Web Project

Documentation

NOVEMBER 11, 2023

CAPSTONE PROJECT

Curtin University – Bachelor of Software Engineering

Task No.	Sub Task No.	Task	Assigned to	Start Date	Deadline	Story Points (Weeks)
1		Define project scope and objectives	All	8th August	24th September	8
2		Requirements Elicitation Techniques	All	20th August	4th September	4
3		Work Breakdown Structure	Shenal	22nd October	11th November	3
4		Define Functional Requirements	Uhass	11th November	18th November	1
5		Define Non-Functional Requirements	Pasindu	11th November	18th November	1
6		Form Use Case Descriptions	Anuk	11th November	18th November	1
7		Design Diagrams	All			
	7.1	Use Case Diagrams	Yasith	18th November	25th November	1
	7.2	Sequence Diagram	Shenal	18th November	25th November	1
	7.3	UML Activity Diagram	Yasith	18th November	25th November	1
	7.4	UML State Diagram	Patterson	18th November	25th November	1
	7.5	UML Class Diagram	Uhass	18th November	25th November	1
	7.6	Strategic Dependency Model	Shenal	18th November	25th November	1
	7.7	Strategic Rationale Model	Anuk	18th November	25th November	1
8		Product Backlog	Uhass	25th November	2nd December	1
9		Burn up Charts	Pasindu	25th November	2nd December	1
10		1st Sprint Meeting	All	2nd December	2nd December	1
11		Software Requirements Specification				
	11.1	Introduction	Patterson	2nd December	16th December	1
	11.2	Overall Description	Anuk	2nd December	16th December	1
	11.2.1	Product Perspective				
	11.2.2	Product Features				
	11.2.3	User Classes and Characteristics				
	11.2.4	Operative Environment				

		11.2.5	Design and Implementation Constraints				
		11.2.6	User Documentation				
		11.2.7	Assumptions and Dependencies				
	11.3		System Features	Uhass	2nd December	16th December	1
		11.3.1	Feature 1				
		11.3.2	Feature 2				
		11.3.3	Feature 3				
	11.4		External Interface Requirements	Shenal	2nd December	16th December	1
		11.4.1	User Interfaces				
		11.4.2	Hardware Interfaces				
		11.4.3	Software Interfaces				
		11.4.4	Communication Interfaces				
	11.5		Other Non-Functional Requirements	Pasindu	2nd December	16th December	1
	11.6		Other Requirements	Pasindu	2nd December	16th December	1
12			Wireframes	Kavidu	2nd December	16th December	1

Start Date: 8th August 2023

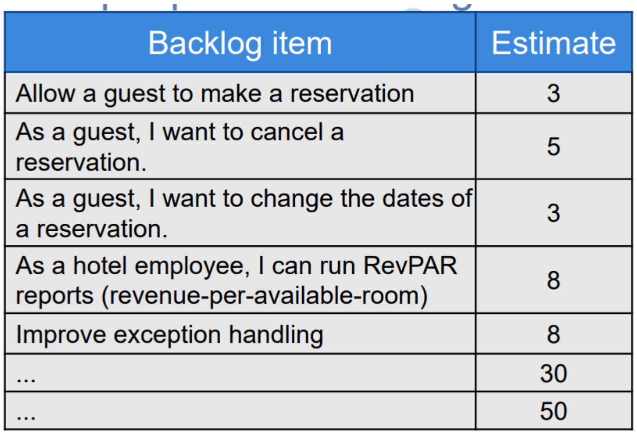
Team Members:

1. Anuk Salgado (Team Leader)
2. Shenal Perera
3. Uhass Jayaweera
4. Pasindu Perera
5. Yasith Dharmasena

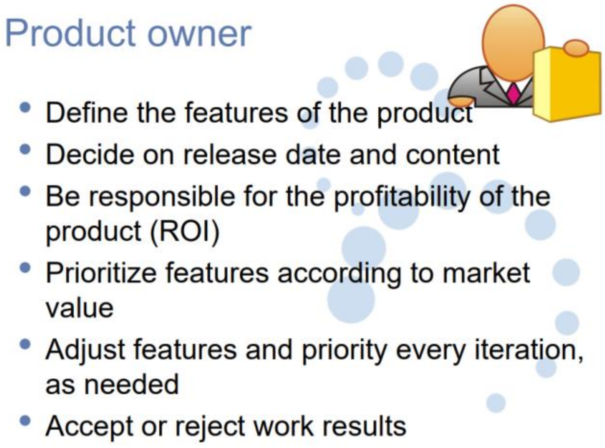
- Each sprint will consist of 1 week.
- There will be 2 scrums instead of the daily scrum in each sprint (week)
    - Tuesday (4pm/9pm)
    - Friday (4pm/9pm)

Product Backlog

- Uhass who will be in charge of preparing the product backlog will be considered as the product owner.



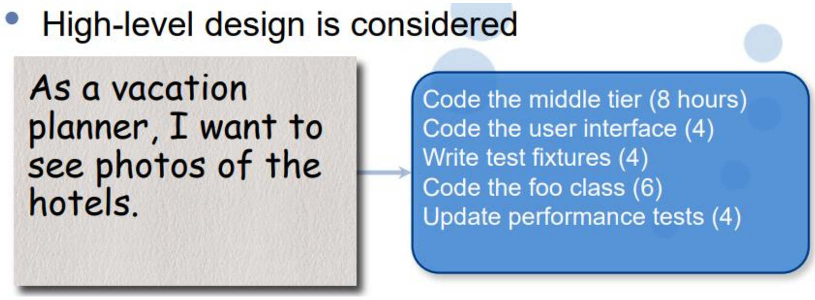
Backlog item	Estimate
Allow a guest to make a reservation	3
As a guest, I want to cancel a reservation.	5
As a guest, I want to change the dates of a reservation.	3
As a hotel employee, I can run RevPAR reports (revenue-per-available-room)	8
Improve exception handling	8
...	30
...	50



Product owner

- Define the features of the product
- Decide on release date and content
- Be responsible for the profitability of the product (ROI)
- Prioritize features according to market value
- Adjust features and priority every iteration, as needed
- Accept or reject work results

Sprint Backlog

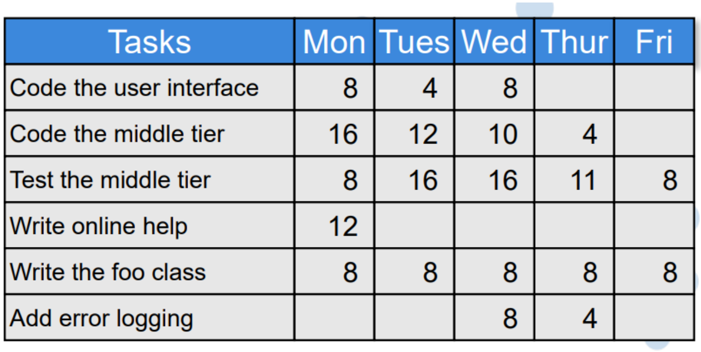
- At the beginning of each sprint the product owner will specify the sprint backlog. Items for the sprint backlog will be extracted from the product backlog.
  - This can be discussed with the team at the start of each sprint under sprint planning
  - What happens in sprint backlog is where you take a user story from the product backlog and convert into a set of tasks to be performed which paves the way of fulfilling user requirements. It will take the format shown below
  - 

High-level design is considered

As a vacation planner, I want to see photos of the hotels.

Code the middle tier (8 hours)
Code the user interface (4)
Write test fixtures (4)
Code the foo class (6)
Update performance tests (4)

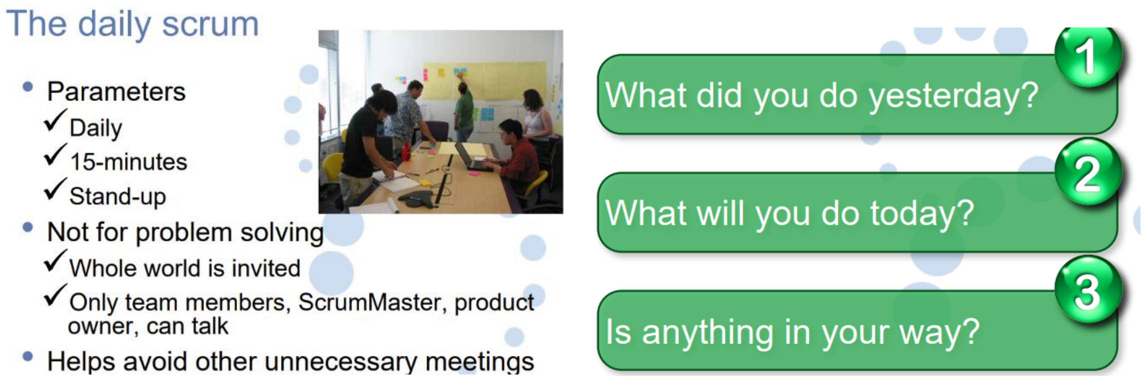
- ➢ At this stage documentation will be happening concurrently with the technical phases of the project based on the product backlog
    - Alternatively, another work breakdown structure could be created to understand and learn the required theories as per the suggestion of the team leader Anuk



Tasks	Mon	Tues	Wed	Thur	Fri
Code the user interface	8	4	8		
Code the middle tier	16	12	10	4	
Test the middle tier	8	16	16	11	8
Write online help	12				
Write the foo class	8	8	8	8	8
Add error logging			8	4	

Scrum

- Pasindu will be considered the scrum master who will be in charge of each scrum.



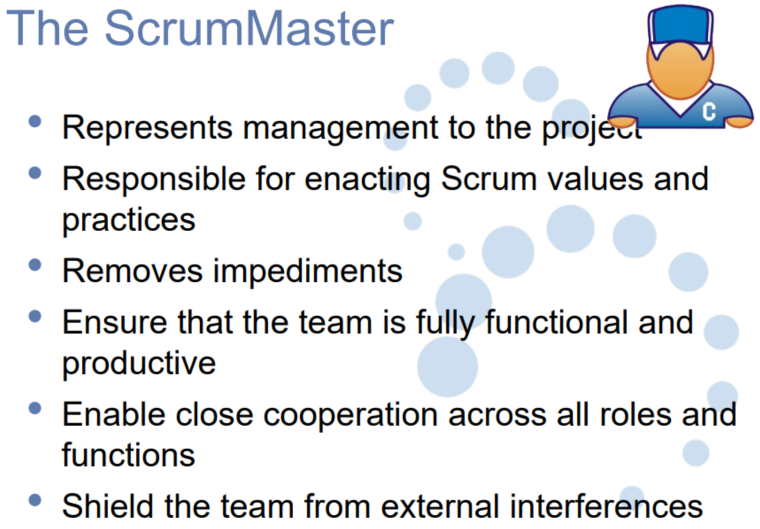
The daily scrum

- Parameters
    - ✓ Daily
    - ✓ 15-minutes
    - ✓ Stand-up
- Not for problem solving
    - ✓ Whole world is invited
    - ✓ Only team members, ScrumMaster, product owner, can talk
- Helps avoid other unnecessary meetings

1 What did you do yesterday?

2 What will you do today?

3 Is anything in your way?



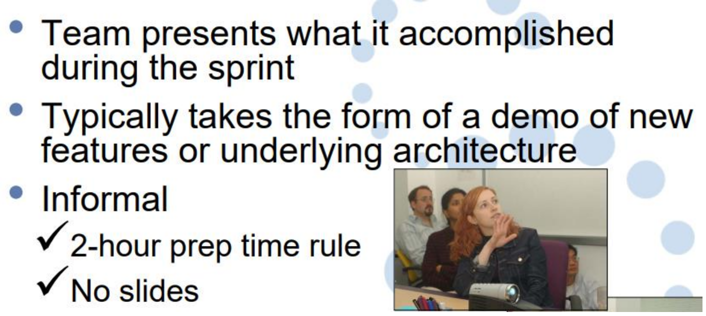
The ScrumMaster

- Represents management to the project
- Responsible for enacting Scrum values and practices
- Removes impediments
- Ensure that the team is fully functional and productive
- Enable close cooperation across all roles and functions
- Shield the team from external interferences

- As mentioned earlier these scrum meetings will be a part of the two weekly meetings.

Sprint Review

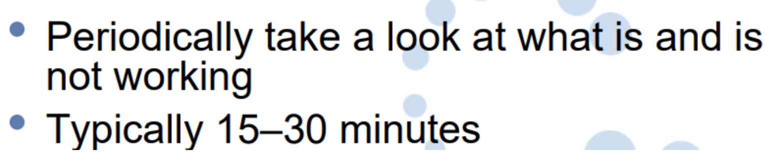
- A sprint review will take place at the end of each sprint (once a week – Tuesday or Friday)



- Team presents what it accomplished during the sprint
- Typically takes the form of a demo of new features or underlying architecture
- Informal
  - ✓ 2-hour prep time rule
  - ✓ No slides

Sprint Retrospective

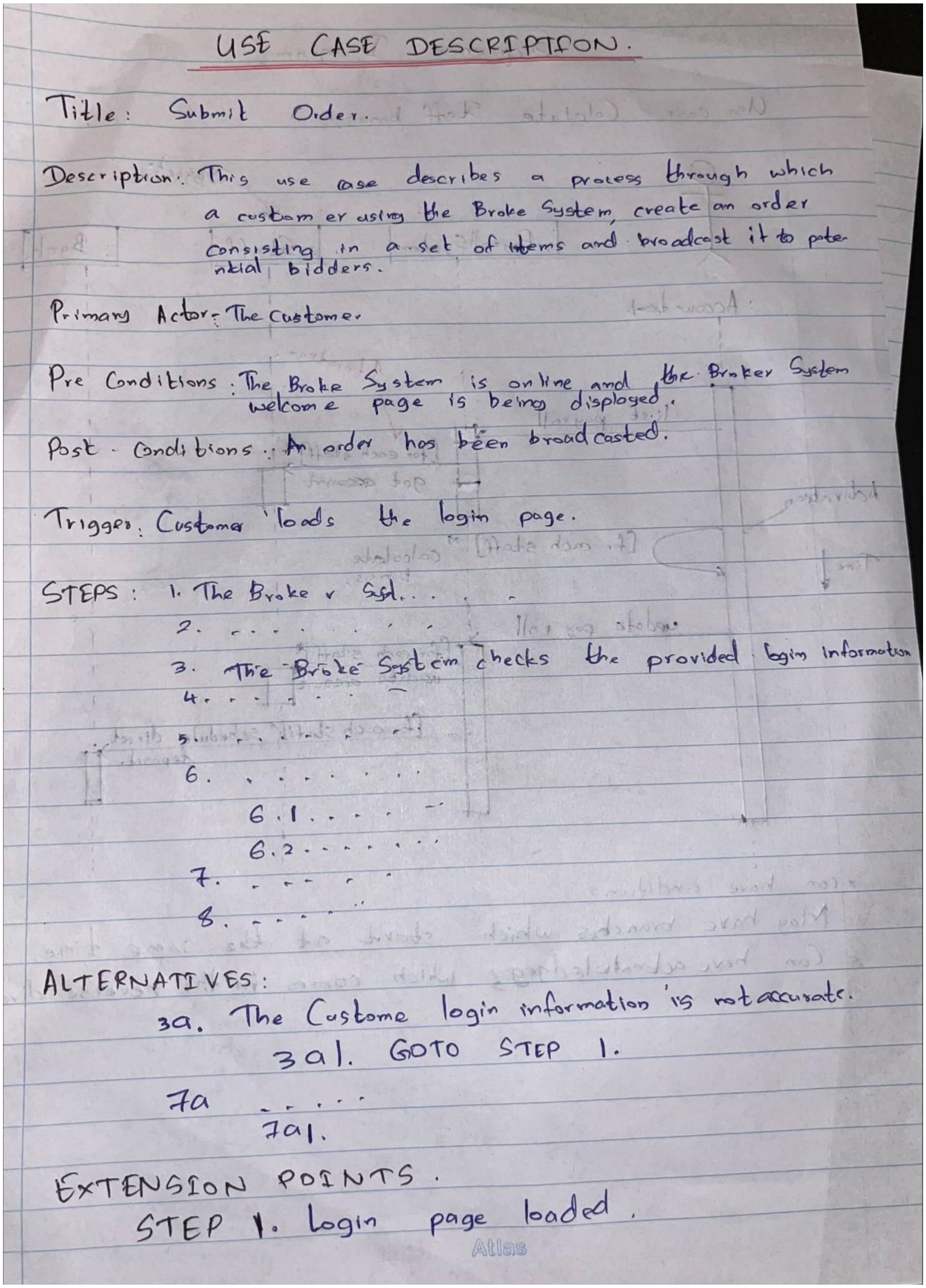
- A sprint retrospective will be held once in every 2 weeks as it is a bit tough to determine the functionality of a feature within a week.



- Periodically take a look at what is and is not working
- Typically 15–30 minutes

- Basically, the team will get together an decide on the start, stop and continuing tasks.

Sample structures of a few diagrams for your reference



USE CASE DESCRIPTIФN.

Title: Submit Order.

Description: This use case describes a process through which a custom er using the Broke System, create an order consisting in a set of items and broadcast it to potential bidders.

Primary Actor: The customer

Pre Conditions: The Broke System is online and the Broker System welcom e page is being displayed.

Post - Conditions: An order has been broadcasted.

Trigger: Customer 'loads the login page.

STEPS: 1. The Broke r Syst. . . . .

2. . . . .

3. The Broke System checks the provided login information

4. . . . . . .

5. . . . . .

6. . . . .

6.1 . . . . -

6.2 . . . .

7. . . . . .

8. . . . .

ALTERNATIVES:

3a. The Custome login information is not accurate.

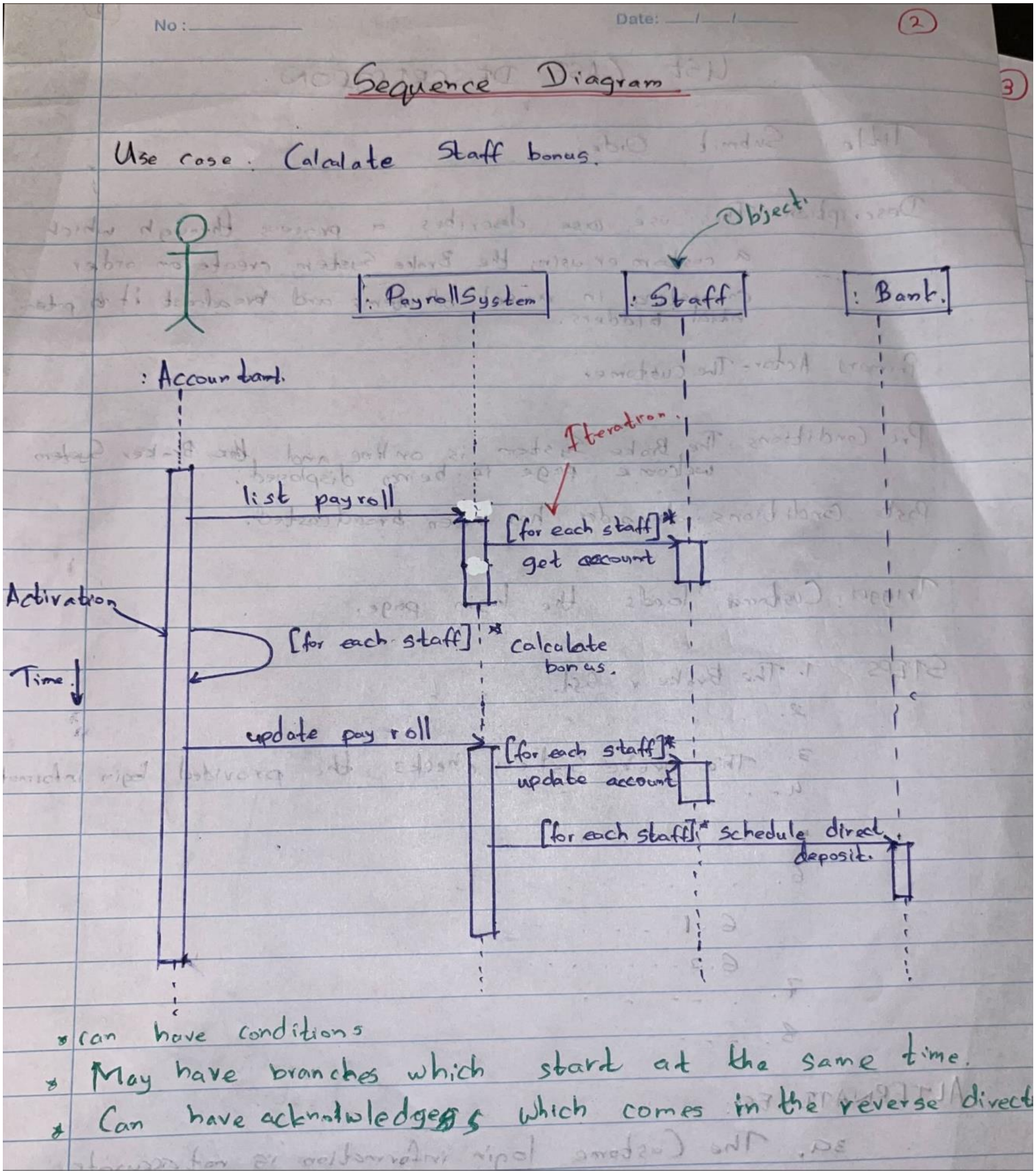
3a1. GOTO STEP 1.

7a . . . . .

7a1.

EXTENSION POINTS.

STEP 1. Login page loaded.



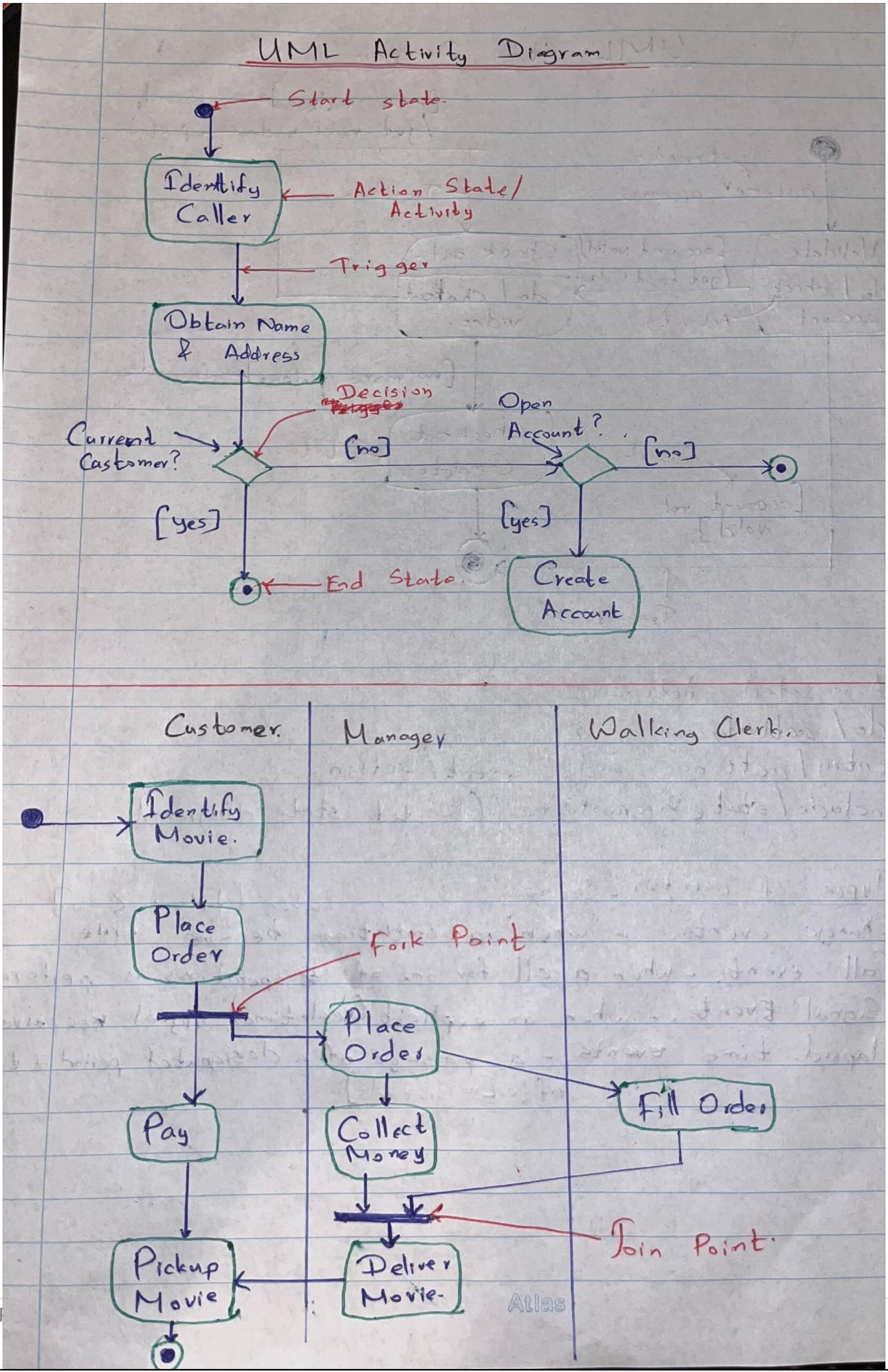
No : ____ Date: __/__/__ ②

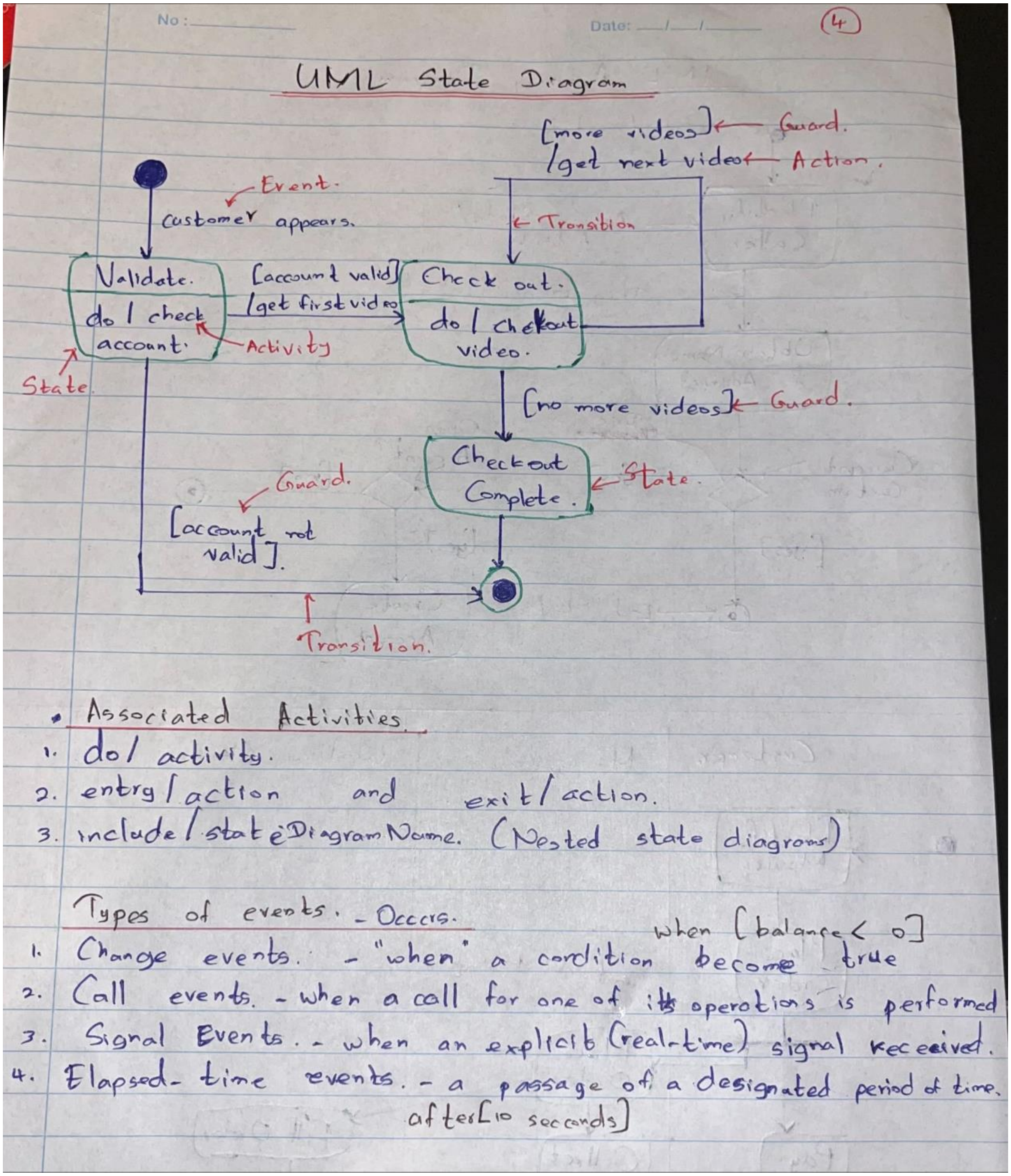
Sequence Diagram

Use case: Calcalate Staff bonus.

Object
: PayrollSystem
: Staff
: Bank.
: Accountant.
Iteration
list payroll
[for each staff]* get account
Activation
[for each staff]* calculate bonus.
Time
update pay roll
[for each staff]* update account
[for each staff]* schedule direct deposit.

- can have conditions
- May have branches which start at the same time.
- Can have acknowledges which comes in the reverse direct


UML Activity Diagram
Start state.
Identify Caller
Action State/ Activity
Trigger
Obtain Name & Address
Decision
~~Trigger~~
Current Customer?
[no]
Open Account?
[no]
[yes]
[yes]
End State.
Create Account
Customer.
Manager
Walking Clerk.
Identify Movie.
Place Order
Fork Point
Place Order
Fill Order
Pay
Collect Money
Join Point.
Pickup Movie
Deliver Movie.



No : Date: / / (4)

UML State Diagram

[more videos] ← Guard.
/get next video ← Action.
Event.
customer appears.
← Transition
Validate.
do / check account.
[account valid]
/get first video
Check out.
do / chekout video.
Activity
State.
[no more videos] ← Guard.
Checkout Complete.
← State.
Guard.
[account not valid].
Transition.

- Associated Activities.

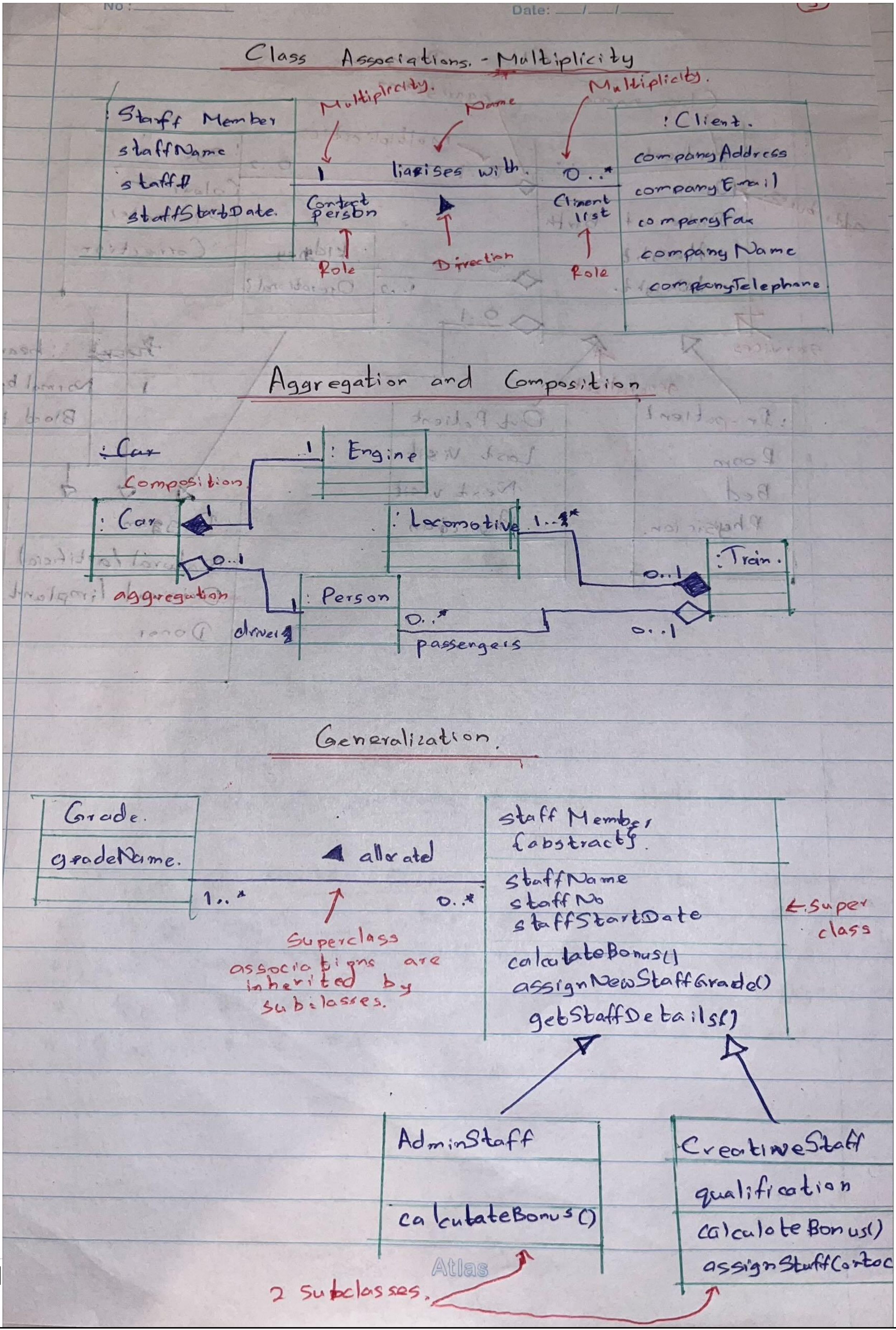
1. do/ activity.
2. entry / action and exit/ action.
3. include / stateDiagramName. (Nested state diagrams)

Types of events. - Occcrs.

when [balance< 0]

1. Change events. - "when" a condition become true
2. Call events. - when a call for one of its operations is performed
3. Signal Events. - when an explicit (real-time) signal received.
4. Elapsed- time events. - a passage of a designated period of time.

after[10 secconds]

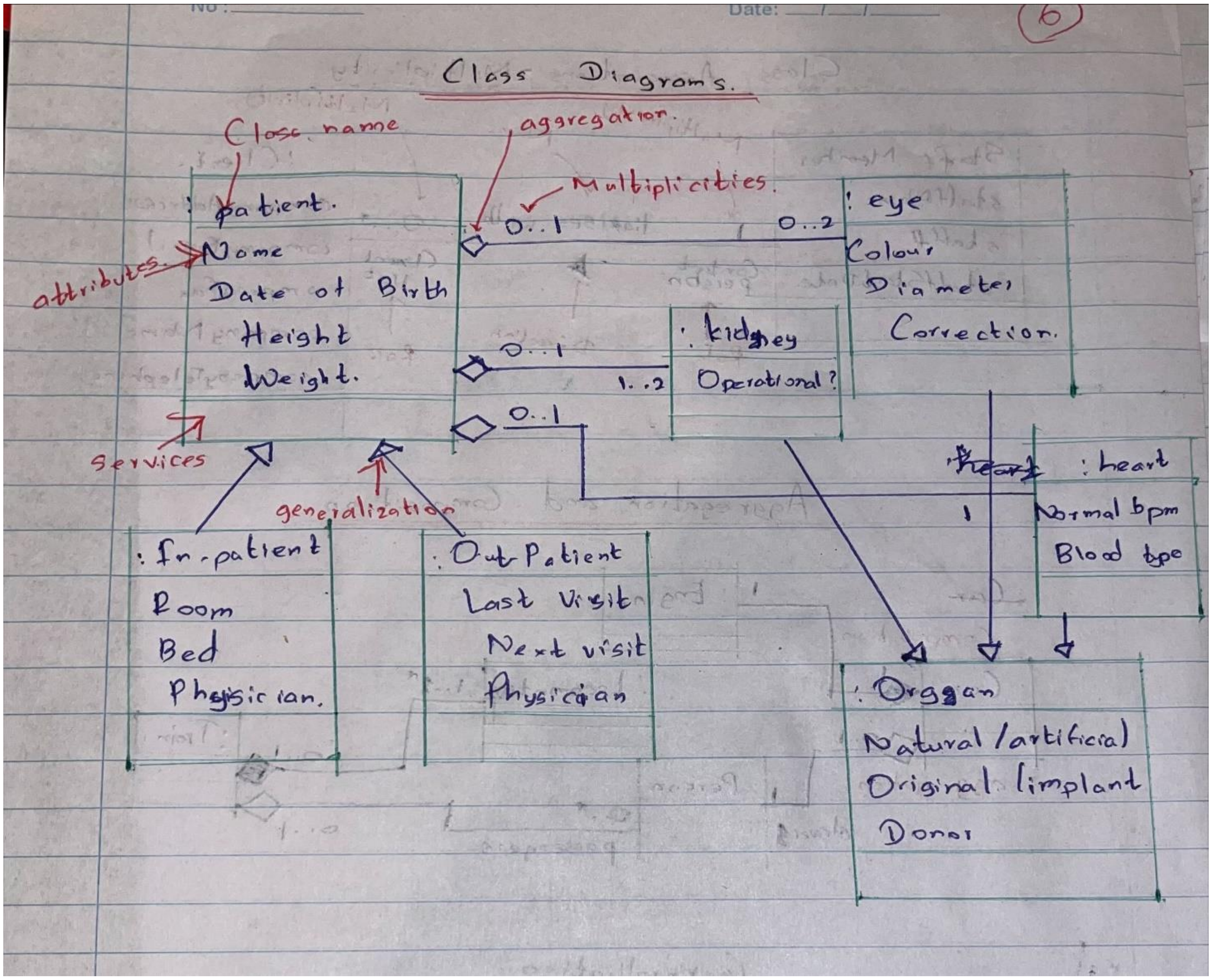


No : ________ Date: ___/___/_____

Class Associations. - Multiplicity

Aggregation and Composition

Generalization.


6
Class Diagrams.
Class name
aggregation.
Multiplicities.
attributes
services
generalization
: patient.
Name
Date of Birth
Height
Weight.
0..1
0..2
: eye
Colour
Diameter
Correction.
0..1
1..2
: kidney
Operational?
0..1
~~heart~~
: heart
Normal bpm
Blood type
1
: In-patient
Room
Bed
Physician.
: Out Patient
Last Visit
Next visit
Physician
: Organ
Natural / artificial
Original / implant
Donor