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Executive Summary

Organization Background:

Ayamas is an integrated poultry operators nationwide, specializing in the processing and retailing of chicken for local and export markets. Ayamas was established in 1989. The chain in Seri Iskandar was opened in 2012. The Ayamas store supply Halal chicken meat to KFC, Pizza Hut and Rasamas restaurants across Malaysia and providing Ayamas products at the flagship chain retail outlets, Kedai Ayamas. The products include Chilled Whole Chicken, Minced Chicken Meat products, Frozen Chicken products and Breaded Freezer-to-Fryer products, and shelf stable products. Seri Iskandar Ayamas Store consist of 5 employees which includes 1 staff in managerial department while 4 staff in front-of-house operations.

Project Focus:

We have decided to focus on the marketing operations of Seri Iskandar Ayamas Store. This is because, from our requirements gathering and analysis, we have found that the marketing aspect of the store can be improved by the use of information system such as implementing membership system. We are also planning to propose a better information system for Ayamas Store to increase the efficiency in managing the business.

[1 August 2015]

System Request

Project Name : **Information Systems for Ayamas Store Seri Iskandar**

Project Sponsor:

Name: Noor Hafizee Bin Suardi

Department: Restaurant Management

Organization: Ayamas Food Corporation Sdn Bhd

Phone: 019-3508564 E-mail: consumercare@ayamasfood.com

Business Need:

Ayamas currently uses their own tool which is Ayamas Live DB to maintain information on the sales record, inventory and staff records. However, the tool has several limitations and are unable to meet growing requirements as the customer demands and marketing requirements grow.

This project is aimed at obtaining a system that keeps track and ease the management of the information that Ayamas needs in a structured and organized database and provides the Ayamas employees a user-friendly interface to access the information and generate appropriate reports.

Functionality:

The Ayamas Information System will:

- Maintain information on all sales operation in one integrated system.
- Maintain information on flow of inventory and stock of the store.
- Maintain information on employees Ayamas regarding their tasks and schedule.
- Generate reports for sales growth or marketing activities requirements
- Maintain and track expenses and budget.
- Maintain customer information for marketing purposes

Expected Value:

Tangible:

- As the quality of data on operation and stock counting will improve with the new system, costs such as overtime costs can be reduced. An approximate estimate of this reduction is by 30%.
- Since the new system will generate reports automatically, it is expected that the time to prepare reports for Ayamas Corporate Headquarter will be reduced by 40%

Intangible:

- Improved operations which will result in increased efficiency of employees
- Improved satisfaction for the customer

Special Issues or Constraints:

- The Ayamas Store is bound to approval of Ayamas Corporate Headquarter. Hence there may be changes in different phases of the project.
- Since the project is to be carried out by students, ensuring the continuity of the student team is critical to the success of the project.

Workplan Schedule

Complete and Finalize Work plan (Entire Group)

- Complete July 31, 2015
- ❖ Deliverables: Final work plan

Interview Planning, Conducting, Analysis (Entire Group)

- Complete August 2, 2015
- Deliverables: Interview Report and Analysis

Producing Feasibility Report (Lead: Ku Amirul)

- Complete August 3, 2015
- Deliverables: Feasibility Analysis Report

Producing System Request (Lead: Ku Amirul)

- Complete August 4, 2015
- Deliverables: System Request

Identifying Methodology (Lead: Hamizan)

- Complete August 5, 2015

Creating Gantt Chart (Lead: Afnan)

- Complete August 6, 2015
- Deliverables: Gantt Chart

Identifying Role (Lead: Muhamad)

- Complete August 6, 2015

Producing Requirement Definition Document (Lead: Hamizan)

- Complete August 7, 2015
- Deliverables: Requirement Definition Document

Produce Functional Model (Lead: Amirul Syafiq)

- Complete August 8, 2015
- Deliverables: Activity Diagram, Use Case Diagram & Description

Produce Structural Model (Lead: Amirul Syafiq)

- Complete August 8, 2015
- Deliverables: CRC Card, Class Diagram, Object Diagram

Produce Behavioral Model (Lead: Hamizan)

- Complete August 8, 2015
- Deliverables: Sequence Diagram

Create Data Flow Diagrams (Lead: Muhamad)

- Context Diagram and Diagram 0
- Lower Level Diagrams
  - Complete August 8, 2015

❖ Deliverables: DFD

Review system design (Entire Group)

- Complete August 10, 2015

Final Meeting

- Complete August 11, 2015

Topic/Task	Start	Done	31-07-15	08-01-15	08-02-15	08-03-15	08-04-15	08-05-15	08-06-15	08-07-15	08-08-15	08-09-15
			1	2	3	4	5	6	7	8	9	10
Project planning	1	1										
Interview planning	2	2										
Conducting interview	3	3										
Gathering interview data	3	3										
Interpreting data	4	4										
Producing system request	5	5										
Identifying methodology	6	6										
Creating gantt chart	7	7										
Identifying role	7	7										
Producing requirement definition document	8	8										
Creating functional model	9	9										
Creating structural model	9	9										
Creating behavioral model	9	9										
Creating data flow diagram	9	9										
Reviewing requirement	10	10										
Revising workplan	10	10										

Role of Team Members

Team Member	Role	Description of Responsibilities
Ku Amirul Asyraf bin Ku Amir	Project Manager	➢ Assigning the resources ➢ Developing and monitoring the project plan ➢ Managing the team analyst, programmers and other specialist
Muhammad Hamizan Shafiq bin Hariri	Business Analyst	➢ Identify how the system will provide business value ➢ Designing new business processes and policies ➢ Analysing the key business aspects of the system
Afnan bin Amirruddin	System Analyst	➢ Identify how technology can improve business process ➢ Designing the new business processes ➢ Designing the information system (IS) ➢ Ensuring the system is match and conforms with the information systems standards ➢ Convert the business process into physical and logical design
		➢ Making the questionnaires ➢ Distribute the questionnaires

Muhammad Amirul Syafiq bin Khairuddin	Human Resource	➢ Gathering data and information from respondent ➢ Arranging the data and information in order
Muhamad Amirul Asyraf bin Rahmat	Logistic	➢ Booking rooms and facilities for the project members usage ➢ Managing the vehicle route and transportation cost ➢ Locating the respondent ➢ Conducting the compilation and binding of the last document for the project

Feasibility Analysis

Technical Feasibility:

The technology

There is already a current system in place but we intend to upgrade it due to the hardware starting to be outdated. Therefore we aim to fit the system on a new workstation, HP Z800 Workstation consisting 2x XEON Processors 2.93 GHz, 24GB RAM 1TB FX380, Windows 7 Pro

The functional area

- Compatibility:
    - During analysis phase, we have discovered that the as-is system are compatible with the update that will be implemented. Therefore we believe that integration of the two systems will able to run successfully.

- Familiarity with Application
    - Our system mainly revolves around upgrading and updating the current system. The current system is known as Ayamas LIVE IS. We do have experience in using this sort of application since some of our past project covers the same field of business. We also plan to use the MS Visual Basic to design and implement the interface for the system to be more user friendly.

- Project Size
    - This project will be focusing on the Ayamas Store in Seri Iskandar. We aim to develop a system that can assist the store in doing business activities efficiently.

- Familiarity with Technology
    - The analyst responsible in this project are experienced and familiar with the technology that will be used and the portion of the business.

Economic Feasibility:

Development Costs

- Personnel:

2	System Analysts (400 hours/ea RM120/hr)	RM 96,000
4	Programmers/Analysts (250 hours/ea RM 140/hr)	RM 140,000
1	GUI Designer (200 hours/ea RM 120/hr)	RM 24,000
1	System Architect (100 hours/ea RM 160/hr)	RM 16,000
1	Staff Training	RM 1,000

- New Hardware & Software:

1	DBMS Client Software	RM 9,000
1	Client Workstation	RM 4,500

Total Development Costs :	RM 290,500

- Annual Operating Costs :

  Projected Annual Operating Costs:

1	Maintenance Agreement for DBMS Client Software	RM 1,800
1	Maintenance Agreement for Workstation	RM 420
Total Development Costs :		RM 2,220

- Annual Benefits (Cost Savings and Revenues)
  - Decrease in expenses of papers and physical storage medium
  - Avoid the over stock or under stock of the products

- Intangible Costs and Benefits
  - Save employee's time to process order and manage the customer information
  - Make workflow of the store more organized and efficient
  - Easier to manage and maintain the products inventory

Organizational Feasibility:

- Users
- Ayamas Employee
- Ayamas Customer
- Ayamas product Supplier

- User acceptance
- Based on the requirements gathering and analysis, we believe that the user will accept the system as there are flaws in the current system which causes trouble in daily operation which requires them upgrade or obtain a better system.

- Business alignment
- We believe that the system is strategically aligned with the business as it will help to increase customer satisfaction and also increase the employees' efficiency.

Stakeholder analysis

- Organizational management are divided by store management and headquarter management. Headquarter will supervise the store monthly and record the growth of business. To implement this system, the chain store must inform headquarter to receive their approval before proceeding to implementation.
- The system users will be Ayamas employees which include staff and manager. The employees may require training due to having no IT background as it is not in the job policy.

Requirements Definition Document

1. Introduction

- This document will give an overview regarding the description of, functional and non-functional requirements of the AYAMAS Information System.

1.1. Purpose/Scope

- Product Name : AYAMAS Information System
- This product will become the main application of the store which integrates sales, staff management and inventory management.
- Currently, AYAMAS has an automatic ordering system for the selling of their products, however the current system needs to be upgraded due to performance issues. With the installation and use of their database it was decided that for the best interest of the store, a new system would benefit the business process.
- The information system will allow the store employees to key in order and perform transaction with customer. Users of the system may also at any time view their sales record and manage their inventory. User Id's and Admin Id's will be supplied through the AYAMAS DB. Super Users and Administrators will have the rights to change any records and manage staff information under any user ID.

2. General Description

2.1. Product perspective

- This is an independent product, however it needs to integrate with AYAMAS LIVE DB to access the databases.
- The product will be used by user in a touchscreen interface where the icons of the functions will be displayed.
- The hardware that will be used is HP Z800 Workstation consisting 2x XEON Processors 2.93 GHz, 24GB RAM 1TB FX380, Windows 7 Pro

2.2. Methodology

- For this product we chose Prototyping method as the life cycle model to implement the new system for Ayamas Store in Seri Iskandar. One of the reasons is that this method can be shown to the users clearly as they can be actively involved in the development.

In other words, users can understand the new system that is being develop from the beginning to the end.

- Secondly, errors can be detected much earlier during developing the system and this is an opportunity for Ayamas Store to see whether implementing new system like membership will either increase their efficiency or not in term of marketing. Thus, it reduces risk of failure. Another reason is that we can acquire their feedback quicker as they are involved during the development and as a result, it can lead to better solution in solving the problem. Since risk of failure are reduced, this method can reduce the cost of developing the new system considering their budget.

2.3. Users of the product

- Staff - Cashier
    - Zero experience required, Minimum of SPM level, basic or low technical expertise.
- Manager
    - Minimum of 3 years in AYAMAS industry, Minimum of Degree, Low or moderate technical expertise.

2.4. General Constraints

- System requires password protection and swiping of manager's card as authorization
- System are vulnerable to power shortages due to store not having backup power generator

Requirements Specifications

1. Functional requirements

Regulatory Requirements	• **All foods in store must be Halal made** • **All raw ingredients must be inspected before being stored** • **All staff must at least have a SPM certificate**
Reporting Requirements	• **Must use Ayamas LIVE DB**
Authorization Level	• **Only front-of-house staffs and cashers can use the system**
Business Rules	• **Open 9:00am** • **Close 10:00pm** • **Must clean the store before close**

2. Non-functional requirements

Security	• Must at least has one CCTV camera • Must at least has one smoke detector
Environmental	• Place should be no smoking area • Air conditioning must work • Must provide chairs, tables, plates, spoons and forks to eat • Must has at least one washroom
Serviceability	• Delivery service should not be late more than 30 minutes after order made • Foods portion should be the same as the one displayed on menu
Maintainability	• Maintenance done by private contactor appointed by AYAMAS

3.1. External interface requirements

3.1.1. User interfaces

- The product will have user friendly screen layout, direct function keys and also help functions

3.1.2. Hardware interfaces

- The hardware components consist of a workstation, monitor and card reader

3.1.3. Software interfaces

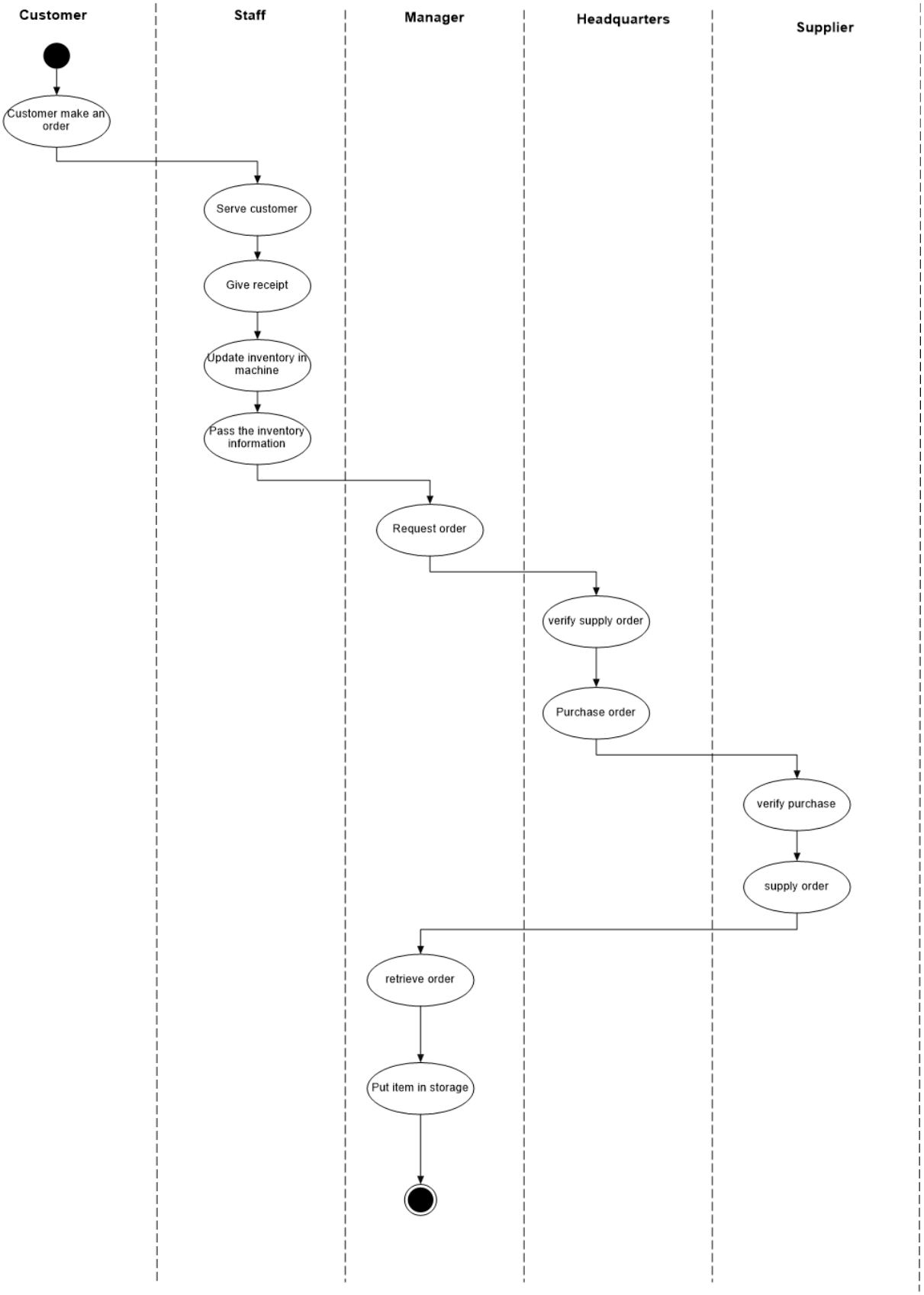
- The software needed is Windows 7 Pro which is known for its stability. Other software required are card reader and display driver for the monitor.

3.2. Performance requirements

- The number of terminals to be connected is 1 and the number of users to be handled concurrently is 1. The most frequent functions that will be called for is most likely to be the sales function. Therefore the system's reaction should be able to handle at least 100 transactions in a day.

FUNCTIONAL MODEL

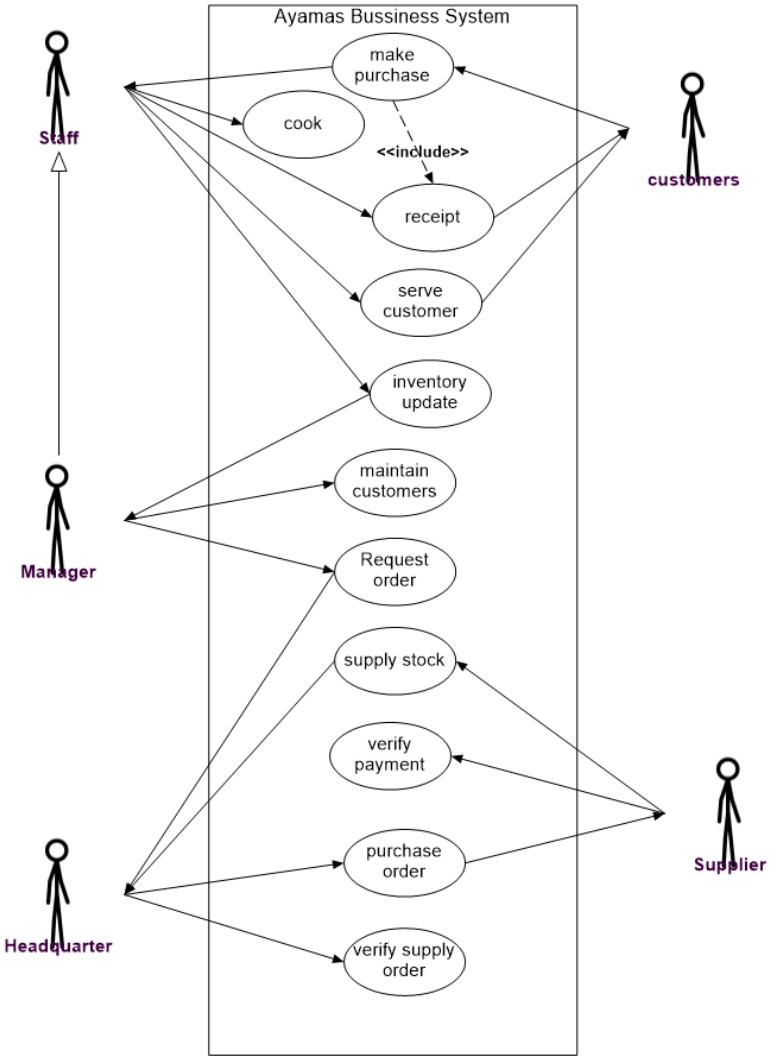
7.1. Activity Diagram



7.2. Use Case Description

Firstly, customers will order foods and beverages from the counter and the staffs will immediately serve what have been ordered by customer. The staffs then prints out the receipt to the customer. The staff will key in or scan the foods and beverages barcode in a machine and it will automatically update the current item that left in inventory. The manager will easily keep track to the inventory and it will help him to request for supply from headquarter. After that, headquarter will verify the supply order and headquarter will request order to suppliers to refill the stock for every branch of Ayamas. Headquarter must paid to suppliers and suppliers will verify the payment. Finally, the item will be supplied to each branch of Ayamas.

7.3. Use Case Diagram



STRUCTURAL MODEL

8.1. CRC cards

Customer	**Collaborators**
Responsibilities • Make purchase	• Staff

Staff	**Collaborators**
Responsibilities • Serve customer • Scan the purchased item	• Customer • Order

Manager	**Collaborators**
Responsibilities • Supervise Staff • Request order for supply • Manage restaurant	• Staff • Headquarter • Restaurant

Headquarter	**Collaborators**
Responsibilities • Verify the supply order • Purchase order	• Supplier • Manager

Supplier	**Collaborators**
Responsibilities • Verify order payment • Supply item	• Manager

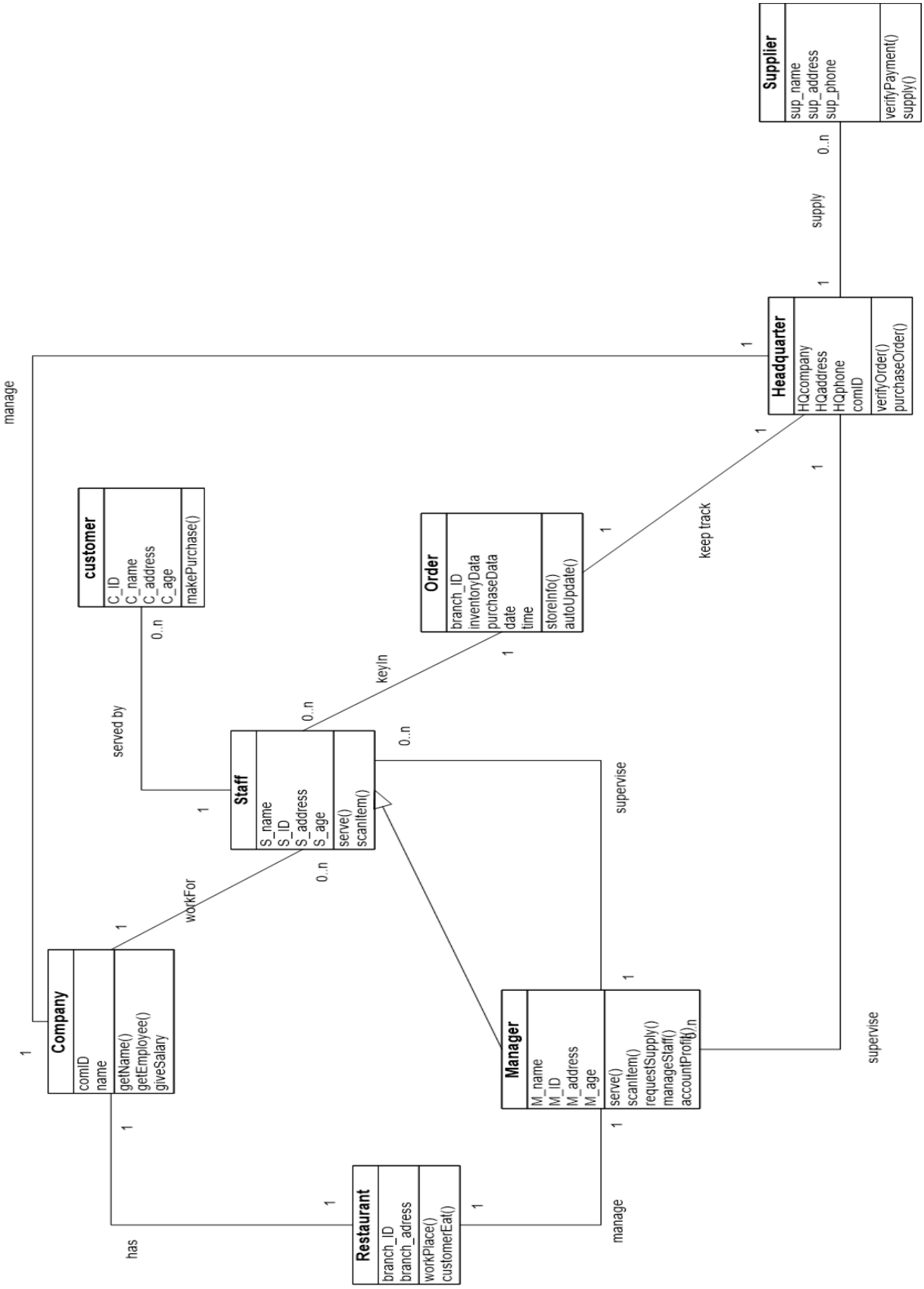
Order	**Collaborators**
Responsibilities	• Staff

• Store the inventory information • Update the inventory for Headquarter	• Headquarter

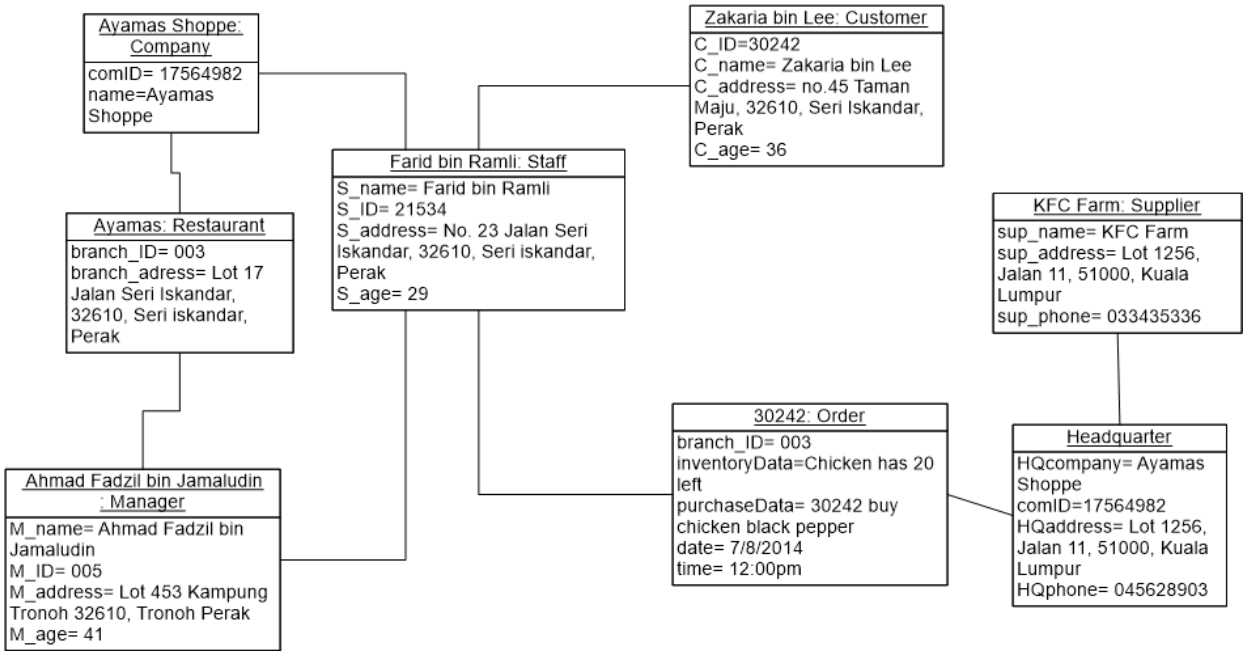
Restaurant	**Collaborators**
Responsibilities • Serve the place for customer to eat • Workplace for staff and manager	• Manager • Company

Company	**Collaborators**
Responsibilities • Get employee • Get a name for company • Give salary	• Staff • Restaurant

8.2. Class Diagram



8.3. Object Diagram



BEHAVIORAL MODEL

9.1 Sequence Diagram