AUCKLAND INSTITUTE OF STUDIES NEW ZEALAND

INFORMATION TECHNOLOGY PROGRAMME

7.217 Requirement Modelling

Group Assignment: Semester 3, 2014

Self-Check-in and Check-out System

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Semester 3 2014

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Project Drivers

1. The Purpose of the Project

This project is designed to improvise the efficiency through integration of a system during check in and check -out process for Amora Hotel, Auckland.

Current system in Amora lacks to address the issue of delay /queuing during check in, check out process. There are different causes for this issue and this report will address those issues and will provide feasible solutions to rectify the problem.

2. The Stakeholders

Guest: - Are the customers for the Amora hotel. They are the one who receives the services and plays vital part in providing feedback to the hotel. Guest feedbacks are used to improvise the service and to monitor the hotel service standards.

Employees: - They are the one who provides service to the guest. Employees have a hierarchy which can differ business to business.

Business Owner: - Looks after the profit and loss balance sheets. Property owner monitor the level of service and are responsible for developing operational policies.

IT Administrator: - IT support for Amora hotel is outsourced. IT support looks after the maintenance of hotel software, server maintenance, laptop/ desktop maintenance, security cameras maintenance.

Network providers: - Includes internet, telephone, Electricity providers.

Project Constraints

3. Mandated Constraints

Scope Constraints: - This report will empathise only on competent check in - check out process for hotel Amora. This project will address the issues faced during check in and checkout process and will give recommendation on tackling those issues.

Cost Constraints: - This report gives IT and non-IT solution to improve the existing check in check - out process. Both of these can involve some cost. Cost might differed from organisation to organisation.

Time Constraints: - This report needs to be completed prior to 14 November 2014. The development and installation of the software will be completed 6 months after the approval of the project.

4. Naming Conventions and Terminology

CHM: - Clarity Hotel Manager.

FOM: - Front Office Manager

IT: - Information Technology.

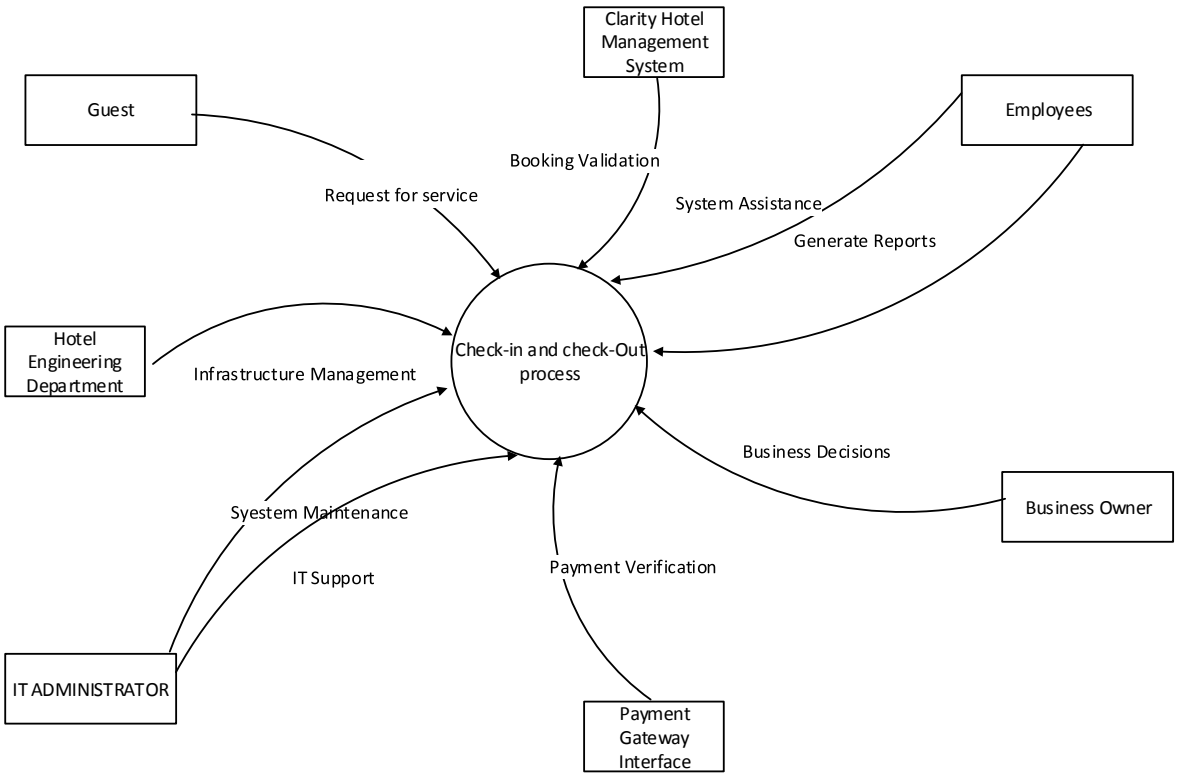
5. Relevant Facts and Assumptions

Funds: - It is assumed that management would provide the funds to implement the accepted solutions.

Software Compatibility: - It is also assumed that current system will be compatible with the new systems.

6. The Scope of the Work

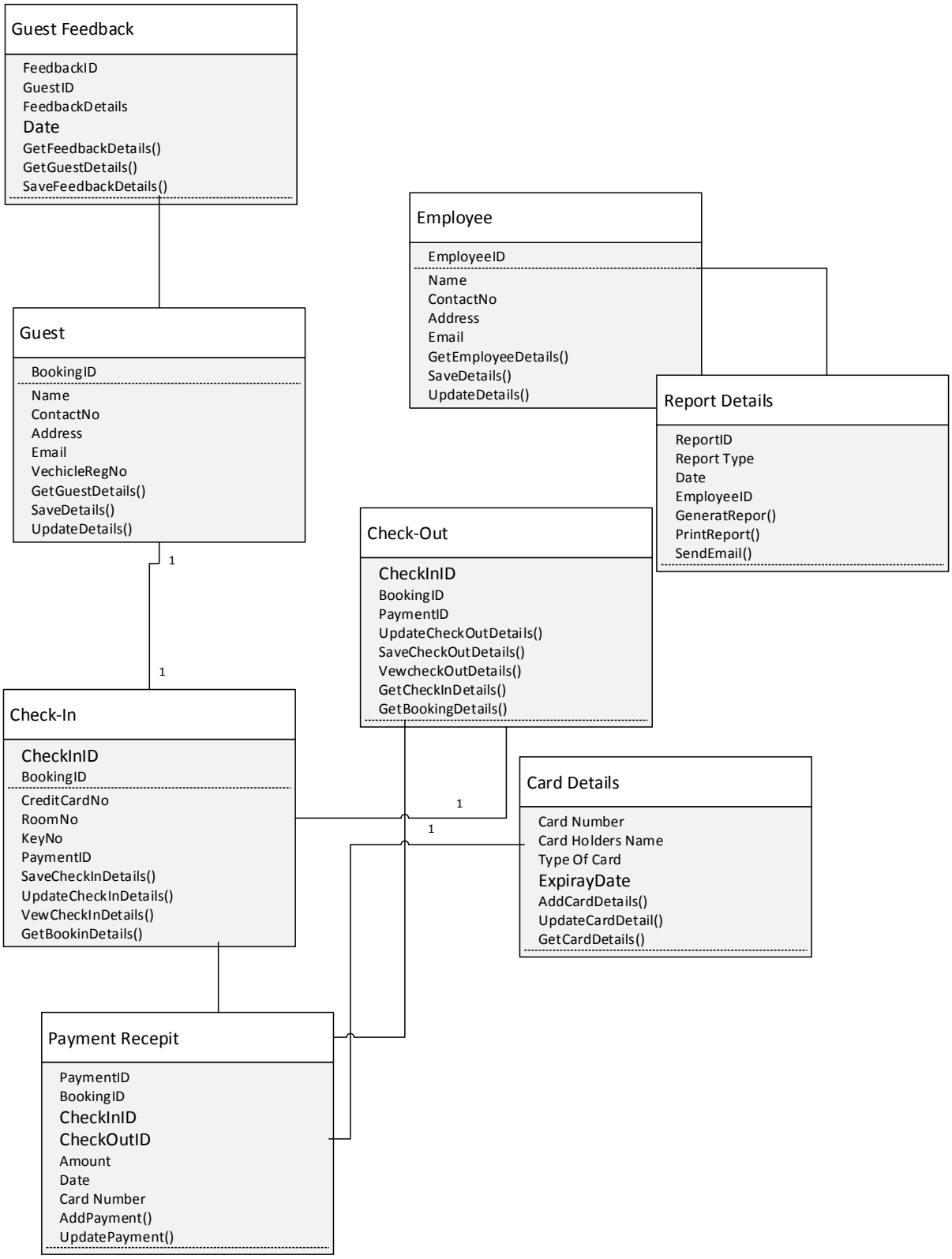
(Basic Context diagram / Work Scope description)



7. Business Data Model & Data Dictionary

(Basic Data Model / main classes, Data Dictionary stating attributes and classes)

7.0 Business Data Model



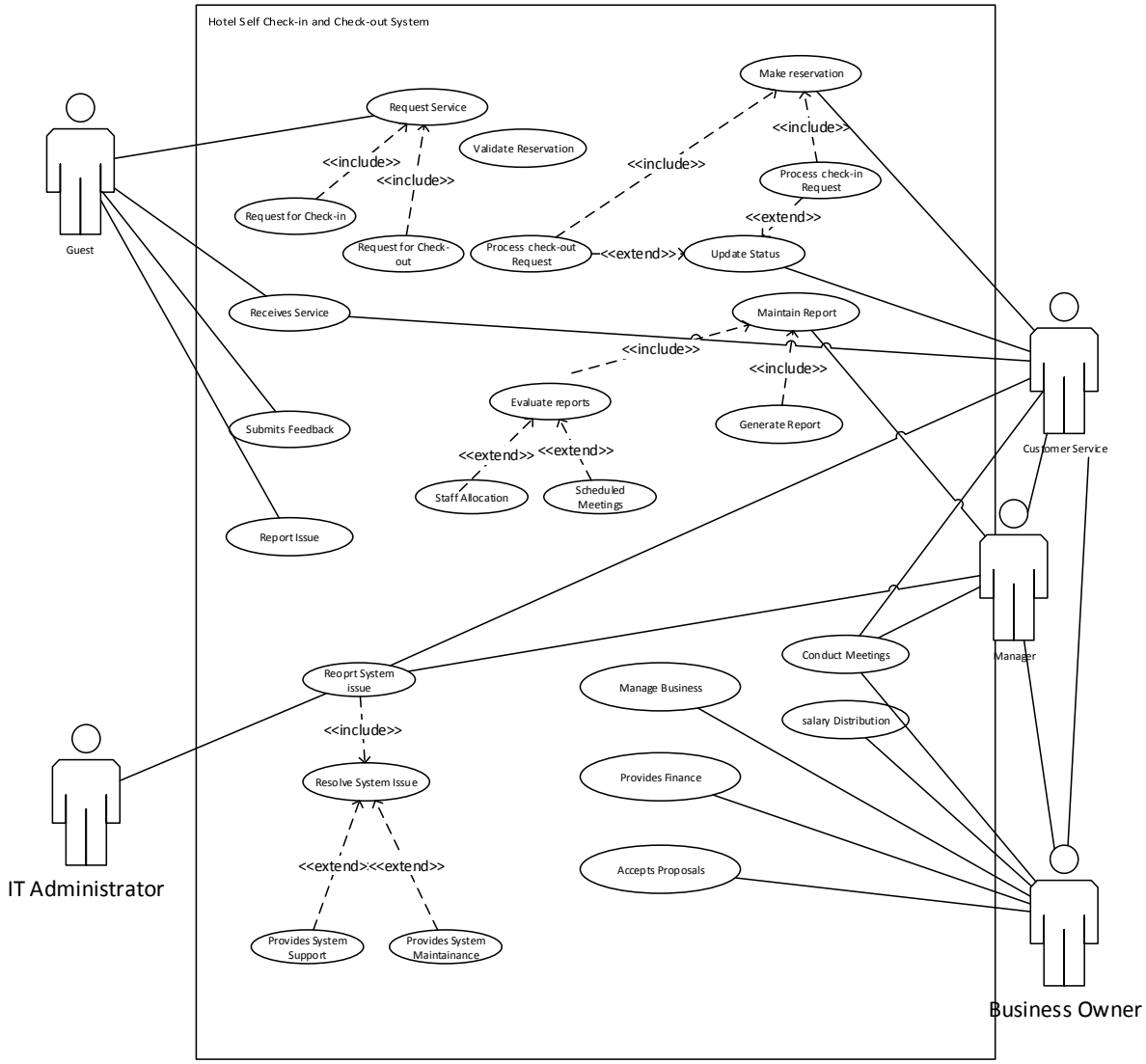
7.1 Data Dictionary

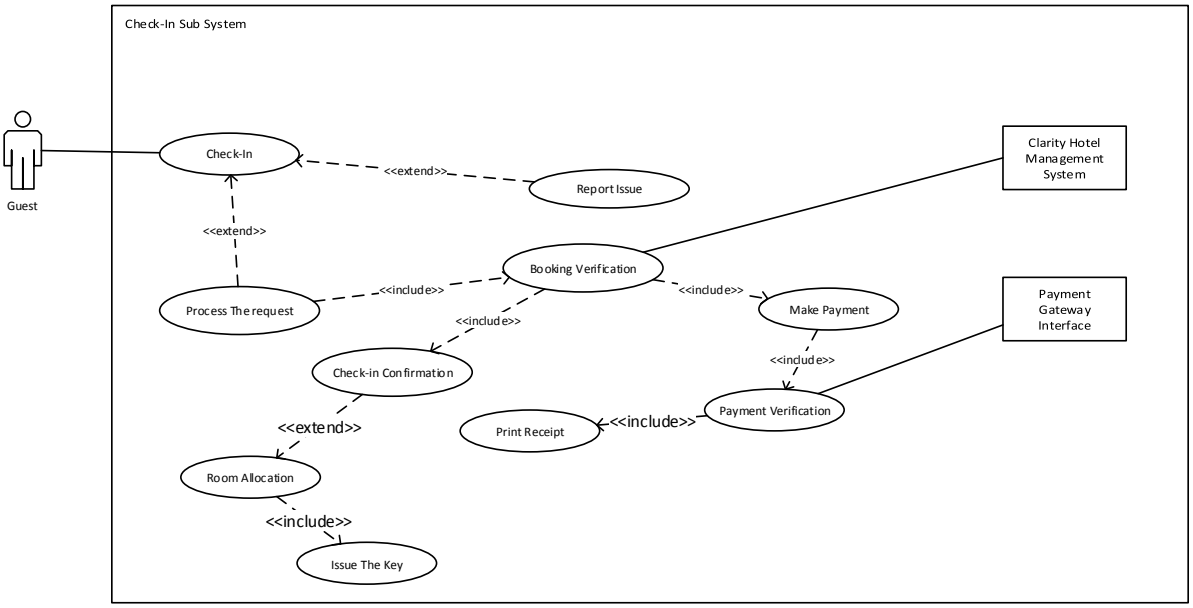
Name	Content	Type
Guest Feedback	Information provided by guest about the satisfaction or dissatisfaction they feel with their stay or services.	**Class**
Feedback ID		Attribute/Element
Guest ID		Attribute/Element
Feedback Details		Attribute/Element
Feedback Date		Attribute/Element
Get Feedback Details		Attribute/Element
Get Guest Details		Attribute/Element
Save Feedback Details		Attribute/Element
Guest	A person staying at a hotel or uses its services.	**Class**
Booking ID		Attribute/Element
Guest Name		Attribute/Element
Guest Contact No		Attribute/Element
Guest Address		Attribute/Element
Guest Email		Attribute/Element
Vehicle Reg No		Attribute/Element
Get Guest Details		Attribute/Element
Save Details		Attribute/Element
Update Details		Attribute/Element
Employee	A person employed for wages or salary under a contract.	**Class**
Employee ID		Attribute/Element
Employee Name		Attribute/Element
Employee Contact No		Attribute/Element
Employee Address		Attribute/Element
Employee Email		Attribute/Element
Get Employee Details		Attribute/Element
Save Details		Attribute/Element
Update Details		Attribute/Element
Report Details	This refers to Management Information System (MIS) reports, which helps in increasing productivity of hotel's.	**Class**
Report ID		Attribute/Element
Report Type		Attribute/Element
Report Date		Attribute/Element
Employee ID		Attribute/Element
Generate Report		Attribute/Element
Print Report		Attribute/Element
Send Email		Attribute/Element

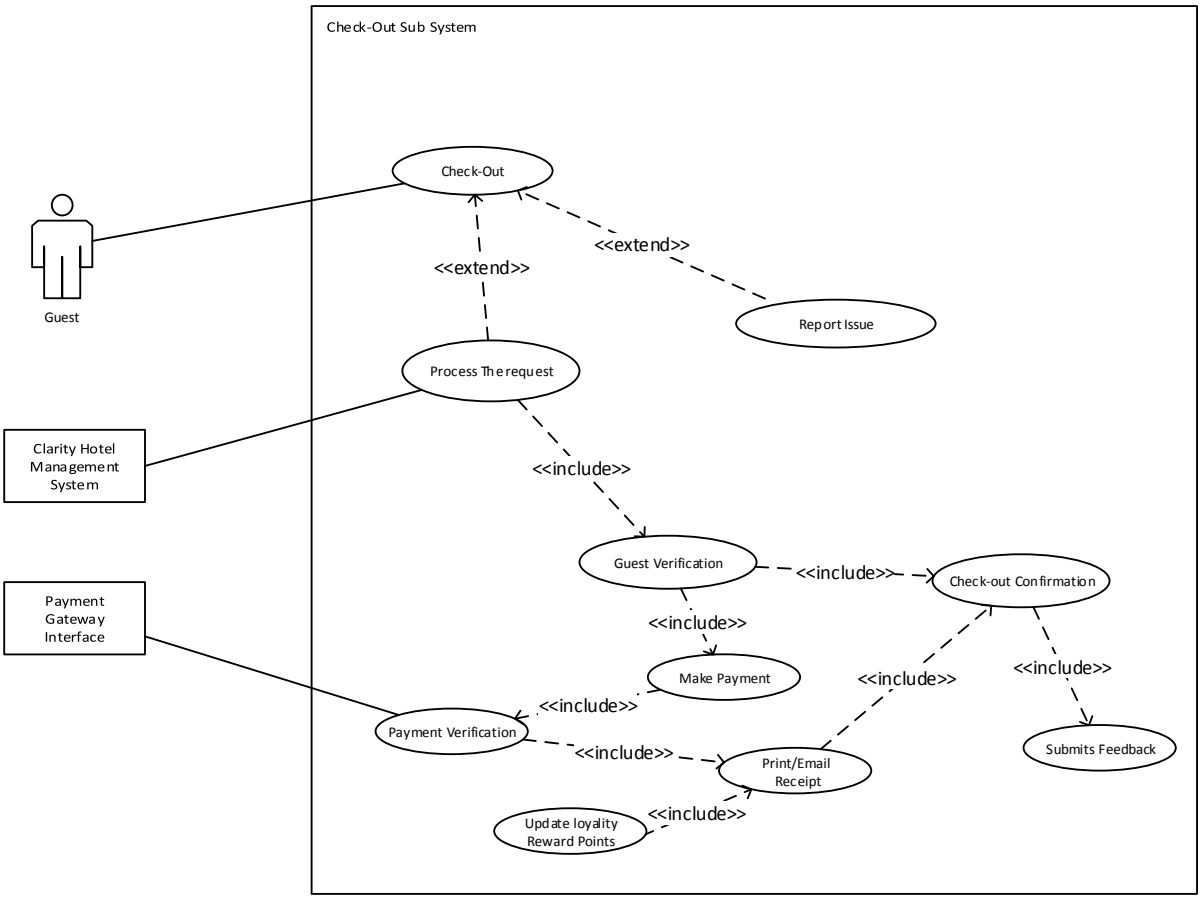
Check-Out	Procedure of vacating room and settle one's bill before leaving hotel.	**Class**
Check-in ID		Attribute/Element
Booking ID		Attribute/Element
Payment ID		Attribute/Element
Update Check-out Details		Attribute/Element
Save Check-out Details		Attribute/Element
View Check-out Details		Attribute/Element
Get Check-in Details		Attribute/Element
Get Booking Details		Attribute/Element
Check-In	Procedure by which a hotel formally registers the arrival of a guest.	**Class**
Check-in ID		Attribute/Element
Booking ID		Attribute/Element
Credit Card No		Attribute/Element
Room No		Attribute/Element
Key No		Attribute/Element
Payment ID		Attribute/Element
Save Check-in Details		Attribute/Element
Update Check-in Details		Attribute/Element
View Check-in Details		Attribute/Element
Get Booking Details		Attribute/Element
Card Details	A plastic card with a magnetic stripe that holds machine readable identification code like Credit, Debit, or EFTPOS card.	**Class**
Card Number		Attribute/Element
Card Holders Name		Attribute/Element
Type of Card		Attribute/Element
Expiry Date		Attribute/Element
Add Card Details		Attribute/Element
Update Card Details		Attribute/Element
Get Card Details		Attribute/Element
Payment Receipt	A piece of paper on which the things that you buy or the services that you pay for are listed with the total amount paid.	**Class**
Payment ID		Attribute/Element
Booking ID		Attribute/Element
Check-in ID		Attribute/Element
Check-out ID		Attribute/Element
Amount		Attribute/Element
Payment Date		Attribute/Element
Card Number		Attribute/Element
Add Payment		Attribute/Element
Update Payment		Attribute/Element

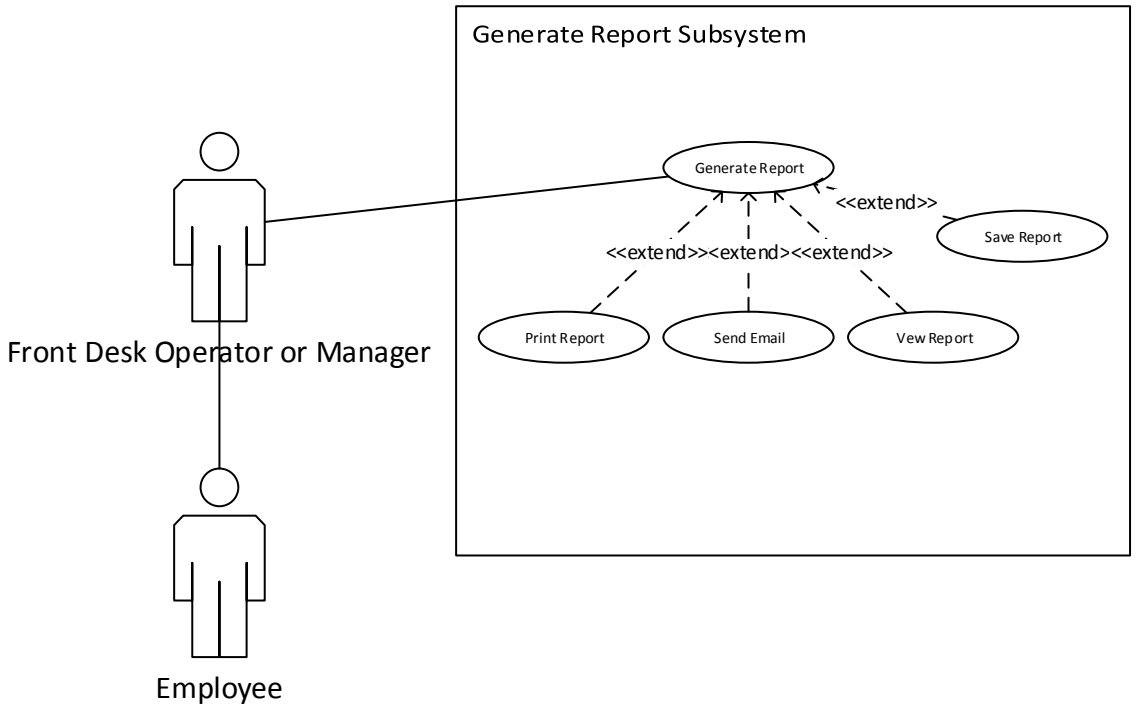
8. The Scope of the Product

(Diagram showing boundary of the system, any sub system or other systems)




Check-In Sub System
Guest
Check-In
<<extend>>
Report Issue
Clarity Hotel Management System
<<extend>>
Booking Verification
Process The request
<<include>>
<<include>>
<<include>>
Make Payment
Payment Gateway Interface
Check-in Confirmation
<<include>>
<<extend>>
Payment Verification
Print Receipt
<<include>>
Room Allocation
<<include>>
Issue The Key


Check-Out Sub System
Check-Out
<<extend>>
<<extend>>
Guest
Report Issue
Process The request
Clarity Hotel Management System
<<include>>
Guest Verification
<<include>>
Check-out Confirmation
Payment Gateway Interface
<<include>>
<<include>>
<<include>>
Make Payment
<<include>>
Payment Verification
<<include>>
Print/Email Receipt
Submits Feedback
<<include>>
Update loyality Reward Points



9. Functional Requirements

(User story format, brief description of minimum three main functional requirements)

User Story 1:-

As a Business owner I want a product which automates check in - check out process so that there is less queues at reception.

Description:-

Check in process includes verification of booking (booking is compulsory), scanning ID or passport, credit card verification, verifying loyalty card details (optional). The automated system should be able to process all the above request, allocate inspected room number and then should issue a room key and display room number.

During check out system should search the customer with either booking ID or room number & name, should display customer the total bill and give choice to enter any additional charges e.g. mini bar, miscellaneous charges. Then system should process the payment request. System must

accept all the credit cards, all New Zealand eftpos cards and all valid New Zealand currency. System should refund change if payment method is cash. System should print the invoice or give option to send the invoice by email.

User Story 2:-

As a business owner I want the product to integrate with current clarity system and generate automatic report to reduce manual report generation.

Description: - Hotel currently runs on Clarity system and all the data is stored on site server. The new automated system should recognise data from the current system and should update automatically. That means any changes or updating in Clarity system should automatically update the new system.

User Story 3:-

As a business owner I want the product to show feedback form after check out process to help with customer satisfaction survey.

Description: - System should ask for customer satisfaction survey when check out process is complete. If guest accepts system should display a list of question and should save the feedback.

User Story 4:-

As a business owner I want a system to recognise privilege member's cards this will ensure that loyalty card customer's gets mileage points automatically.

Description: - Hotel runs a loyalty programme and each member is given a unique loyalty number. System should recognise this and should reward points against the final bill.

Non-functional Requirements

10. Look and Feel Requirements

The product should be authoritative so that customer feels that they can rely on the machine.

Product appearance should resemble the check in machines installed at the Auckland domestic airport.

The product should use attractive design and interface so that it looks eye appealing.

The products display screen should be minimum 20 inch.

11. Usability and Humanity Requirements

The product should be easy to use for customers of all age and experience.

The product must operate on touch screen as well as using keyboard and key pad.

Default language for the product display should be English.

The product should give option to change the language into Mandarin & Cantonese.

The product should have built in lights for the display.

12. Performance Requirements

Product shouldn't have any lagging issues.

Product should produce report within 3 minutes.

Product must show accurate bills.

Format of the reports generated by the product should resemble the current reports which are generated manually.

13. Operational and Environmental Requirements

Product must operate 24x7.

The product should recover its data in case of failure.

14. Maintainability and Support Requirements

Product should be portable on Windows & MAC operating system.

Product should scalable to manage future upgrades.

15. Security Requirements

Access for report generation must only be for authorised employee. Log in name and ID is required for report generation.

Data stored by the product must be protected and data access should only be provided to authorised staff.

16. Legal Requirements

As the product accepts payment it should full fill all the legal requirement set by the banks and government.

The product must comply with all the licencing requirement set by the legal authorities.

Project Issues

17. Open Issues

Banks are thinking of adding more security to the credit card payment systems but we do not know what these changes are and when exactly they will be implemented.

Management is thinking of upgrading clarity system but changes are still in proposal stage and will take few months for the outcome.

18. Off-the-Shelf Solutions

The Product's appearance requirements resembles the airport self-check in counter which is already available with another company. We can buy its specification to minimize our analysis efforts.

19. New Problems

Any changes to the clarity system will affect the design of the self check-in check out system.

The current server where data is stored may not be capable of expanded storage.

20. Tasks

Airport check in system

21. Risks

22. User Documentation and Training

User manual: - to understand the functionality of the system.

Technical Specification: - Details design of the project

Installation Manual: - Steps to install system.

23. Ideas for Solutions