****

**Object Oriented Analysis and Design (SS ZG514)**

**Assignment – Phase 1**

Description of the application

Submitted By:

Nilesh D. Ghodekar (2018ht12544)

Set2\_Group28

**Software Description**

Selected software is "Gas Agency Management System". This software is specially design to fulfill the requirements of Gas Agency. This software is user-friendly for Admin

**Proposed System**

* The customer, employee and supplier details are maintained in the system very well
* There are definite formats and forms to make data entry
* Much kind of reports can be generated through the software
* Admin can check the customer information very easily. Searching of data will be quicker process
* Bill can be generated automatically through system
* This enables Admin to check their regular customer quickly which could help to boost up their business
* System will be user-oriented and will be flexible with future expansion capabilities

Software provides end to end solution for managing customers, employees, suppliers, sales and Purchase orders

Customer

**Use Case Diagram**

Gag Agency Management

Customer

<<actor>>

UID system

Admin

supplier

Super Admin

DeliveryMan

<<actor>>

Card

Authorization

Service

<<actor>>

Accounting

System

<<include>>

<<include>>

Handle cash

Payment

Handle card

Payment

<<actor>>

Tax

Calculator

**Use Case UC1: Manage Customer**

**Scope:** Gas Agency Management Systems

**Level:** user Goal

**Primary Actor:** Admin

**Stakeholders and Interests:**

* Admin: Wants accurate user details, fast entry and no user management error
* Customer: Wants his/her details added accurately, easily update details, wants correct customer ID
* Company: Want to accurately keep data records, get reports of individual/all customers
* Super admin: Wants to able to quickly perform override operations, and easily debug admin problem

**Preconditions:** Admin is verified user and logged into the system

**Success Guarantee (or PostConditions):** Customer details are added/updated. Customer can book sale request. Super admin able to see details of the customer.

**Main Success Scenario (or Basic Flow):**

1. Customer arrives at gas agency to add/update details.
2. Admin checks whether customer is existing user is not.
3. Admin adds details of customer if customer is new or update details in case of existing customer.
4. Customer details should be added/updated accurately.
5. System logs complete record if customer.
6. System generates customerID.
7. Customer leaves with customerID for further use.

**Extensions (or Alternate Flows):**

2a.Invalid user details

1. Admin asks customer to provide valid details
2. Admin re-enter details.

6a. System faces issue while generating customerID

1. Admin approaches to super admin for error signal.
2. Super admin identifies the issue and generates the customerID.

\*a. At any time system fails

1. Admin restarts the system ,log in and requests the recovery of prior state
2. System reconstructs the prior state  
      2a. Admin starts entering customer details again

\*b. At any time Super Admin requests an override operation

1. System enters super admin authorized mode

2. Admin or super admin performs super admin-mode operation e.g. generate Sales report, generate delivery report

**Special Requirements:**

* Provide reports to download in pdf, excel and word
* Provide multi-language support for data entry

**Technology and Data Variations List:**

7a. CustomerID currently given on paper or orally. But Within 3 months, we predict that many customers will want it as SMS/mail

**Frequency:** Could be nearly continuous.

**Open Issues:**

* Can customer directly make entries of his/her details
* Explore remote server connectivity loss issue

**Use Case UC2: Manage Sales order**

**Scope:** Gas Agency Management System

**Level:** user goal

**Primary Actor:** Admin

**Stakeholders and Interests:**

**-Admin:** wants to ensure all the details of customer's sales orders. Wants to check if difference between customer's last delivery date and current (today's) date is greater than 15.Wants to check if order is valid.

**-Customer:** Wants to purchase the cylinder. Wants the bill after cylinder delivery

**Precondition:** Admin is verified user of the system

**Success Guarantee (or post conditions):** Sales is saved and delivery order, Receipt is generated

**Main Success Scenario (or Basic Flow):**

1. When a customer comes for placing an order

2. Admin verifies the customer details

3. Admin checks whether the difference between customer's last delivery date and current (today's) date is greater than 15

4. Admin creates new sales order for the customer if the above condition gets satisfied

5. Admin provides the gas cylinder delivery date

6. Delivery man handles the delivery and handover the cylinder bill

**Extensions (or alternative flows):**

3a. System unable to find difference between customer's last delivery date and current (today's) date

1. Admin manually calculates date difference and if its greater than 15 ,then admin places the order
2. System generates the receipt

6a. Agency fails to deliver the cylinder due to lack of stock

1. System generates the new delivery date
2. Admin confirms the same to the customer

\*a. At any time system fails

1. Admin restarts the system ,log in and requests the recovery of prior state
2. System reconstructs the prior state

2a. Admin starts new sale

\*b. At any time Super Admin requests an override operation

1. System enters super admin authorized mode
2. Admin or super admin performs super admin-mode operation e.g. generate Sales report, generate delivery report

**Special Requirements:**

* Provide reports to download in pdf, excel and word

**Technology and Data Variations List:**

7a. delivery date and receipt currently given on paper . But Within 3 months, we predict that many customers will want it as SMS/mail

**Frequency:** Could be nearly continuous.

**Open Issues:**

* Handle frequent changes in fuel price
* Handle failures any case of subsidy transaction
* Explore remote server connectivity loss issue

**Domain Model Diagram**

Sales Order

SOId

CustId

NoOfCyl

DelDate

SODate

Admin

Purchase Order

PurId

SupId

PurDate

Quantity

TotalAmt

PaidAmt

Bal

Password

UserNm

**1…\***

**1**

**1**

**1**

**1**

**1**

**1**

**1**

**1…\***

**1…\***

**1…\***

**1…\***

**1**

**0…\*1**

Supplier

sup\_nm

supId

sup\_add

Employee

EmpId

EmpNm

EmpAdd

Empsal

Customer

CustId

CustFnm

CustAdd

CustLnm

CustContact

NoOfCyl

Cylinder Delivery

DelId

CustId

CustFnm

CustLnm

NoOfCyl

DelDate

CustAdd

**System Sequence Diagram**

1. **Manage Customer Subsystem:-**

# Customer

# Admin

:CustomerDetails

Update Customer Details(CustFnm,CustId)

details(CustFnm,CustId)

Create new Customer Record(CustFnm,Cust  
Add)

recordConfirmation(CustFnm,CustId)

Updated custDetails(CustFnm,CustId)

update confirmation (CustFnm,CustId)

[New Customer] addCustomer(CustFnm,CustAdd)

[Existing Customer]

status:=check status custDetails(CustFnm,CustAdd)

customerDetails(CustFnm,CustId)

**2. Manage Sales Order Subsystem:-**

# Customer

# Admin

:OrderDetails

Create new Order Record(SOrderDetails)

orderConfirmation(SOrderDetails,SOId)

[New Order]

addOrder(SOrderDetails)

[Existing Order]

status:=check status Order Details(SOrderDetails)

OrderDetails(SOrderDetails,SOId)

**Interaction Diagram**

**1. Customer Management Subsystem:-**

# Customer

# Admin

:CustomerDetails

6:Update Customer Details(CustFnm,CustId)

details(CustFnm,CustId)

1:Create new Customer Record(CustFnm,Cust  
Add)

5:recordConfirmation(CustFnm,CustId)

7:Updated custDetails(CustFnm,CustId)

8:update confirmation (CustFnm,CustId)

[New Customer] 2:addCustomer(CustFnm,CustAdd)

[Existing Customer]

status:=check status 3:custDetails(CustFnm,CustAdd)

4:customerDetails(CustFnm,CustId)

**2] Sales Order Management Subsystem:-**

# Customer

# Admin

:OrderDetails

1:Create new Order Record(SOrderDetails)

5:orderConfirmation(SOrderDetails,SOId)

[New Order]

2:addOrder(SOrderDetails)

[Existing Order]

status:=check status Order 3:Details(SOrderDetails)

4:OrderDetails(SOrderDetails,SOId)

**Activity Diagram**

**1] Customer Management Subsystem**

Create Customer record

Customer

Exists

Create new customer

Update customer

Get the customer details

Operation

Add customer

Delete

NO

YES

Search customer

**2] Sales order Management Subsystem**

Add order

order

exists?

Create order

NO

YES

details

Search order

NO

YES

operation

Delete

Order Enquiry

Create order

TodayDt >15

DelDt

-