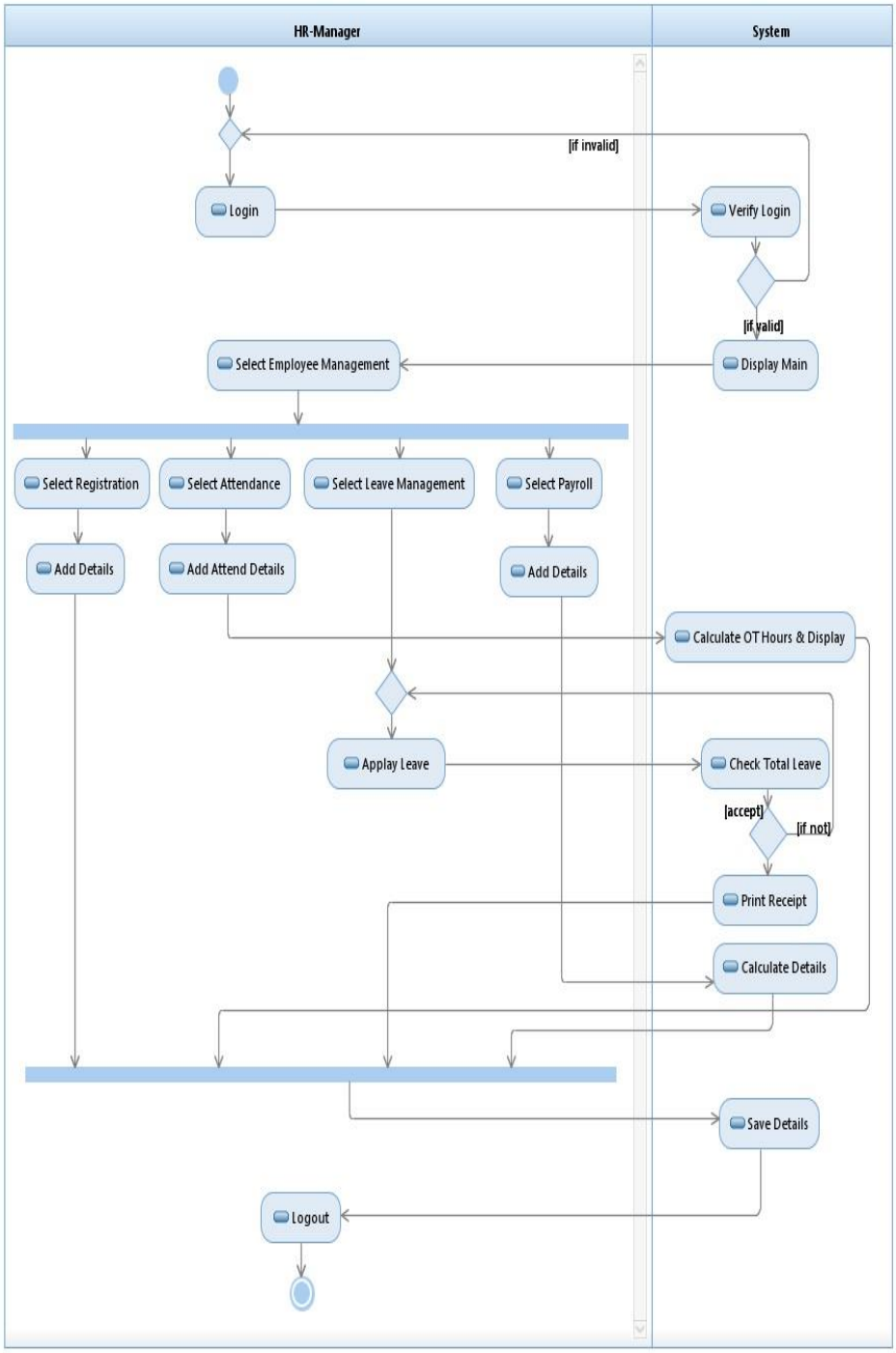


Figure 2.2.2 Activity Diagram for employee Management System

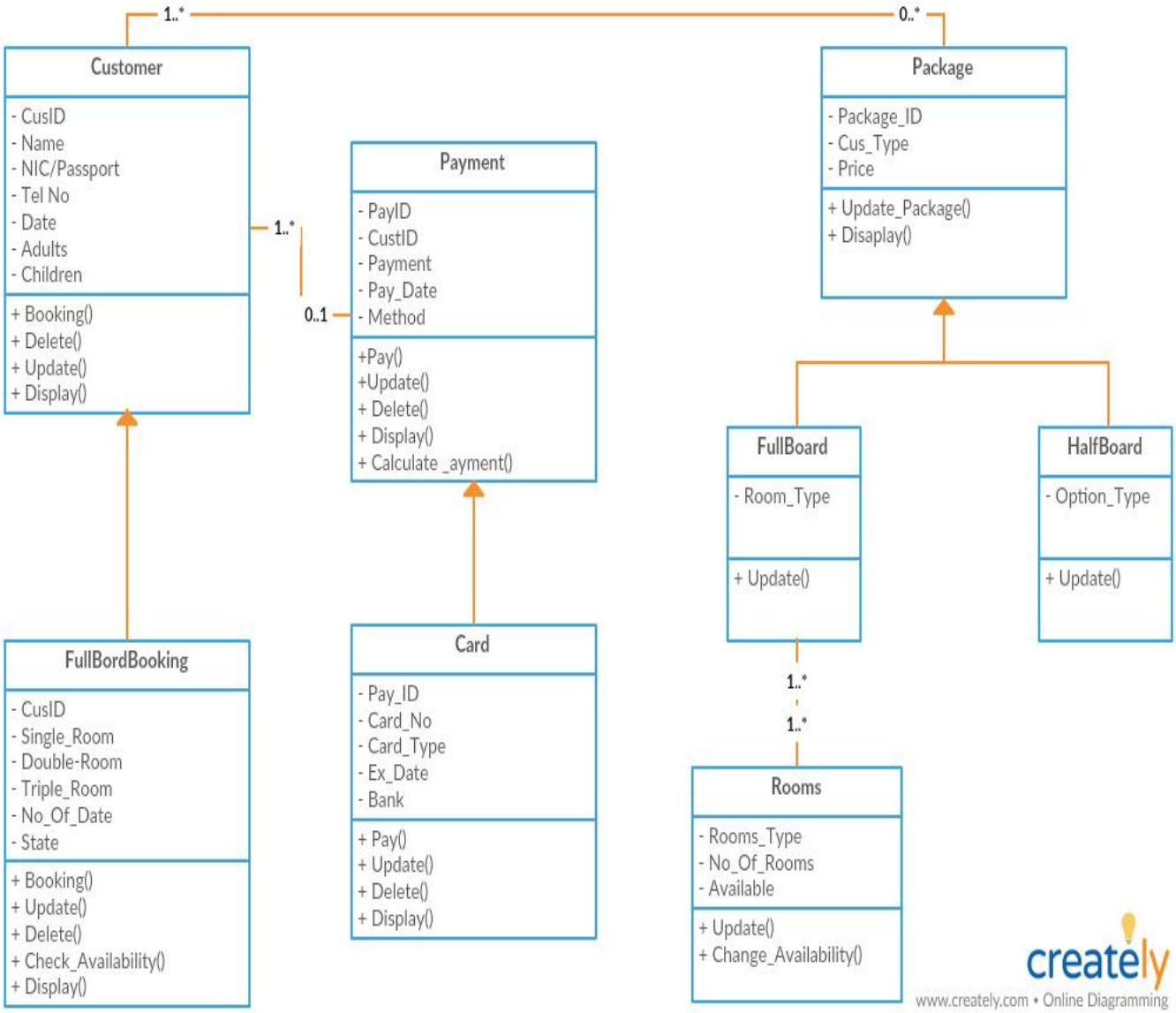


Figure 2.2.3 Class Diagram for Customer and Reservation Management

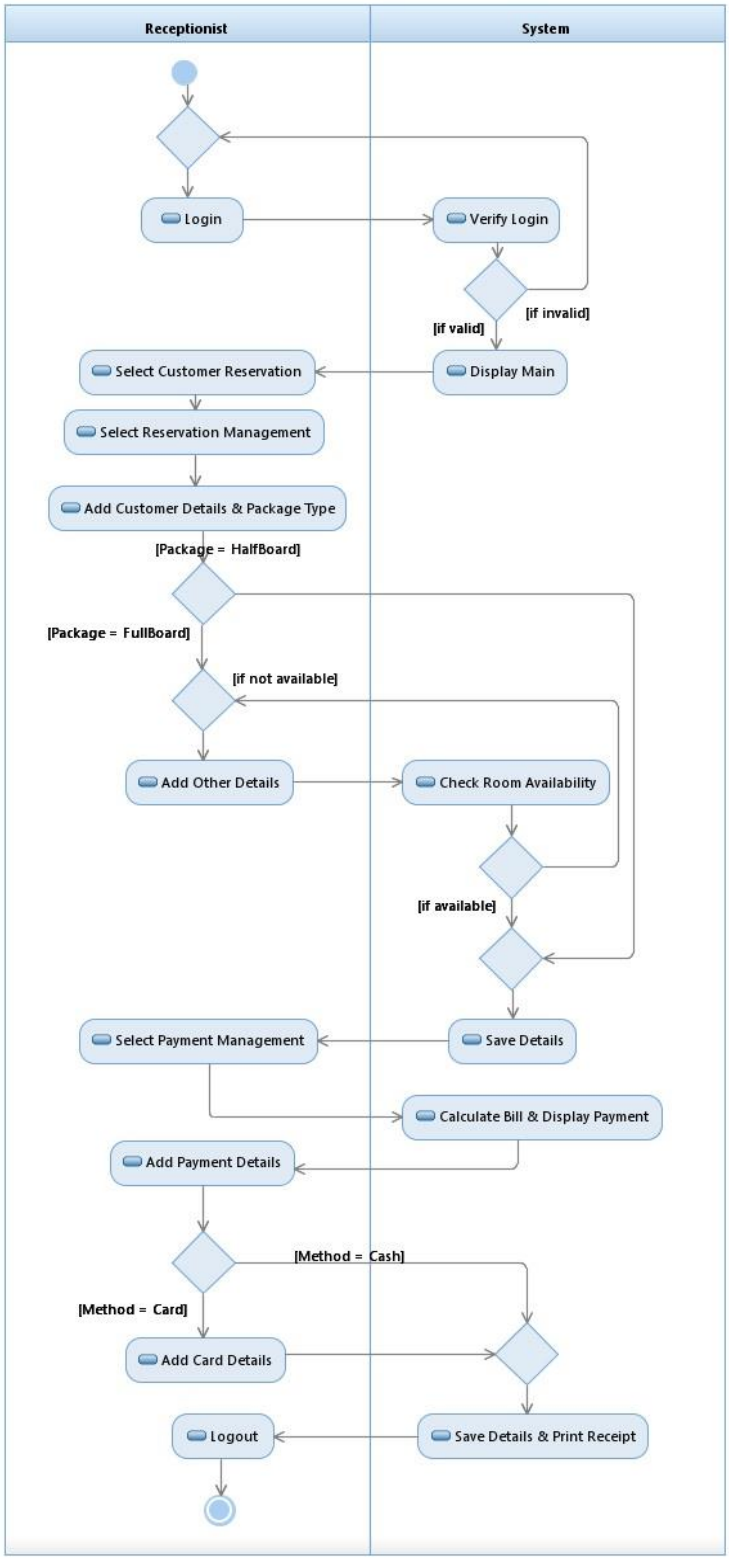


Figure 2.2.4 Activity Diagram for Customer and Reservation Management

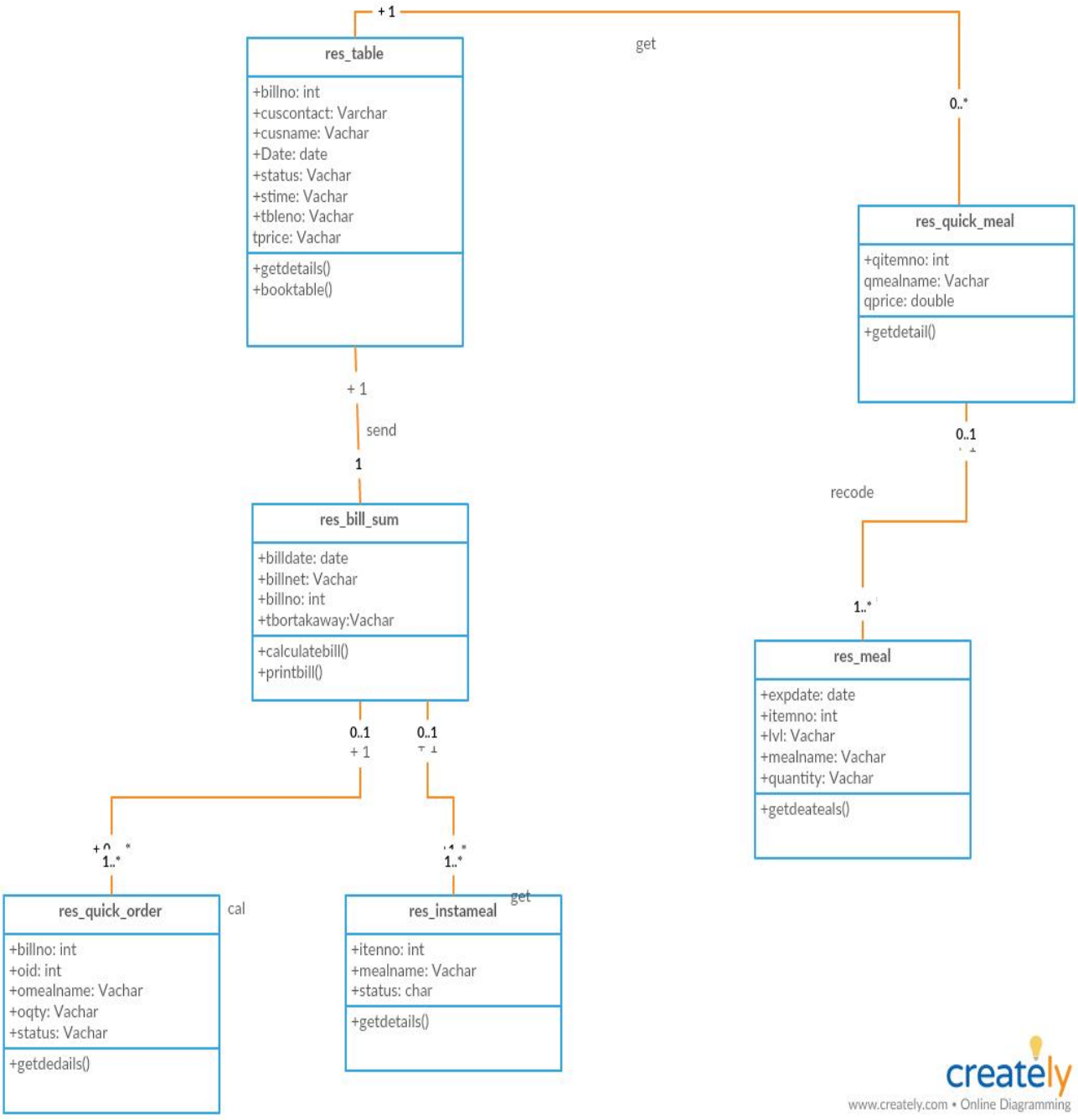


Figure 2.2.4 Class Diagram for Customer and Reservation Management

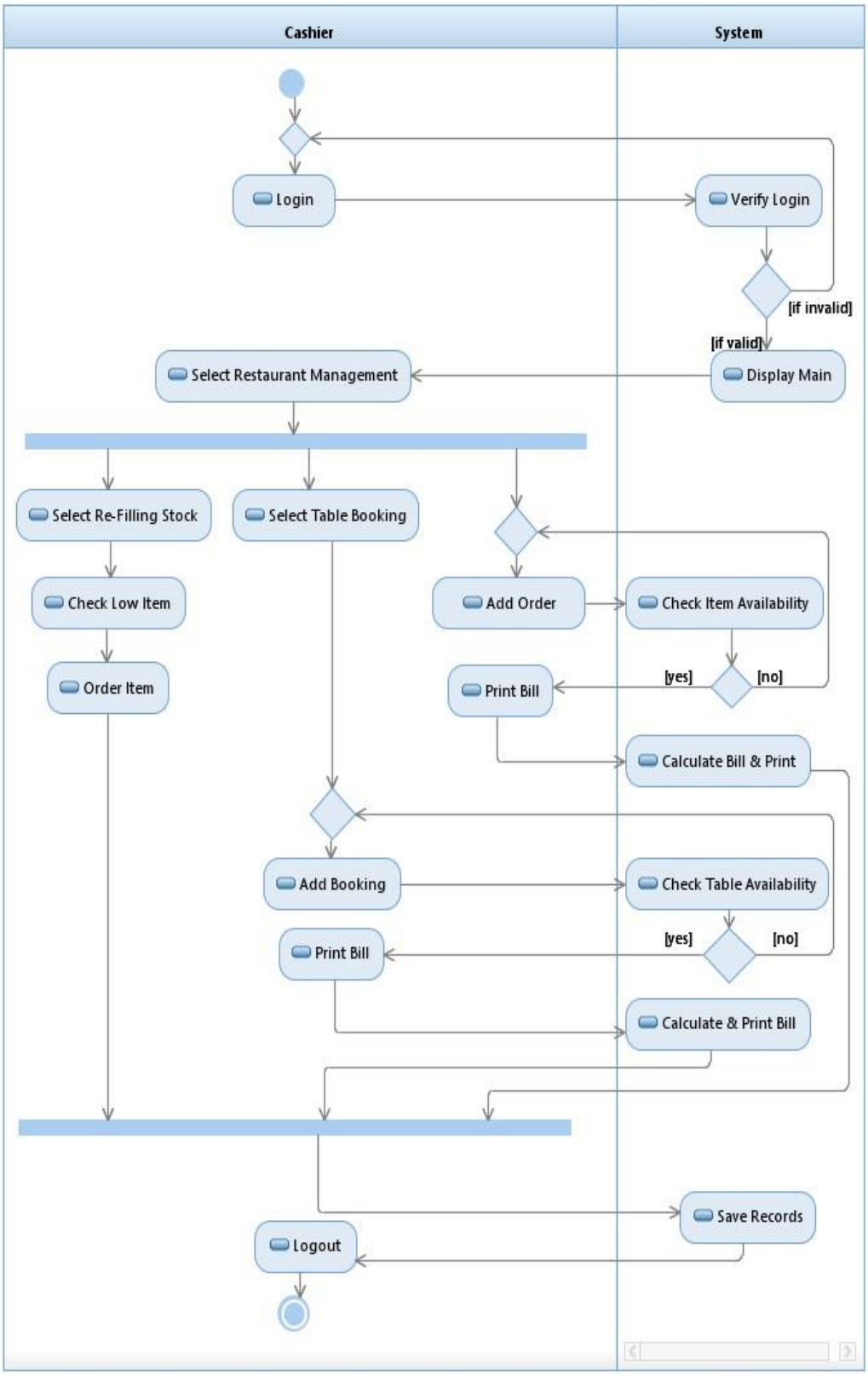


Figure 2.2.6 Activity Diagram for Restaurant Management

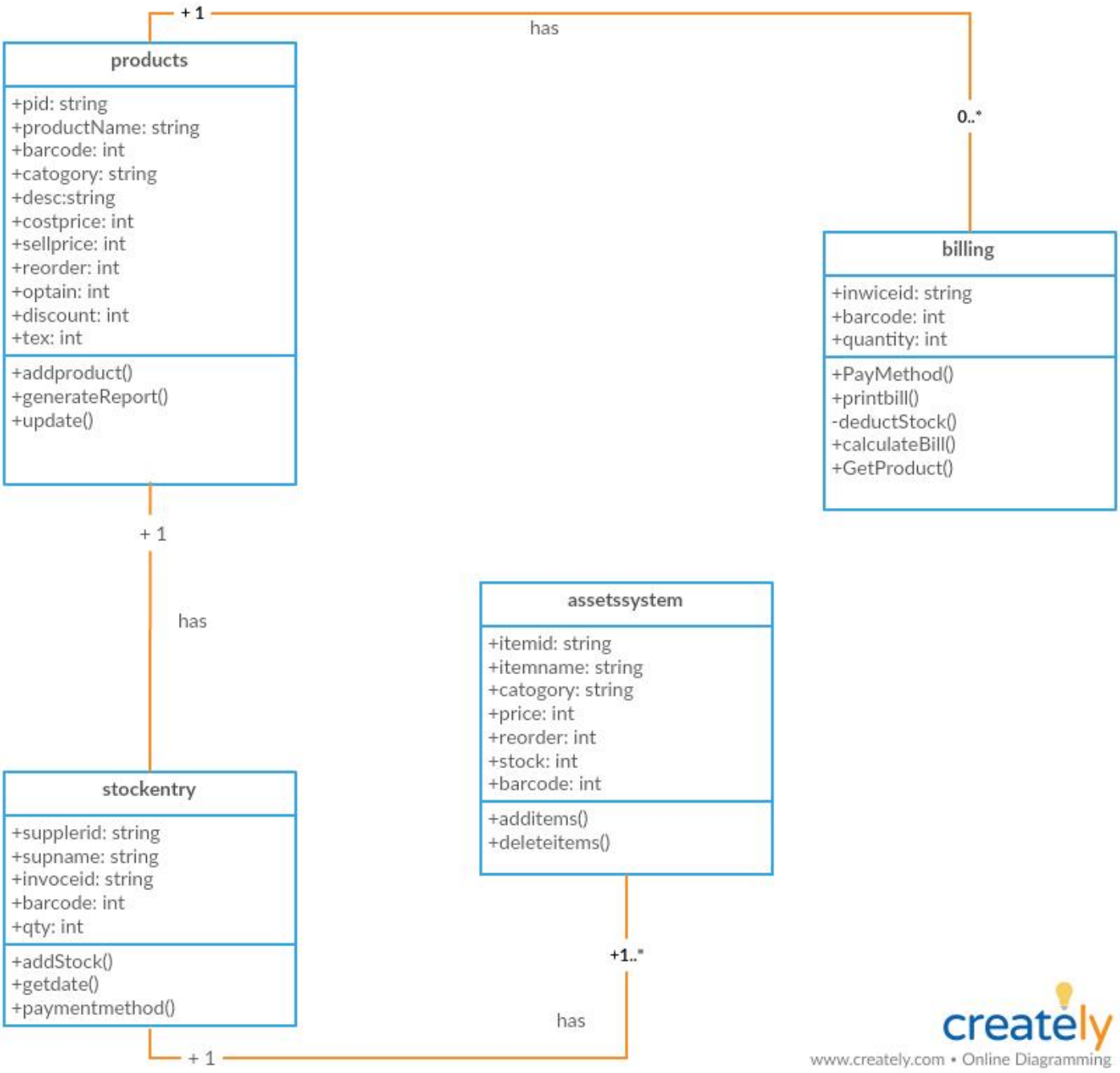


Figure 2.2.7 Class diagram for Boutique and Assets System

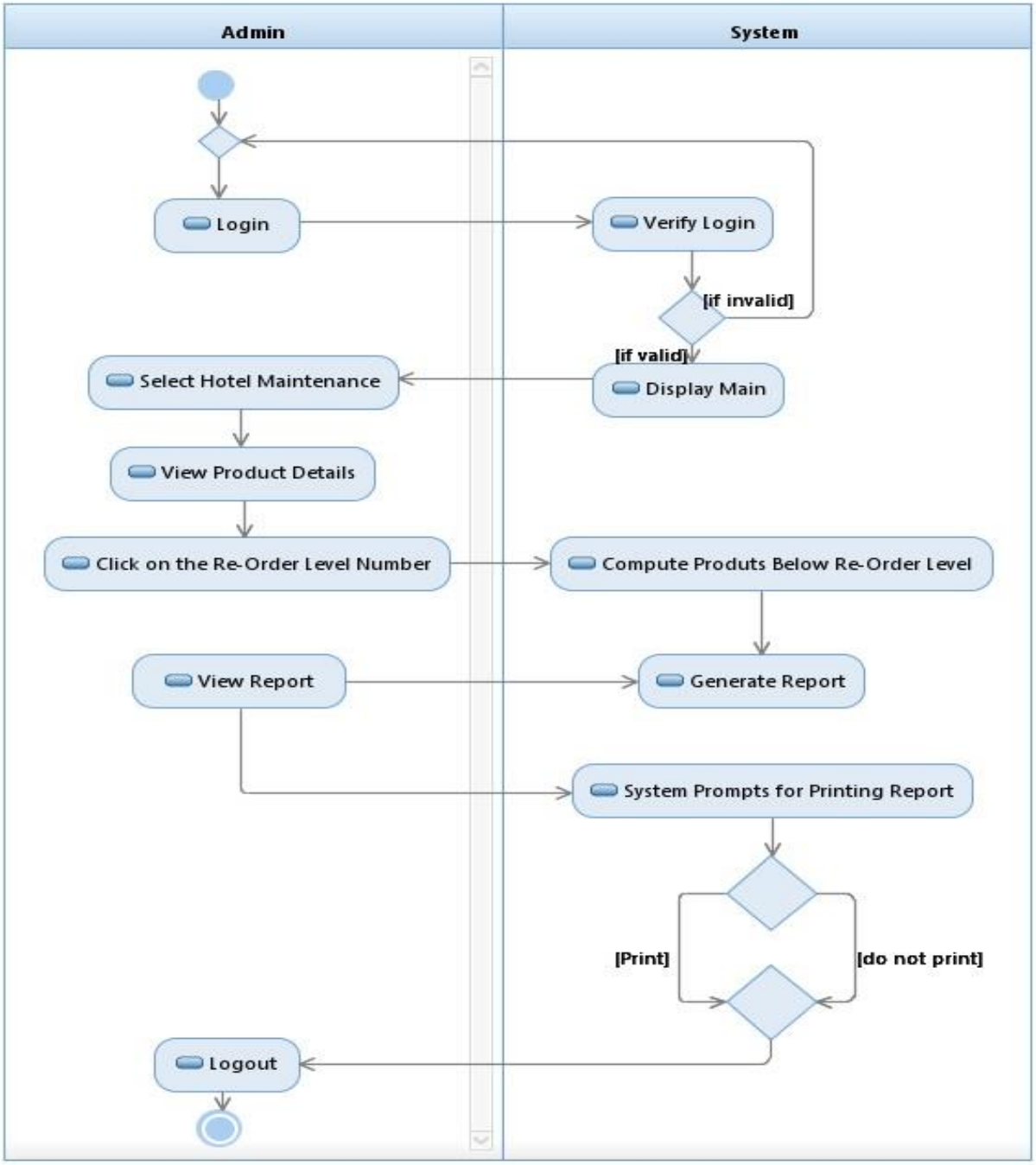


Figure 2.2.8 Activity diagram for Boutique and Assets System

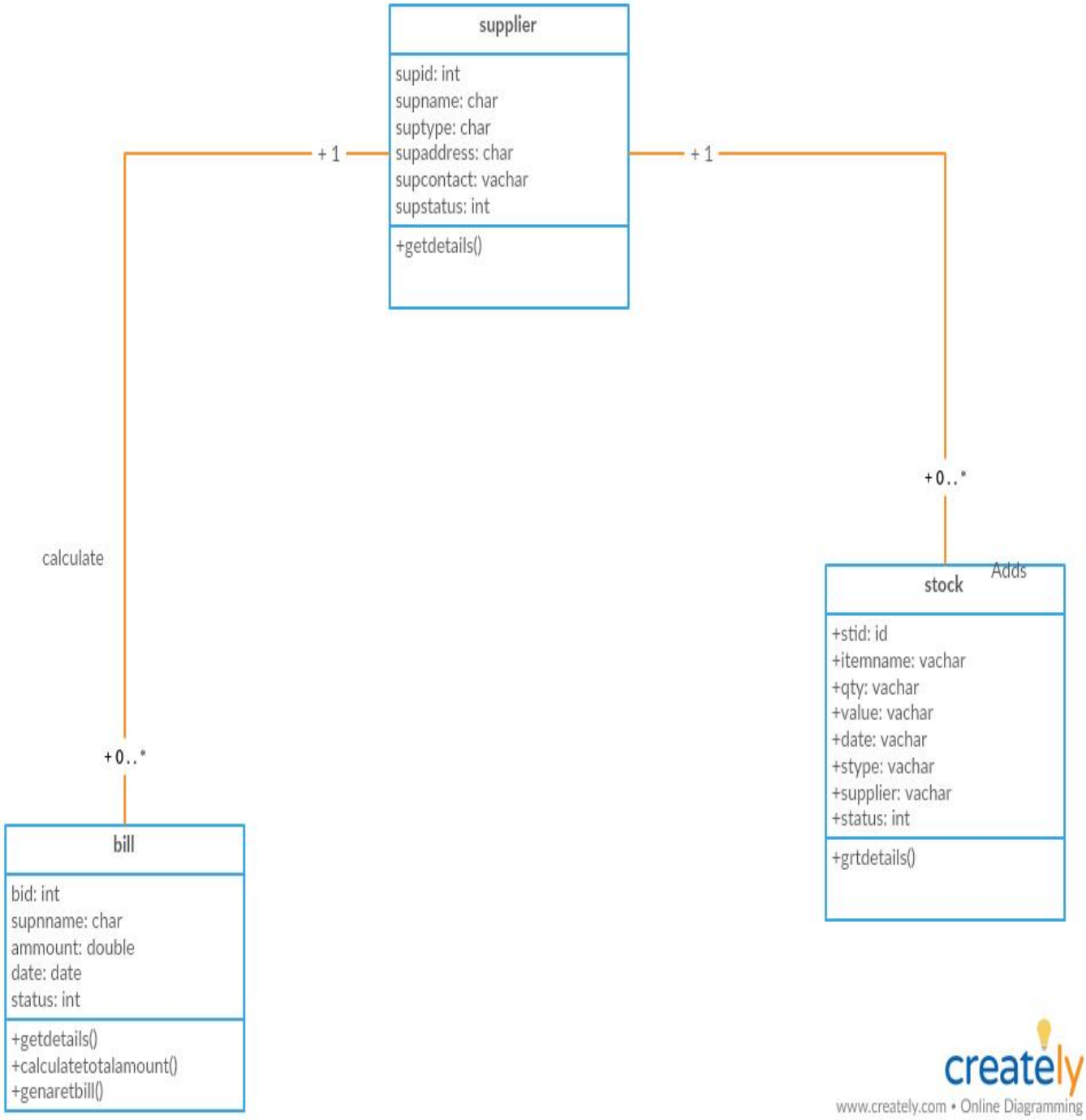


Figure 2.2.9 class diagram for Inventory Management

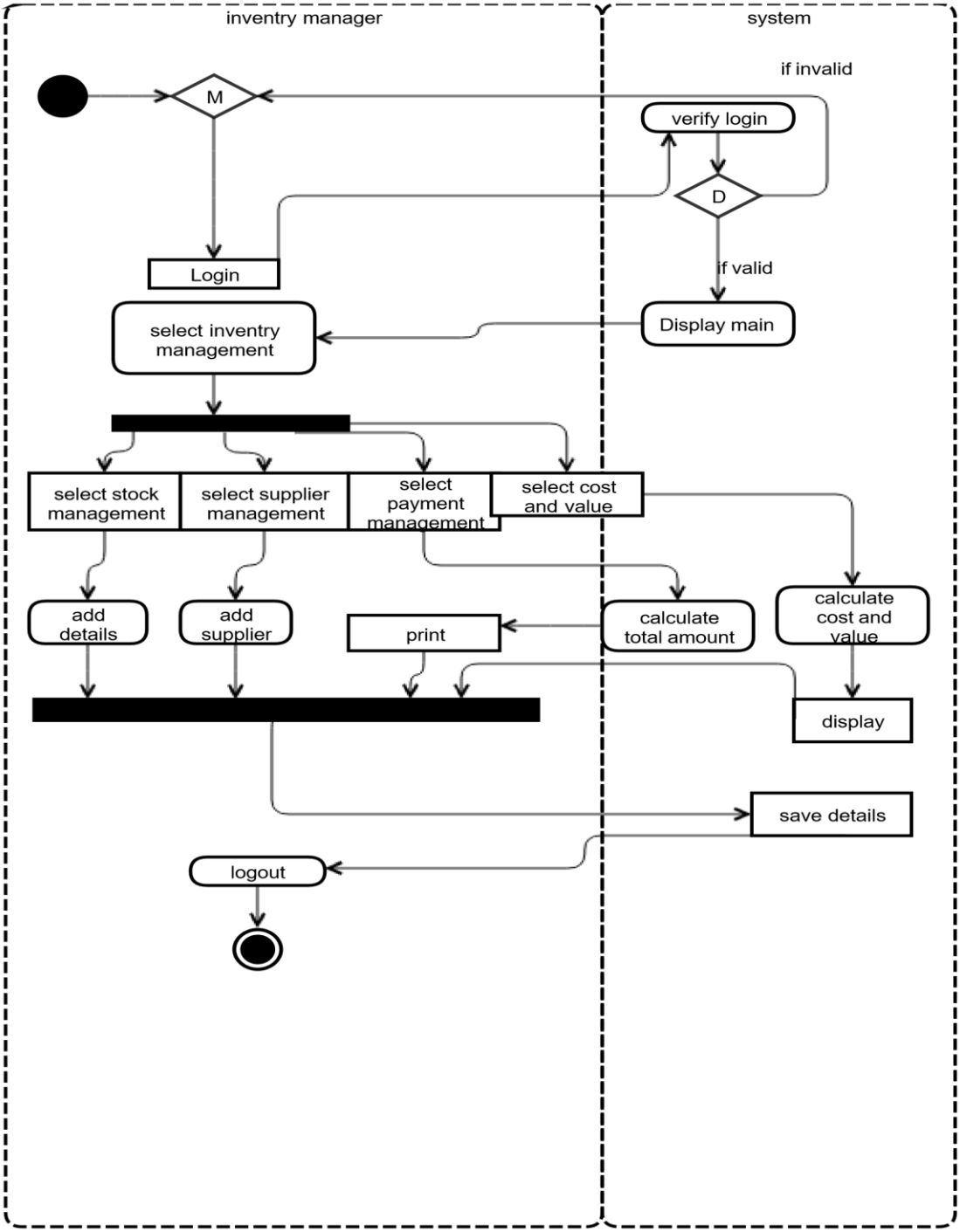


Figure 2.2.9 Activity diagram for Inventory Management

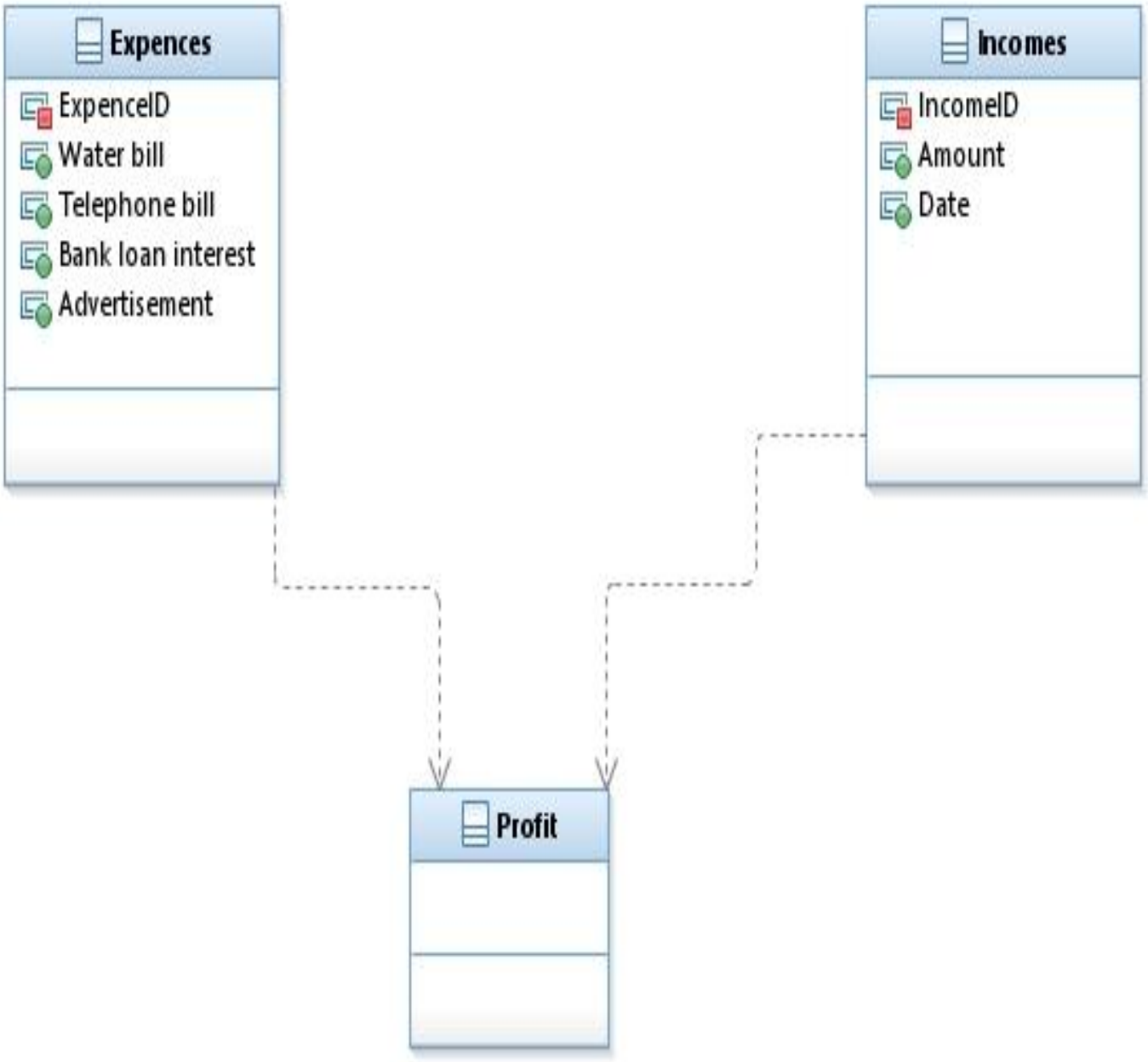


Figure 2.2.9 class diagram for Inventory Management

2.3 Implementation

The database is created using PHPMyadmin which consist of the capability of producing results table efficient than the older versions. The dbconnect class is created in gathering objects from the database.

```
public class dbconnection {

    public static Connection connect()
    {
        Connection conn = null;

        try
        {
           Class.forName("com.mysql.jdbc.Driver");
           conn=(Connection)
DriverManager.getConnection("jdbc:mysql://localhost:3306/my","root","");
        }
        catch (ClassNotFoundException | SQLException e)
        {
            System.out.println(e);
        }

        return conn;
    }

}
```

The users will have to login to the system in order to prevent from unauthorized access and to maintain the access permissions such as admin, supervisor and manager logins.

Ex: Admin login

```
if("Login".equals(HPState)) {
    if("Admin".equals(HPJOB))
            InventoryHome IHM = new InventoryHome(HPState, HPJOB);
            IHM.setVisible(true);
            this.dispose();
        }
         else if("Cashier".equals(HPJOB)) {
            InventoryHome IHM = new InventoryHome(HPState, HPJOB);
            IHM.setVisible(true);
            this.dispose();
         }
         else {
            JOption JO1 = new JOption(1, "Cannot Access Restaurant", "Management.");
            JO1.setVisible(true);
         }
      }
      else {
         JOption JO2 = new JOption(1, "Please Login to the System.");
         JO2.setVisible(true);
      }
   }
```

2.4 Testing

After implemented the individual modules by the group members, those individual modules are to be tested well before the integration. The system should be tested thoroughly using test cases and test suites before deploying or installing the system at the customer premises.

Test the system as a whole after successful integration of each unit. Deploy stress and acceptance testing of the system. Here in system testing, what happens is check whether the implemented system facilitate the requirements specified in the SRS document.

Technical documentation will be prepared describing various aspects of internal functions to make it easier to maintain the system and adapt to future changes. Because of the documentation we prepare while we developing the system will be needed and will be very useful in the maintenance phase. Creation of user documentation such as user manual, which describes how the software should be used, will be done for the ease of the users. Making tutorials and manuals to guide the users through each step of accomplishing a particular task will be very useful for the users to get familiar with the system.

Employee Management System		
Input	*Output*	*Test Results*
Pass	*Fail*	
Save the data without inserting value to text fields	*Error message should be appear*	✓
Update the data without inserting value to text fields	*Error message should be appear*	✓
Search employee attendance	*Relevant result should be appear*	✓
Search employee details	*Relevant result should be appear*	✓

Table 2.4.1 testing for employee management system

customer & reservation management system		
Input	*Output*	*Test Results*
Pass	*Fail*	
Save the data without inserting value to text fields	*Error message should be appear*	✓
Update the data without inserting value to text fields	*Error message should be appear*	✓
Search customer	*Relevant result should be appear*	✓

Table 2.4.2 Validation testing for customer & reservation management system

Restaurant Management System		
Input	*Output*	*Test Results*
Pass	*Fail*	
Save the data without inserting value to text fields	*Error message should be appear*	✓
Update the data without inserting value to text fields	*Error message should be appear*	✓
Delete expire item	*Relevant result should be deleted*	✓
Search meal orders	*Relevant result should be appear*	✓

Table 2.4.3 Validation testing for Restaurant management system

Boutique and Assets System		
Input	*Output*	*Test Results*
Pass	*Fail*	
Save the data without inserting value to text fields	*Error message should be appear*	✓
Update the data without inserting value to text fields	*Error message should be appear*	✓
Search product details	*Relevant result should be appear*	✓
Search supplier details	*Relevant result should be appear*	✓

Table 2.4.4 Validation testing for Boutique and Assets system

Inventory Management System		
Input	*Output*	*Test Results*
Pass	*Fail*	
Save the data without inserting value to text fields	*Error message should be appear*	✓
Update the data without inserting value to text fields	*Error message should be appear*	✓
Search supplier details	*Relevant result should be appear*	✓
Search raw materials	*No result should retrieve*	✓

Table 2.4.5 Validation testing for Inventory management system

3. Evaluation

3.1 Assessment of the Project results

One of the major and initial step for marking out the entrance for the project is formation of a group with eight members that hold different aspects and achievements with knowledge in programming with specified skills and talents. With some regular discussions those aspects and talents were identified and differentiation was reduced. Several discussions with group leader and team members along with the client discussions made is easier to identify user requirements.

After conducting several questionnaires with the client exact scope of the system's outline for the team purposes was emended. Thereafter reporting and attending service was analyzed until a proper hierarchy developed. Some of the brainstorming and mind mapping sessions among the group members aided in analysis of requirements accurately to the top most level with relevant achievement. The project was aimed to provide the efficient solutions to the external users and improve the productivity of internal users.

Several presentations were scheduled at several milestones such as 'Proposal Presentation', 'Prototype Presentation' and 'Final Presentation' to assess the progress or the development of the project. Thought presentation advised us to do the modifications as necessary. The presentations mentioned above gave us the chance to present the development of the project time to time and those works were observed by a panel of lecturers and those observations resulted us to follow the standards of the project as much as we could.

3.2 Lessons Learned

There were lots of lessons that we learned throughout the time. Most importantly we learned to work according to a time schedule and how to manage the time to take the maximum benefit of the time we had. We faced lot of inconveniences while engaging with the project development and those incidents gave us the experiences of facing the problems and finding the appropriate solutions as necessary.

It is very hard to develop a first rate software without the given time period, because we were not well experienced. But at the end of this project we have learnt many things about the industry and how to face problems and how to overcome those problems easily. Since we have grouped together, we were able to overcome those difficulties.

The most difficult phases of our project were implementation and testing. There our team learned how to manage the workload within a given time frame and how to allocate resources efficiently. Though our team had many issues due to lack of experience in coding, the developers could learn new techniques in coding and database handling. Finally with the dedication of all the team members our team could come up with a system which satisfies the requirements of our client. There our team manage to develop the system within the proposed time period and develop the proposed functions much as we could

3.3 Future Work

The work in the future that we have to engage should be done with lessons we learned from the project work that we have done so far. The steps that we have to be taken should be included with a higher standard than the tasks we did in the past. We should be able to reduce the errors that we have identified all through the time we spent for the project and that should be included with the experiences we gathered but with a high standard.

When the time passes, our client's requirements can be changed. They might need more functionalities, new designs, new concepts or change existing functions that are not necessary. In such situations if they wanted us to develop and improve the current system we hope to consider their requirements and make the relevant changes as the system should be more usable and accurate for the client which fulfill their expected tasks. Apart from client requirements, if there are any changes in the system environment or inside the system, we will adapt the system to compatible with those changes as the system should be properly work according the available environments and functionalities.

Furthermore if there are any unexpected errors occur while using our system due to system failures or other reasons, we will be responsible of developing and handling those cases whenever they requested.

4. Conclusion

Hotel management system application comes with the centralized and large database. It also give a simple interface to user to handle the system easily. It make sure that the data access is reliable and efficient also overcome from the existing system. Here are solutions that proposed by our system.

When number of data increased the number of files also increased therefore no need to worry about those things our system come up with a centralized database so don't need to worry about storage.. These are easy to find in a minute by system. It's easy to record large amount of data in correct format without error and also can retrieve when it's needed. Searching of a specific staff details can be done less than a minute.

No need to worry about data duplication. With our system Simple data duplication can be done in a minute. No need to talk about data loss or data misplaced whenever a data or a set of data needed it can be retrieve

Since the existing manual system do not consists of a proper report generation, with this new system it was able to give a solution to generate realistic reports, which would help the management to get practical decisions and ideas related to the process.

Here the system would eliminate out all the unauthorized access which eventually leads to a high security.

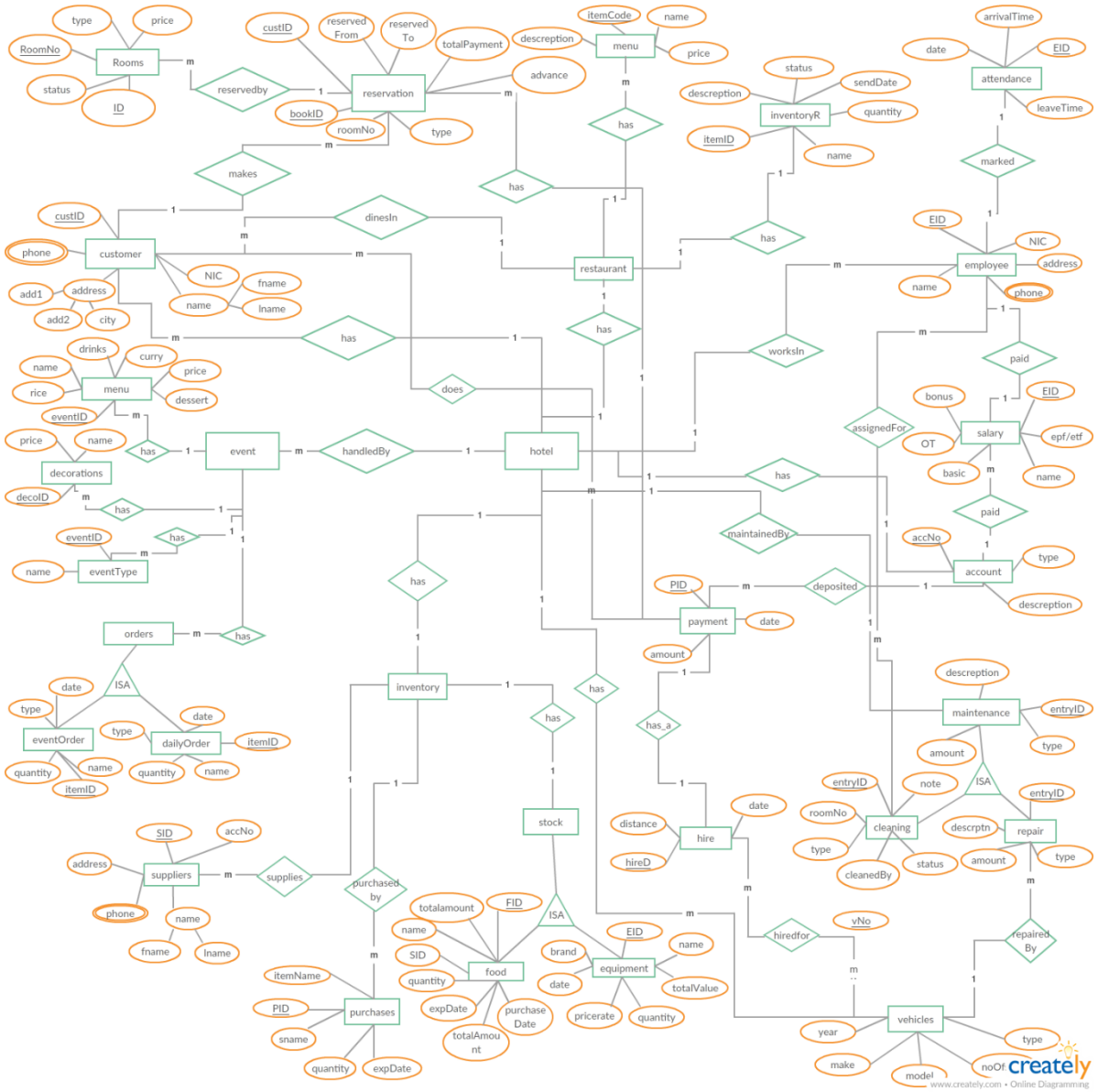
All the data entered can be modified and viewed on a specified way that they are stored inside a centralized database. System is highly efficient hence it increases the productivity and quality along with the realistic decisions that are to be customized and let the management to produce reports included with them.

5. References

- https://creately.com/app/?tempID=h165rwt81#
- https://www.youtube.com/results?search_query=hotel+management+system
- https://www.slideshare.net/thissagamage1/project-proposal-document-for-hotel-management-system?qid=401aa90e-bb78-4722-99af-3dd50431ce21&v=&b=&from_search=1
- Joel Murach, Michael Urban, Murach's Beginning Java with NetBeans, 2015.
- Atul Palandurkar, Instant NetBeans IDE How-to,2013.
- Adam Myatt, Pro NetBeans IDE 5.5 Enterprise Edition,2007

Appendix A: Design Diagram

ER Diagram



ITP_MLB_12

ITP

Hotel Management System

Muthuweli Beach Resort Moratuwa