Date :....

No:

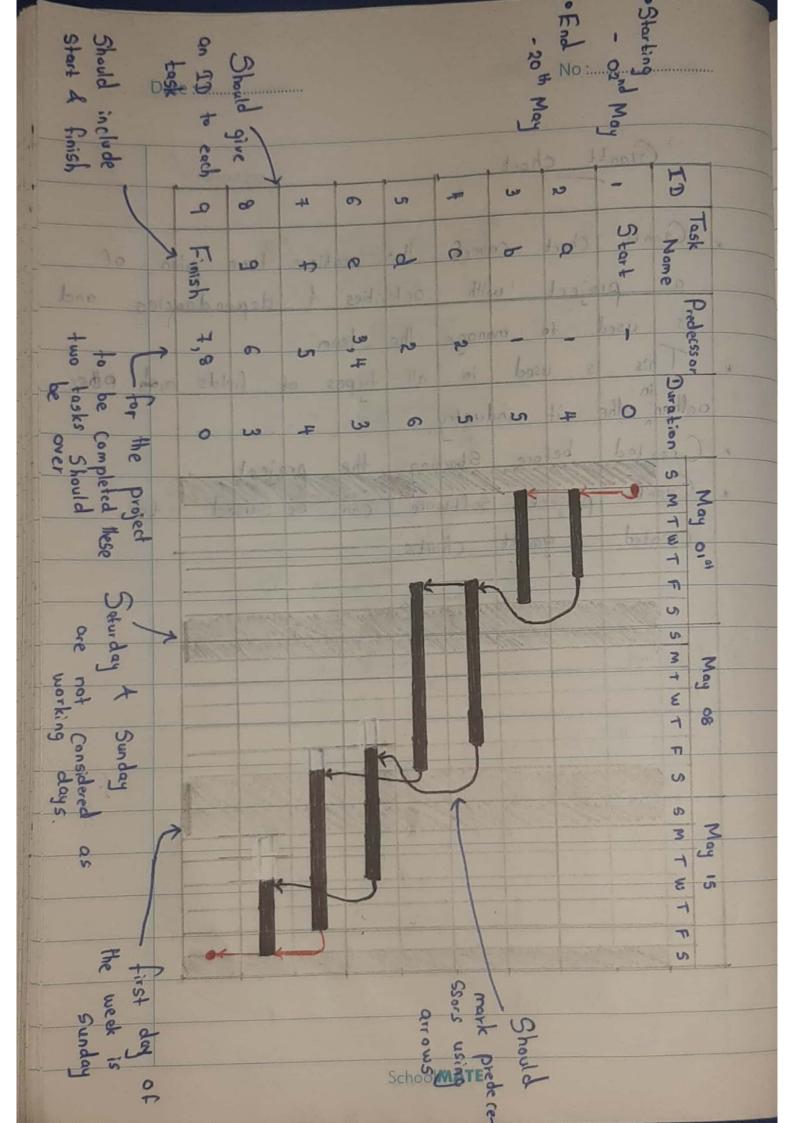
Grantt Chart

" Geant Chart covers the entire time plan of a project with activities A dependancies and is used to manage the team. * This is used in all types of fields and note only in the it industry * Created before Starting the project. * Grante projects software can be used Creater gantt Charts.

Exercise 1

- Create a Gantt chart for the project including activities in the below table.
 - The project will be started on Monday (02nd May).
 - The first day of a week in the Gantt Chart should be Sunday.
 - Saturday and Sunday should be considered as holidays.

Activity	Predecessor	Expected time(Days)
а	_	4
b	_	5
C	а	5
d	а	6
е	b, c	3
f	d	4
g	е	3



Date :
Requirement determination
of the System
of the system
To perform a Comprehensive analysis three main
things need to be done.
1) Collecting data
Analyzing the data
3) Coming up with initial design for product
+ End deliverable of analysis phase is the
System proposal.
and of emilian blood
Three main requirement types
1 = survivado de 2 montes Etranonites la
Business requirements
1 block of the state of the sta
2) Oser requirements
3) System requirements of the
Functional requirements - x3
- Non-functional requirements
al of biowered & smoones pensind .
1) Business requirements
These are the requirements that cover
and are expectations
of soft settle centired business.
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Date :....

	ex Increasing profit
	Increasing Customer Bust
	soft sieglone averstagned on moling of a
2)	1) Sor recul-aments
-)	* These are the expectations of each
	individual user of the System
	ex. An user expects to be able to
	login to the system.
	. An user expects the permission
	to add new items to the System.
	enget to memory more soul ?
3)	1 Continued of hondriver of the
2	* These requirements are the way to
	facilitate user regularements and should
	co-relate with each other
	ex Login to the System (user requirement)
	ednam was find and roll
	. Entering username & password to login.
	(functional requirement)
Can be	data needs or
expecteto	- Sala de la companya

Date :.....

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ii Non-functional requirements m These are the Charcteristics of the system to don't amount ! ex - . images used Colors used font types used speed of the system Security of the System etc.

A system requirement is hows the system is going to meet the expectations of its user.

Exercise

Requirements for Proposed System:

The system should...

- Serve the web users.
- include the company logo and color scheme.
- connect all the branches.
- include actual and budgeted cost information.
- provide management reports.
- have 2-second maximum response time for predefined queries and 10-minute maximum response time for ad hoc queries.
- display information from all company subsidiaries.
- print subsidiary reports in the primary language of the subsidiary.
- provide monthly rankings of salesperson performance.
- include sales information that is updated daily.

- 11. increase market share
- 12. shorten order processing time
- 13. reduce customer service costs
- 14. lower inventory spoilage
- improve responsiveness to customer service requests
- 16. schedule a client appointment
- 17. place a new customer order
- 18. re-order the inventory
- 19. determine available credit of clients
- 20. look up account balances

Categorize these requirements into business, user, functional, and non functional requirements.

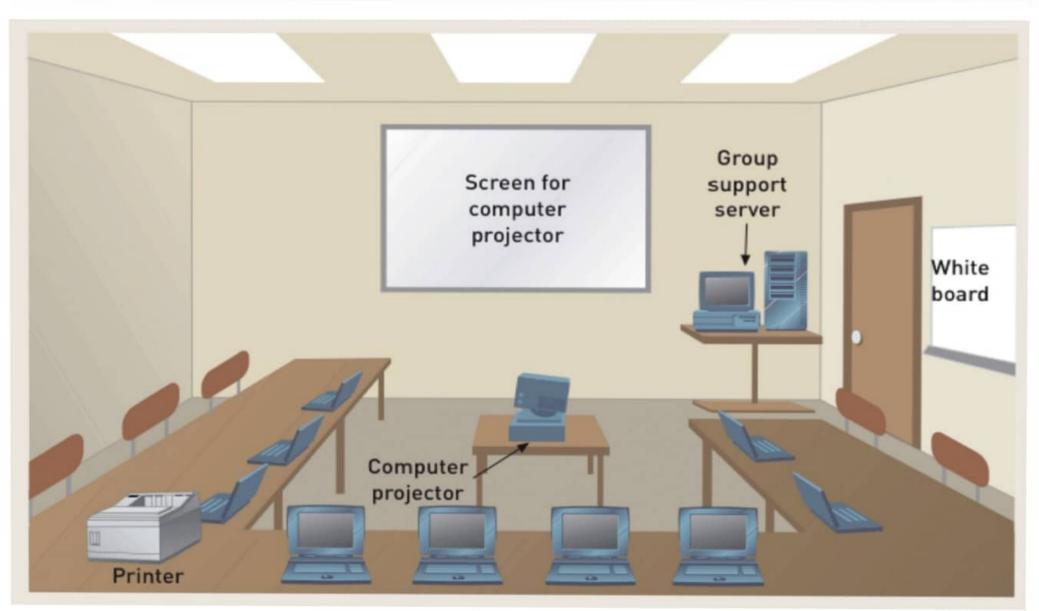
	Excercise erotesup labor soll)
	anotherno bolos and
1	Business requirements
7	- 1,3,13,14,15° 16 17,17 16 17,17
10	Andread for the best of south
2	User requirements
	7,8,9,18,19,20
	etrot stobler ton no) a
3)	Functional requirements
	- 4,5 11 12 bottom nodovices 0 (8
100	wedo & toward physically prish & obser
9)	Non-functional requirements
	- 2,6,10 SchoolMATE
-	

Date :....

	Critic
	Requirement Collection techniques (Elicitation techniques)
	techniques)
1	Interviews method method
d la	Face to face interviews
	Remote interviews
*	Discussion between two parties Will only interview
	one person at a time.
7	Expensive. A time Consuming
	Can ask two types of questions.
	1. Close ended questions
	2. Open ended questions
	Dusiness requirements
2)	Questionnaire method, si
7	* Gives a Set of questionnaire to
	be filled. et manager melle
	a Can reach a large audience.
	a Can not validate facts.
	3) Functional recurrents
3)	Observation method
ئ	Being physically present 4 Observing
	the procedure or broad and a
7 2 2 7 4	SchoolMATE

H) Document review method * Referring existing documents like monthly reports annual reports bill boks etc. + Can not clear doubts 4 time consuming maising of priggam to s JAD method (Joint Application Development) Similar to an interview but with more participants & using a Specialized room. * Two teams one from the client side and another from the IT Company. * Third party will be the JAD facilitator who provides the JAD room. * Can clear doubts easily but will be expensive. entropish cont management lomolar -

JAD facility



Requirement analysis allem dollars dollars on sell domest prices prices sell or Following Lasks are achieved through requirement analysis + stately water for half & 1) Mapping of System 3) Dependencies of requirements the 3) Flow of requirements (behaviour of System * To analyse a System use cases and user Stones are used. Use case and the plan built & - brief description of the requirement using technical terms User Stones - informal description that describes the behaviour of the System. Is used to communicate with the client.

D
Basic use case
Tomp to reduce sounds possed (7)
1) Use case name house
& Brief description (one or two sentences)
3) Actors (people who have acress to the feature)
4) Base flow (the main flow of activity an actor
has to perform in order to achieve
the objective) mathematical
s Alternative flows (extentions)
of Pre- condition (pre-requirements needed to notion
the user case
7) Post - conditions (State reached by the user
after performing the use case)
and and of before
* Example - Login to an online Shapping platform.
Shapping platform
Name a site and reduced sees are A
Login l'entre no modes brages
2) Brief description
. User perform login to access the
user account.
3) Actors
· buyer, SeltepolMATE

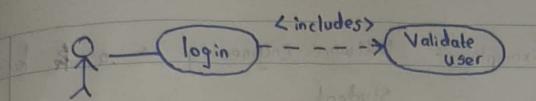
4)	Basic flow
B	a Falerica along number or email
	a talona nassword
	3 Clicking the login button
(4)	Alternate Flows
5)	A C . Cal I account based loois
7	O Google or facebook account based login
DADINOR	2 Password recovery
c)	Pre - Condition Condition Litt
-	. User should be a registered user
matia III.A.	at bloom of the system of mostilinos and is
1)	Post - Codition 1984 ont
	. User should be able to successfully
(2207)	login to the account and should be
	directed to the home page.
mrolt	ely propose solve on the second - styropera plant
*	A use case describes how the system must
	respond when an external factor (user) triggers
	an event.
400	
	favorop 1020
	4.00330 1500
	a) Actors

Date :	**********	No :

	Unified Modeling language (UML)
4	UML is the Standard set of model Constructs
	and notations.
	200 case
	UML diagrams
	Doctor Jed le
	Behavioural Static (Structure)
	Luse - case diagram Class diagram
	V Car day
4	. Different angles and perspectives can be shown
	using UML diagrams.
	Meical Jupes of relationships
	Use case diagram
	gitantson oblin P 6
	A use case diagram Summarize all the
	use cases in one diagram.
*	They describe the events triggered by
	an actor.
**	Use case diagrams can be used to display how
10	the users interact with the System.
NEW!	soft podobilov traditive oldissog of

	Date:
	Symbols used in a use rase diagram
et surter)	Actor" to & harbands off as sold to
Ce	Use case
3)	Association
()	4 suite) state 1 lanuarded 1
	System boundary mapped and seed
	Activity diagram
shown.	
	La Jamorpalb and party file
	Different types of relationships
	Use case chappen
,)	Include relationship
0.89	* Allways occure between two use cases.
	One use case would not be
pd	complete without performing the other
	use case.
and an	get the case chappens can be used to disp
L.	Example - Login to the system would not
	be possible without validating the user.
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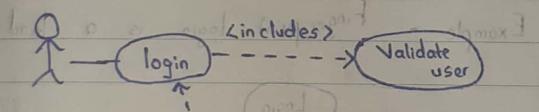


2) Extend relationship

* Certain use cases would not be mandatory to perform the base use

Case.

Example - Reset password use case does



Lextend>

Reset

3) Grenera lization relationship / relation

* Special behaviour between base actor

| use case and other actors |

use cases.

No:....

Exercise

An automated teller machine (ATM) is a banking subsystem that provides bank customers with access to financial transactions. Customer uses bank ATM to Check Balances of his/her bank accounts, Deposit Funds, Withdraw Cash, and Transfer Funds. ATM Technician provides Maintenance and Repairs. All these use cases also involve Bank actor whether it is related to customer transactions or to the ATM servicing.

Maintenance use case specializes by replenishing ATM with cash, ink or printer paper, upgrades of hardware, firmware or software, and remote or on-site Diagnostics. Diagnostics is also included in (shared with) Repair use case.

Customer

Deposit funds

Technician

Repair Lincludes

repleneshing diagnostics) upgrage

Maintenance

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	Date :
	Classes and class diagrams
*	In object oriented programming an object is
	an instance of a class.
*	Classes core categories that objects can be
	categorized into based on there Similarities
	Example - Class car contains Objects:
	audi benz, -bmw testa
1 19	
9 *	Class symbol that was a
	Name bow Class name
	Attributes Properties
	so npostnott
	Methods + Functions
po	depoly sincloders sincloders
Ex:	Student Manage 1
	cr.
	· Name
	. Create new Student
	. Modify existing
	. Delete existing
	SHORASIMATE

D	200	-												
	ы	116-			•	-		 •						
	ш	N 700	 1000	30.0		-	-	-	•	•	-	m	•	•••

No :....

Y	Association Symbol - Adendal 1 100 dans 1				
	· Links two classes together and show				
	their relationship.				
	· Need to show multiplicity.				
	to water to make out one and the				
Ex:	Customer Order Order Item				
	Places O. A Consists				
	Marine Has Garadoles 4				
	Tools risted sit				
	The Manager of the Control of the Co				
	Relationship types				
	releva comoso de de contetet				
	Generalization relationship				
1000	Shows inheritance.				
	* Attributes of the parent Class are inherited				
	by the child classes.				
Ex:	Car				
	nomina) 21011 Indiana Cuardo general class				
	not of mold for soon out no				
	Closes the is an osserious class.				
	I Audi BMW				
Classes					
1153					

1	In. All and and and and and						
2)	Whole port relationship						
(A)	* When a class in a system becomes						
	a part of another class that is						
	a whole port relationship.						
	* There are two types of whole part						
most I.	relationships 12moder						
	Aggregation (If a class can						
	relationship exist seperately without						
	the whole class it is						
	an aggregation)						
	ii) Composition (If the whole class						
	relationship becomes useless without						
	a certain class that						
	sandissia eniste a compostion)						
in heaten	and tools to you to prosent a						
6	Association Class						
	100 1 100 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1						
a	If a class shows everything that's common betw-						
	een two classes and belong to both						
	Classes that is an association class.						
	WARE THE REAL PROPERTY OF THE PARTY OF THE P						

	Date :	Part o	ę.		No:		******
		Part of whole class			Whole class		
Example:	Engine	CAC	Car	pol Ko	28000	9	Owner
		Composition		A	Socio	tion	
Table 1	to wolf	on!	1907	ameronto	4013	1	14 11 1
				maters	500	colice	
	Aggr	regation	\$ 1			1	
	Augto	0 -	I Partie	alization		- tugn D	
			Aud:	BMW		Agreement	
754	Passenger						,
	2	P		Con	plop !	2	Association
	13	30				1	100
	Car be ether						
*	* A car can not exist without an engine.						
*	A passe	nger Con-	Houes!	to exist	wi	thout H	ne Car
	or Ca	ride.		get out		or rid P	*
. 4	A passenger Continues to exist without the Car or car ride. A sqreement class belongs to both car and						
Just just	Aggreement class belongs to both car and owner classes.						
					131	H	
(34	topped stooms of elimbanic out on soult a						6

	Date:
	and work
	Process modeling using DFD
	Companion A secretary
*	Data flow diagrams shows the flow of data
	within our system
	- Antion stock
	Input -> Processing -> Output
	Browned . Lower - shull
	Recieves
Association	(Generating)
9	A dota
38	DI K DB 2 5
	Can be either
	a person or a System
4	There are two types of DFD,
*	de la la contidada de del Ant
kne	2) Physical DFD (also shows physical infrastructure)
	2) I hysical DFD C and Shows physical infrastructure
4	There are two standards to create logical DFD.
	There are two standards to create logical DFD. 1) Grane and Sarson Standard (will use this)
	2) De Macro and Yourdan standard.

Date :	No :
1) Generator	Entity
a) Processor	No. Process no. Name Process name.
3) Database	No. Name

Car Rental System

The system has three processes; Fill Form, Create Invoice, and Apply Payment. Fill Form process receives the requirement from the customer. Then, Fill form process processes the requirement and sends rental details to the shop staff and rental notice to the customer.

The shop staff forwards a completed requirement to Create Invoice process. The process generates the invoice and store it in the Accounts Receivable data store.

The Apply Payment process retrieve Invoice details from the Accounts Receivable data store and generate a bill and send it to the customer. The process also stores payment details in the Accounts Receivable data store.

DOLOUD I Example Context level DFD Vehicle Rental Requirement Rental defails Shop Staff Customer Rental Completed 11.8 System Confirmation

No :.... Date :.... DFD ghial 1 (secretor Level 0 Customer requirement > Shop Staff Customer Rental notice form Completed requirements 2 mold 1.011 Invoice Create Account receivable Poument 1 xotro) Payment details Apply alamol to an a payment Invoice details Realed Rental delate Bill bot stone motapt Input t the output can not be the same. Can not pass data directly between external en HHes. Can not pass data between external entities and databases. SchoolMATE