NOUN ANALYSIS DOCUMENTATION
"MARKET YARD MANAGEMENT SYSTEM"

COURSE:
IT 314 : Software Engineering

GROUP: 5.13

Abhin Kakkad	201501419
Manthan Mehta	201501420

1 Table Initial Nouns

Sr. No.	Name	Description
1	bidding	Association
2	buying	Association
3	buying/selling	Association
4	buys	Association
5	referred	Association
6	register	Association
7	transaction	Association
8	bargain	Association
9	amount	Attribute
10	bids	Attribute
11	cess	Attribute
12	commission	Attribute
13	cost	Attribute
14	credit	Attribute
15	delivery	Attribute
16	description	Attribute
17	distances	Attribute
18	features	Attribute
19	fee	Attribute
20	price	Attribute
21	profits	Attribute
22	quality	Attribute
23	quantity	Attribute
24	stock	Attribute
25	storage	Attribute
26	tax	Attribute

27	type	Attribute
28	accounts	Duplicate
29	bidders	Duplicate
30	board/chart	Duplicate
31	buyers	Duplicate
32	commissions	Duplicate
33	commodities	Duplicate
34	commodity	Duplicate
35	consumer	Duplicate
36	consumers	Duplicate
37	costs	Duplicate
38	crops	Duplicate
39	customers	Duplicate
40	deal	Duplicate
41	dealings	Duplicate
42	entities	Duplicate
43	farmers	Duplicate
44	figures	Duplicate
45	goods	Duplicate
46	invoices	Duplicate
47	mandis	Duplicate
48	market	Duplicate
49	marketplace	Duplicate
50	markets	Duplicate
51	notifications	Duplicate
52	parties	Duplicate
53	party	Duplicate
54	prices	Duplicate
55	products	Duplicate

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56	quantities	Duplicate
57	quotes	Duplicate
58	reasons	Duplicate
59	retailers	Duplicate
60	samples	Duplicate
61	selling	Duplicate
62	stages	Duplicate
63	stocks	Duplicate
64	system	Duplicate
65	systems	Duplicate
66	traders	Duplicate
67	transactions	Duplicate
68	transportation	Duplicate
69	vendors	Duplicate
70	wholesalers	Duplicate
71	advantages	General
72	advent	General
73	arrival	General
74	basis	General
75	benefits	General
76	big	General
77	changes	General
78	commerce	General
79	economy	General
80	electricity	General
81	end	General
82	entries	General
83	entry	General
84	farm	General

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85	gate	General
86	home	General
87	impossibility	General
88	income	General
89	incoming	General
90	interface	General
91	internet	General
92	issues	General
93	log	General
94	lot	General
95	medium	General
96	men	General
97	model	General
98	money	General
99	need	General
100	occasions	General
101	order	General
102	part	General
103	person	General
104	place	General
105	presence	General
106	prevent	General
107	process	General
108	produce	General
109	proof	General
110	purchases	General
111	purpose	General
112	reason	General
113	requirement	General

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114	rise	General
115	sale	General
116	space	General
117	stage	General
118	technology	General
119	transparency	General
120	version	General
121	village	General
122	way	General
123	conflicts	General
124	government	Irrelevant
125	management	Irrelevant
126	placement	Irrelevant
127	places	Irrelevant
128	terminals	Irrelevant
129	tweaks	Irrelevant
130	bid	Vague
131	buyer	Vague
132	data	Vague
133	database	Vague
134	entity	Vague
135	everyone	Vague
136	functionalities	Vague
137	intermediaries	Vague
138	intermediary	Vague
139	product	Vague
140	report	Vague
141	sample	Vague
142	terms	Vague

143	user	Vague
144	vendor	Potential Class
145	account	Potential Class
146	crop	Potential Class
147	crop/goods	Potential Class
148	customer	Potential Class
149	farmer	Potential Class
150	graphs	Potential Class
151	inventory	Potential Class
152	invoice	Potential Class
153	Mandi admin	Potential Class
154	portal	Potential Class
155	receipt	Potential Class
156	retailer	Potential Class
157	seller	Potential Class
158	trader	Potential Class
159	trends	Potential Class
160	warehouses	Potential Class
161	website	Potential Class
162	wholesaler	Potential Class

2 Table Noun Analysis

Sr. No.	Name	Accepted/Rejected	Reason
1	vendor	No	Classified into wholesaler and retailer
2	account	Yes	Class
3	crop	No	Is a specialization of the term goods
4	goods	Yes	Class
5	customer	Yes	Class
6	farmer	Yes	Class
7	graphs	Yes	Class
8	inventory	No	Is an attribute of the warehouse
9	invoice	No	Similar to Receipt
10	mandi admin	Yes	Class
11	portal	Yes	Class
12	receipt	Yes	Class
13	retailer	Yes	Class
14	seller	No	Generalization class
15	trader	No	Generalization class
16	trends	No	Specialization of a graph
17	warehouses	Yes	Class
18	website	No	Duplication of portal
19	wholesaler	Yes	Class
20	bidding	No	Association
21	buying	No	Association
22	buying/selling	No	Association
23	buys	No	Association
24	referred	No	Association
25	register	No	Association
26	transaction	No	Association
27	amount	No	Attribute

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28	bargain	No	Association
29	bids	No	Attribute
30	cess	No	Attribute
31	commission	No	Attribute
32	cost	No	Attribute
33	credit	No	Attribute
34	delivery	No	Attribute
35	description	No	Attribute
36	distances	No	Attribute
37	features	No	Attribute
38	fee	No	Attribute
39	price	No	Attribute
40	profits	No	Attribute
41	quality	No	Attribute
42	quantity	No	Attribute
43	stock	No	Attribute
44	storage	No	Attribute
45	tax	No	Attribute
46	type	No	Attribute

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3 List Final Class

Sr. No.	Names	Reasons	Attributes
1	account	This class would contain the account details of all the entities associated with the Mandi. This would help in managing the financial aspect of all entities.	ID, Date, Transaction_ID, Amount Received, Amount to be paid, Balance, Type
2	goods	This class contains details about the commodities coming in and going out of the Mandi.	Quantity, Price, Goods_ID, Owner_ID
3	customer	This class consists of the details of the customer. It contains the functionalities which are required by the customer class.	Customer_ID, Name, Phone Number, Email ID, Delivery Address, Bank Details
4	farmer	This class consists of the details of the farmer. It contains the functionalities which are required by the farmer class.	Farmer_ID, Name, Phone Number, Email ID, Bank Details
5	graphs	This class notifies farmer, retailer or wholesaler regarding price fluctuations. It has the details about the price graph of the commodity.	Goods_ID, Price, Date
6	mandi admin	This class consists of the credentials of the mandi supervisor. It contains the functionalities which are required by the admin.	Admin_ID, Name, Phone Number, Email ID
7	portal	This class consists the system which would have various utilities and would be working on the backend side.	
8	receipt	This contains details about the transaction that would happen between any two entities. It would act as a proof of completion of the transaction between the two.	Transaction_ID, Entity_ID, Quantity, Price, Tax, Total
9	retailer	This class consists of the details of	Retailer_ID, Name, Phone

		the retailer. It contains the functionalities which are required by the retailer class.	Number, Email ID, Bank Details
10	warehouses	This class contains details about the warehouse or Mandi. It will tell us about the physical aspects of the Mandi.	Warehouse_ID, Admin_ID, Space, Goods present
11	wholesaler	This class consists of the details of the wholesaler. It contains the functionalities which are required by the wholesaler class.	Wholesaler_ID, Name, Phone Number, Email ID, Bank Details

4 Attribute List

Account Class	
ID	This reflects the entity to whom a particular account would belong to
Date	The date of any given transaction
Transaction_ID	A unique ID assigned to every transaction (This would be taken from the receipt class)
Amount Received	The money received by an entity for a particular transaction
Amount to be paid	The money to be paid by the entity for a particular transaction
Balance	The current amount of money in the account of that particular person
Type	Transaction made by cash, card, cheque, etc.

Goods Class	
Quantity	The amount of goods in by any entity to the Mandi
Price	The price per kg for a particular commodity
Goods_ID	Each commodity lot that come to the Mandi would have its own unique identifier
Owner_ID	The ID of the person who owns that batch of goods

Customer Class	
Customer_ID	Unique ID for each customer
Name	Name of the customer
Phone Number	Phone Number of the customer
Email ID	Email ID of the customer
Delivery Address	Address of the customer (Can have multiple fields)
Bank Details	Bank details of the customer for easy transactions

Farmer Class	
Farmer_ID	Unique ID for each farmer
Name	Name of the farmer
Phone Number	Phone Number of the farmer
Email ID	Email ID of the farmer
Bank Details	Bank details of the farmer for easy transactions

Graph Class	
Goods_ID	To identify for which goods we are generating the graph
Price	The price of the underlying quantity
Date	The date for which we are calculating the price

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Mandi Admin Class	
Admin_ID	Unique ID for each admin
Name	Name of the admin
Phone Number	Phone Number of the admin
Email ID	Email ID of the admin

Receipt Class	
Transaction_ID	Unique ID for each transaction that takes place between any two entities
Entity_ID	The IDs of the interacting entities for the particular transaction
Quantity	The quantity which was bought/sold during the transaction
Price	Price (per kg) of the quantity being bought/sold
Tax	Tax calculation depending on the transaction amount
Total	Total amount for the transaction

Retailer Class	
Retailer_ID	Unique ID for each retailer
Name	Name of the retailer
Phone Number	Phone Number of the retailer
Email ID	Email ID of the retailer
Bank Details	Bank details of the retailer for easy transactions

Warehouse Class	
Warehouse_ID	Unique ID for each warehouse
Admin_ID	ID of the admin who handles the warehouse
Space	Total space available in the Mandi
Goods present	Amount of goods present in the warehouse

Wholesaler Class	
Wholesaler_ID	Unique ID for each wholesaler
Name	Name of the wholesaler
Phone Number	Phone Number of the wholesaler
Email ID	Email ID of the wholesaler
Bank Details	Bank details of the wholesaler for easy transactions

5 Methods List

Account Class	
update_account()	Once the transaction is over, the account details of both the entities needs to be updated

Customer Class	
buy_goods()	Customer would be buying goods when he visits the Mandi physically or the Mandi portal
pay()	Payment of the goods when the customer checks out the goods from the Mandi
bargain()	If the customer isn't satisfied by the price s/he would bargain for the goods

Farmer Class	
sell_goods()	The farmer would bring his goods to the Mandi for selling

Graph Class	
generate_graph()	When the data for different commodities is given to this class, it would generate a graph of price fluctuations for that particular quantity
notify_entities()	Once the graph is generated it would notify all the users of the portals by posting it on their dashboards

Mandi Admin Class	
enter_goods()	When new goods come, the Mandi admin will have to enter them in the system
remove_user()	The admin has the rights to remove any user from the Mandi

Receipt Class	
calculate_tax()	After the transaction, the receipt class would have to calculate the tax according to the amount of goods purchased
calculate_total()	After the transaction, the receipt class would have to calculate the total

Retailer Class	
buy_goods()	Retailer would be buying goods from the farmer or wholesaler when he visits the Mandi physically or the Mandi portal
sell_goods()	Payment of the goods when the retailer checks out the goods from the Mandi
bargain()	If the customer isn't satisfied by the price the retailer would have to bargain for his goods

Warehouse Class	
calculate_space()	The warehouse needs to have an updated information about how much more commodities and in which quantity it can handle

Wholesaler Class	
sell_goods()	Wholesaler would be buying goods from the farmer when he visits the Mandi physically or the Mandi portal
buy_goods()	Payment of the goods when the wholesaler checks out the goods from the Mandi
bargain()	If the customer isn't satisfied by the price the wholesaler would have to bargain for his goods

Portal Class	
authenticate()	When the user logs in, the backend system would authenticate that the user belongs to the system
generate_receipt()	When the transaction is completed then the portal class would generate receipt for the transaction after taking the details from both entities
take_payment()	Once the buyer checks out, the user has to be directed to the payment portal

6 Final Classes

Sr. No.	Name	Attributes	Methods
1	Account	ID, Date, Transaction_ID, Amount Received, Amount to be paid, Balance, Type	update_account()
2	Goods	Quantity, Price, Goods_ID, Owner_ID	
3	Customer	Customer_ID, Name, Phone Number, Email ID, Delivery Address, Bank Details	buy_goods(), bargain()
4	Farmer	Farmer_ID, Name, Phone Number, Email ID, Bank Details	sell_goods()
5	Graphs	Goods_ID, Price, Date	
6	Mandi Admin	Admin_ID, Name, Phone Number, Email ID	
7	Portal		authenticate(), generate_receipt(), take_payment()
8	Receipt	Transaction_ID, Entity_ID, Quantity, Price, Tax, Total	calculate_tax() calculate_total()
9	Retailer	Retailer_ID, Name, Phone Number, Email ID, Bank Details	buy_goods(), sell_goods(), bargain()
10	Warehouses	Warehouse_ID,	calculate_space()

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		Admin_ID, Space, Goods present	
11	Wholesaler	Wholesaler_ID, Name, Phone Number, Email ID, Bank Details	buy_goods(), sell_goods(), bargain()

7 Class Diagram

Account
+ID: Number
+Date: Date/Time
+Transaction_ID: Number
+Amount_Received: Double
+Amount_tobePaid: Double
+Balance: Double
+Type: String
+update_account(): void

Customer
+Customer_ID: Number
+Name: String
+PhoneNumber : Number
+Email_ID: String
+DeliveryAddress: String/Text
+BankDetails: Number
+buy_goods(): double
+pay(): void
+bargain(): double

Wholesaler
+ID: Number
+Name: String
+Phone Number: Number
+Email_Id: String
+BankDetails: Number
+sell_goods(): Double
+buy_goods(): Double
+bargain(): Double

Receipt
+Transaction_ID: Number
+Entity_ID: Number
+Quantity: Integer
+Price: Double
+Tax: Double
+Total: Double
+calculate_tax(): Double
+calculate_total(): Double

Retailer
+Retailer_ID: Number
+Name: String
+PhoneNumber: Number
+Email_ID: String
+BankDetails: Number
+buy_goods(): Double
+sell_goods(): Double
+bargain(): Double

Farmer
+Farmer_ID: Number
+Name: String
+PhoneNumber: Number
+Email_ID: String
+BankDetails: Number
+sell_goods(): double

portal
+authenticate(): void
+generate_receipt(): void
+take_payment(): void

Goods
+Quantity: Integer
+Price: Double
+Goods_ID: Number
+Owner_Id: Number

Mandi Admin
+Admin_ID: Number
+Name: String
+PhoneNumber: Number
+Email_ID: String
+enter_goods(): void
+remove_user(): void

Warehouse
+Warehouse_ID: Number
+Admin_ID: Number
+Space: Integer
+Goods_Present: Number
+calculate_space(): Integer

Graph
+Goods_ID: Number
+Price: Double
+Date: Date/Time
+generate_graph(): void
+notify_entities(): void

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