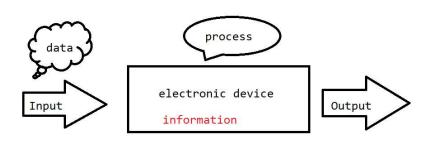


Computer fundamentals:

- 1. Computer basics
- 2. Operating system
- 3. Hardware
- 4. Software
- 5. Network
- 6. Network security
- 7. Computer security

Life Cycle:

- 1. Waterfall model
- 2. Agile model



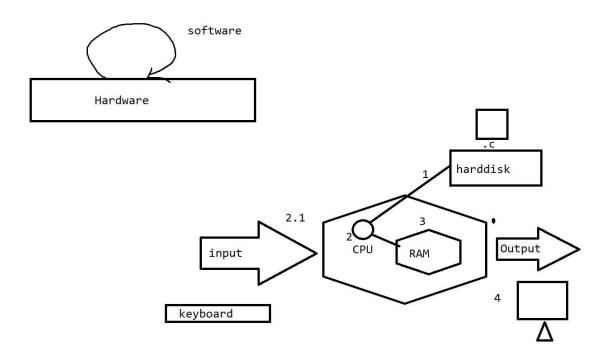
data: raw fact boy good is ramu a

information: rules and regulations on data

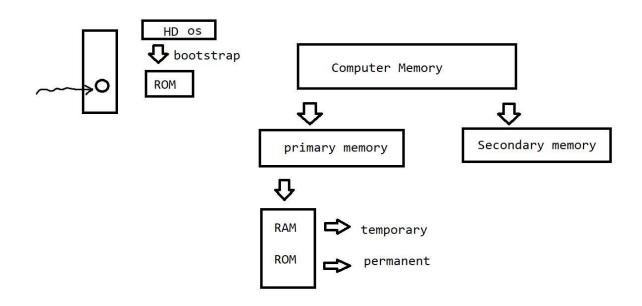
ramu is a good boy

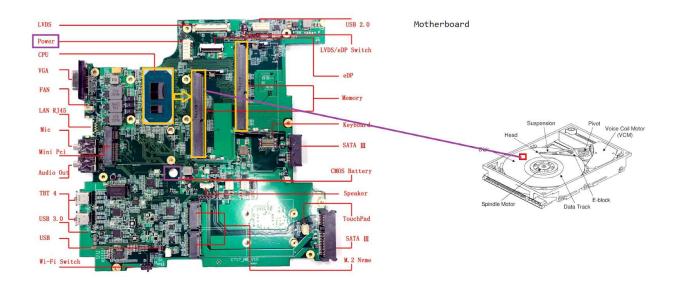
Hardware

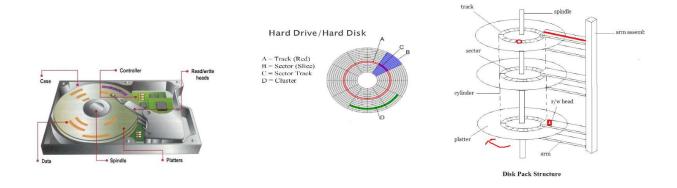
Input devices	Output devices	Storage	Processing
keyboard mouse microphone	monitor speaker CD	loacl drives RAm,ROM,magnetic tapes	Motherborad Processor power supply
			•••

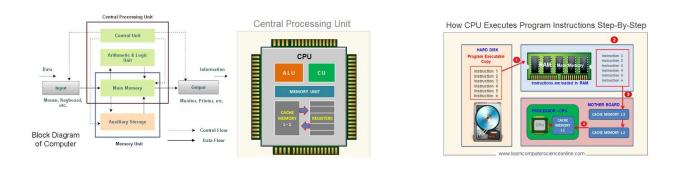


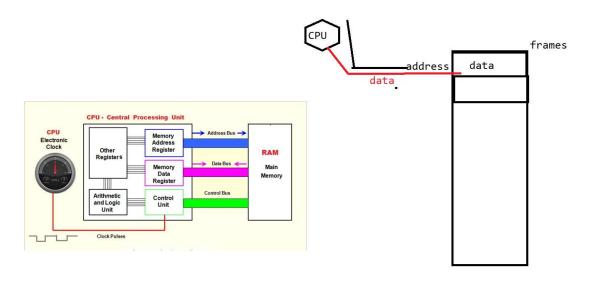
Binary format - 1 s and 0 s



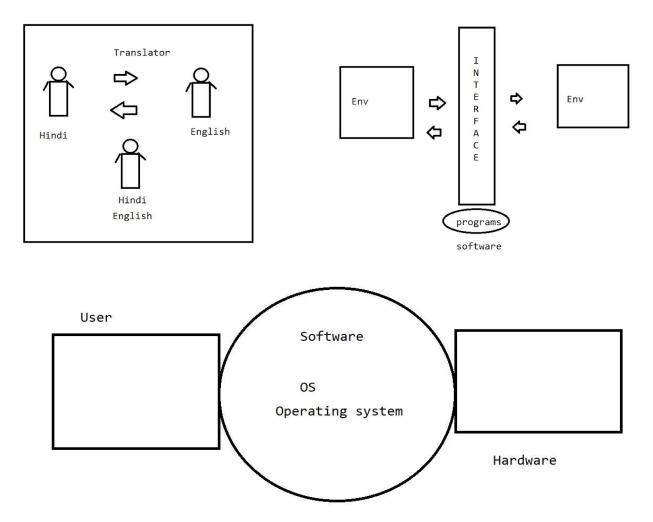




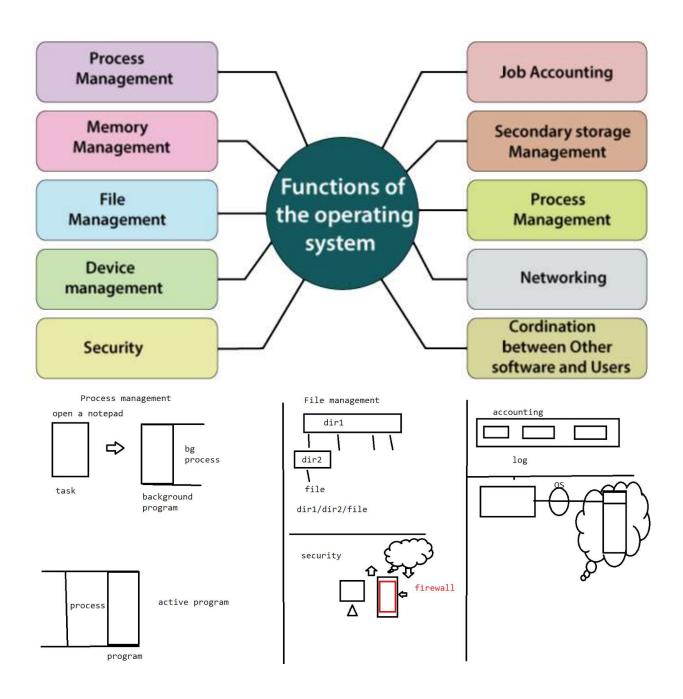


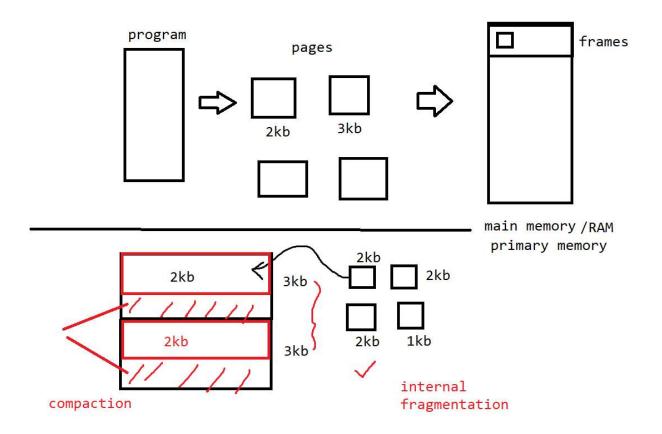


Software is a set of programs.

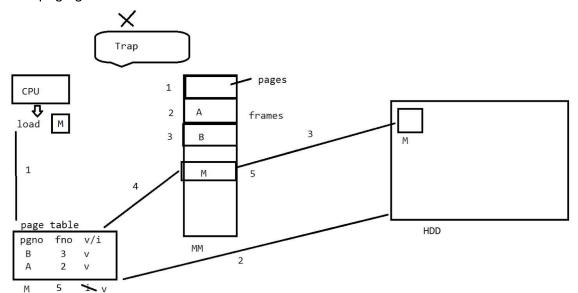


It is a set of programs which acts as a medium between the user and the computer hardware Operating system jobs



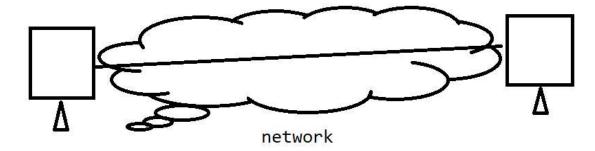


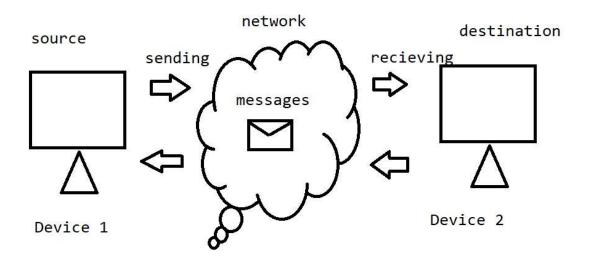
Demand paging

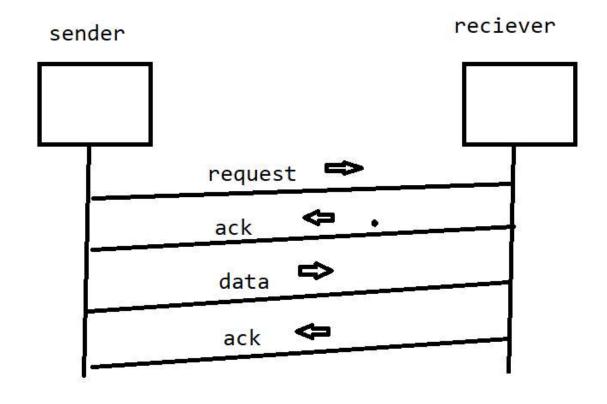


Networking

Group of devices got connected via a medium Transmission medium :cables, wires..







HTTP Hypertext transfer protocol

HTTP Status Codes

Level 200 (Success)

200: OK

201: Created

203: Non-Authoritative

Information

204: No Content

Level 400

400: Bad Request

401: Unauthorized

403 : Forbidden

.....

404: Not Found

409 : Conflict

Level 500

500 : Internal Server Error

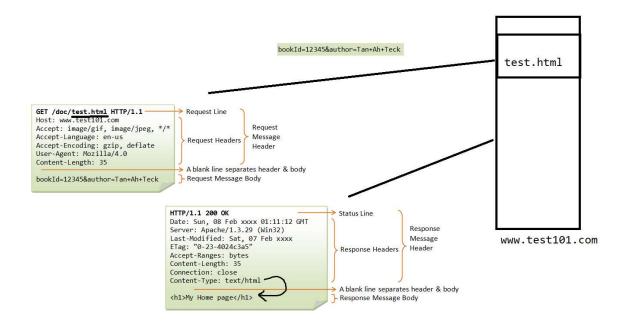
503: Service Unavailable

501: Not Implemented

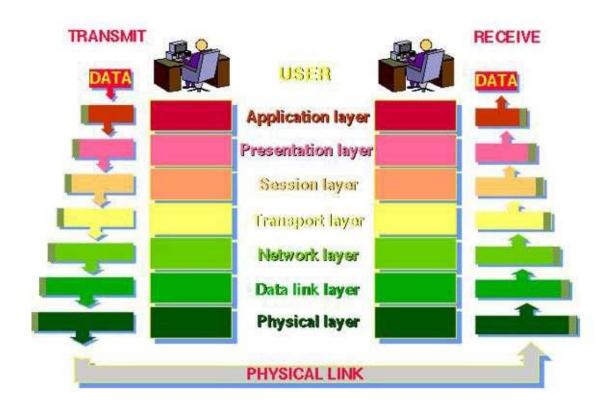
504 : Gateway Timeout

599: Network timeout

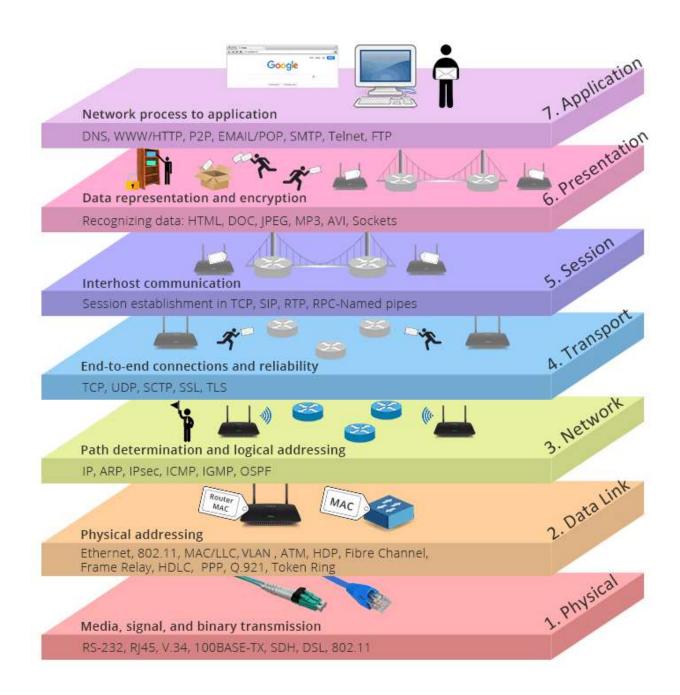
502 : Bad Gateway



7 LAYERS OF OSI MODEL



7 Layers of the OSI Model **Application** End User layer . HTTP, FTP, IRC, SSH, DNS Syntax layer Presentation · SSL, SSH, IMAP, FTP, MPEG, JPEG · Synch & send to port Session · API's, Sockets, WinSock · End-to-end connections Transport TCP, UDP Packets Network • IP, ICMP, IPSec, IGMP Frames Data Link · Ethernet, PPP, Switch, Bridge Physical structure Physical · Coax, Fiber, Wireless, Hubs, Repeaters



Features 👍

1 data sharing

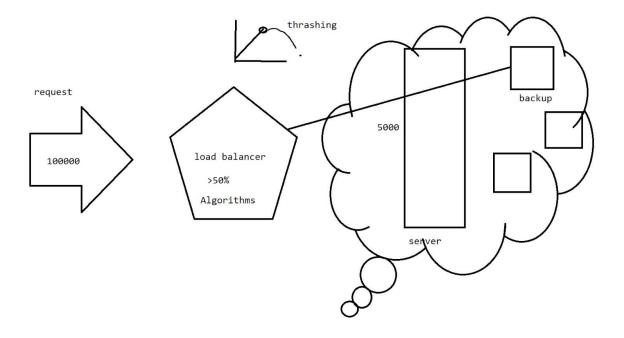
2.back up

3.software and the hardware compatibility

4.security

5.Reliable

6.Scale up



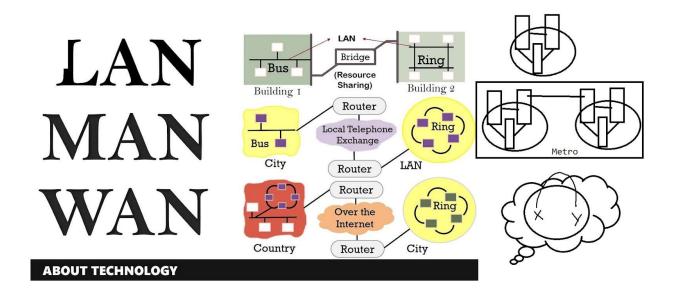
Network Topology:

Network Medium:

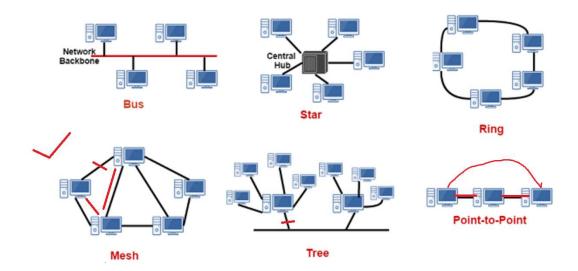
LAN

MAN

WAN

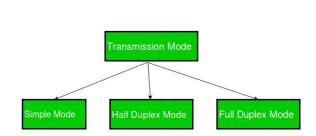


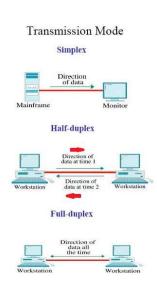
Topology:



Mesh topology is the most reliable one in transmitting the data

Transmission modes:





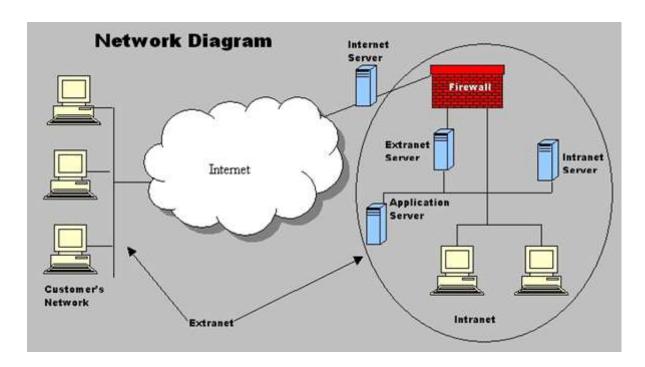
>Internet



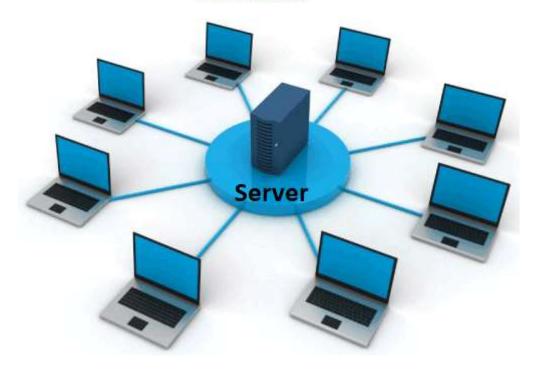
Global medium to interchange the information

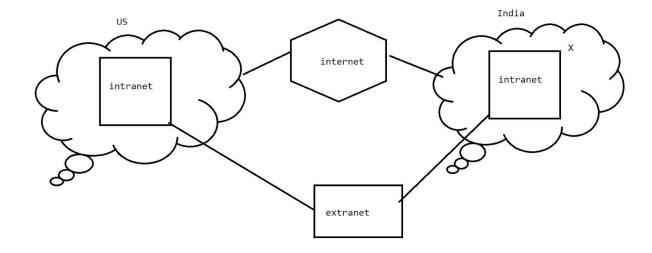
- 1. It uses a static IP suite to link to several devices
- 2. It is an international network of networks
- 3. They are connected via optical cables, wireless, electronic technologies
- 4. The Internet consists of different types of networks like educational,govt,public,business ..
- 5. HTTP is a standard protocol
- 6. Extensive range of resources

Intranet



Intranet



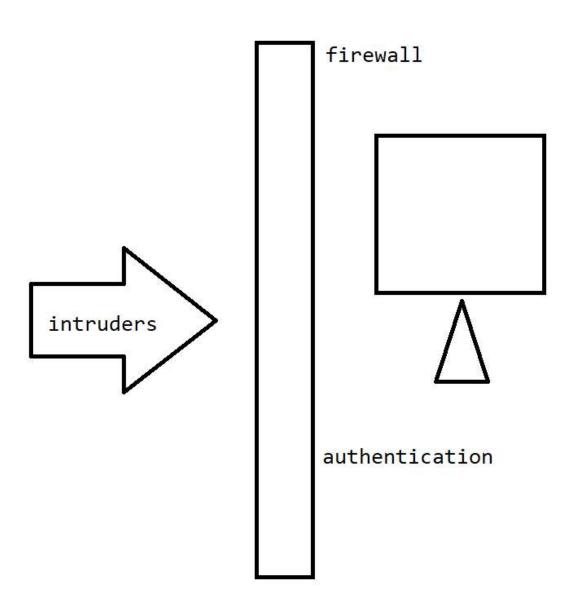


ESP=>Ip address

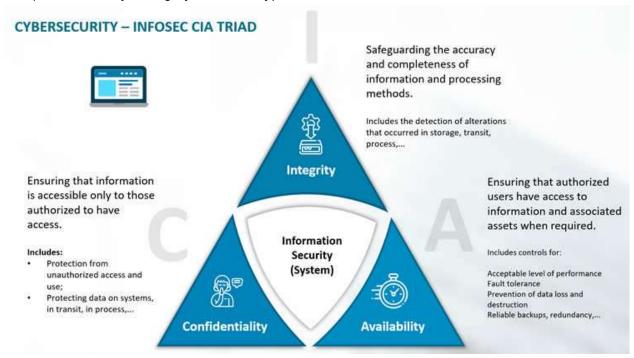
Task 👍

Internet vs intranet vs extranet

Computer Security:



CIA (Confidentiality, integrity, availability) traid



The below are the fundamental security principles upon which the info is getting secured .

C- Confidentiality

Ensuring that the info is inaccessible to unauthorized ppl, commonly enforced through encryption , IDs and password

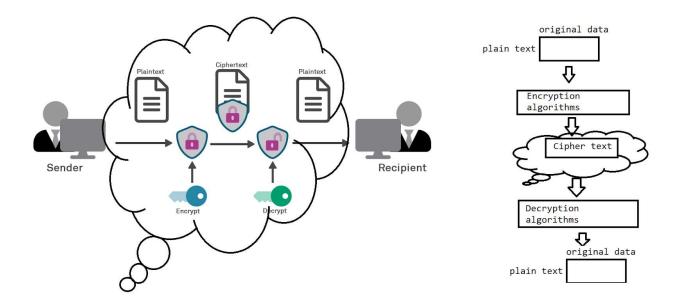
I-Integrity:

Safeguarding system and the info from being modified by unauthorized ppl, thereby ensuring the protected data is accurate and -trust worthy

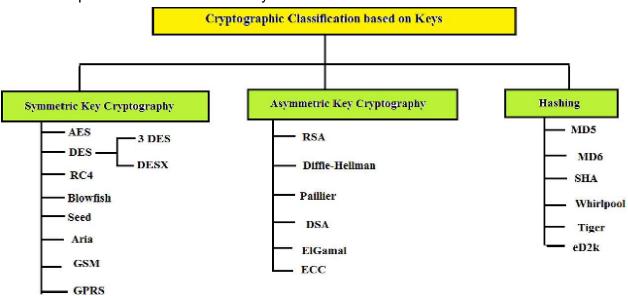
A-Availability:

Ensuring the authorized ppl have access to the info when needed, this keep them the current upgrades using backups and safeguard against the data loss.

Network Security:



- Encryption
- Compress the data with a security code

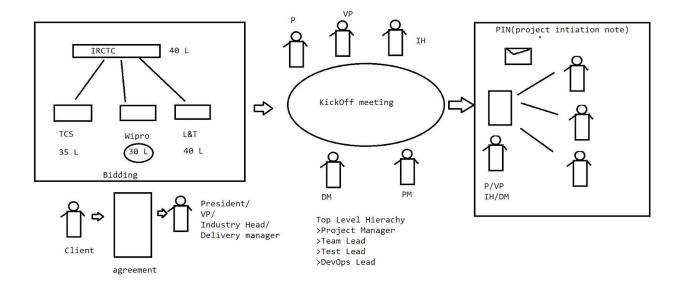


https://www.javatpoint.com/rsa-encryption-algorithm

Project: Collaborative action performed by a group in solving a task Product: This is the end item that we get after the completion of a project.

>Every project needs a Life cycle in order to complete a project and deliver a product to a client.

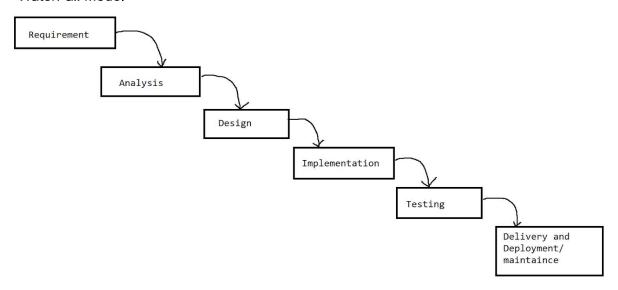
SDLC(Software development Life Cycle)



Life Cycle

- > WaterFall Model
- > Agile Model

> WaterFall Model

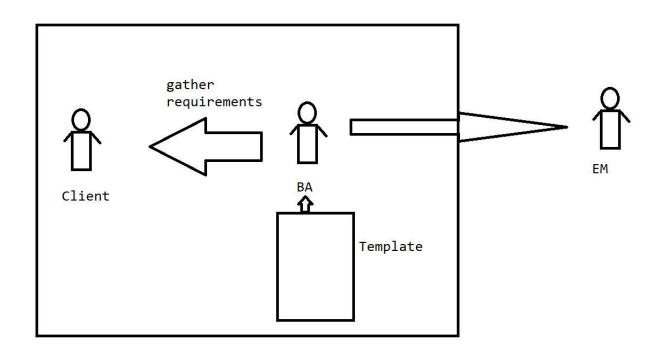


>Requirement

Task: We gather the requirements / inputs from the client

Role: Business Analyst / Engagement manager

Proof: Requirement Template

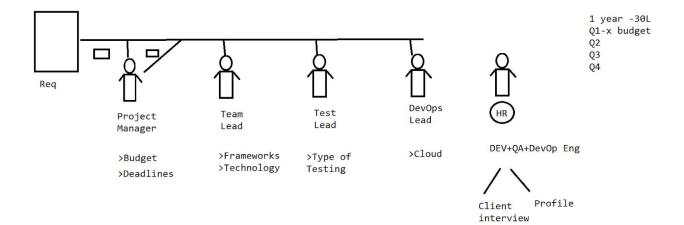


>Analysis:

Task: budget,deadline,techn,software, hardware, cloud, manpower

Roles: All the lead with the manager

Proof: Analysis Doc



Team is formed

- >Project manager
- >Team Lead
- >Test Lead
- >Developers
- >Quality Assurance (Tester)

>Design:

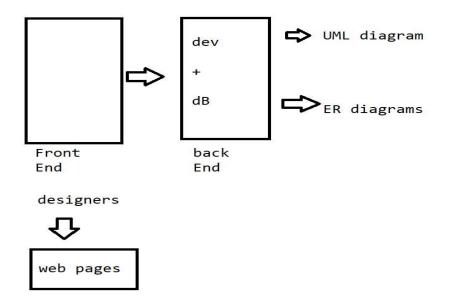
-High Level Design

-Low Level Design

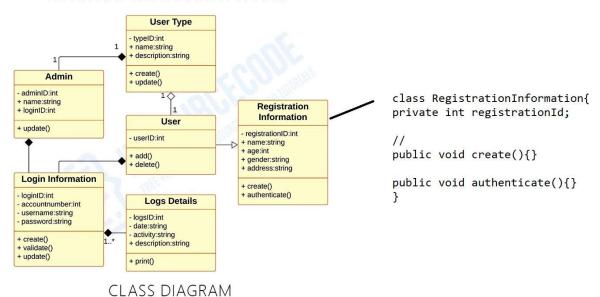
Task: webpages, UML diagrams, ER diagrams

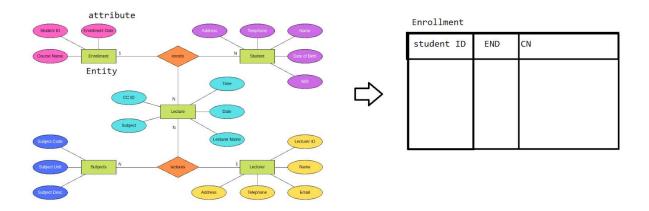
Role: dev,designer =>Architects

Proof: web pages + Functional design doc



LOGIN AND REGISTRATION SYSTEM



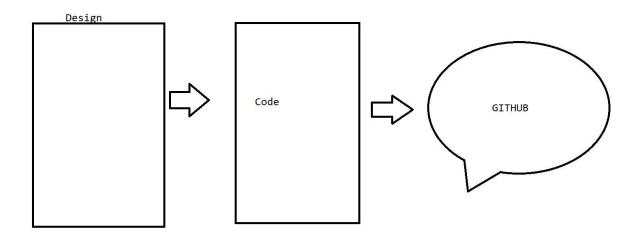


Help of DB Admin.

>Implementation:

Task: development of the functionalities which was designed

Role: Developers / Team lead Proof: SRC(source code)



>Testing

Task: Test the quality of the code / prepare a test case scenarios

Role: QA lead, QA team

Proof: test case doc / test reports

Manual: Junit test

Automation : Selenium , QTP...

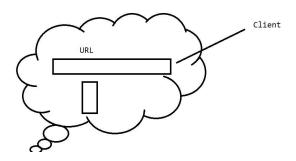
Test_ID	Modulename	input	expected output	actual output	pass/fail
Т_001	Login Desc: username min 8 pass=@.	abcdef	login fail error msg	login fail error msg	EO=AO =>PASSED EO!=AO =>FATLED =>BUG

QA==>100% bug free

>Delivery=>Production/maintenance

Task: Deploy the code over the client server / maintenance Role: DevOps Lead, DevOps Eng, Dev, Delivery Manager

Proof: Release manual/Release notes



In the project i have written code as (dollar) =>\$-maintenance

- -the corporate ppl visit the client and do the modification
- -the corporate ppl train few ppl at the client side by giving KT and the client can change the code

=>Task:

Advantages:

- 1. Simple
- 2. Freezing of work
- 3. Planning
- 4. Quality
- 5.

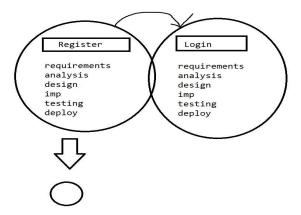
Disadvantages:

- 1. Time taking
- 2. Client involvement
- 3. No space for a new req to get entered in the middle of the waterfall model.

=>Agile

- 1. It is an interactive process.
- 2. It is an iterative process.

Project =>modules =>few build steps that's going to continue with the rest of the modules.

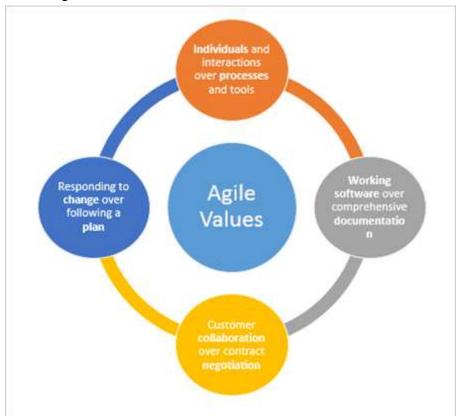


In each iteration a small part of the functionality is going to be delivered to the client.

- Iteration
- 1. Define
- 2. Analyze
- 3. Code
- 4. Integrate
- 5. Test
- 6. Deliver =>a product(mini/module)

The Agile methodology is defined on top of 4 values and 12 principles

• Agile Values:



Individual and interaction:



Office communication-mail or chat

Working Software:

• Iteration

Define

Analyze

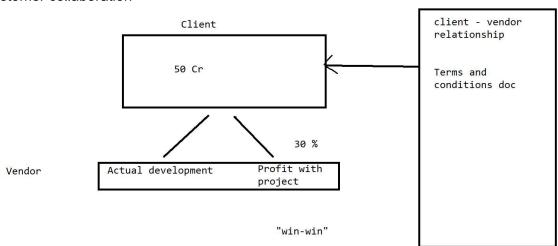
Code

Integrate

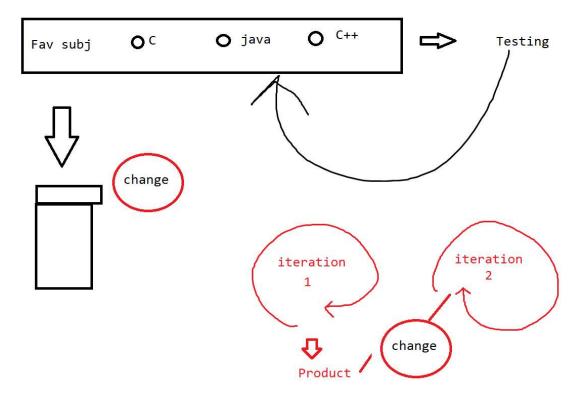
Test

Deliver =>a product(mini/module)

Customer collaboration



Responding to change



Agile principles :

Of this priority is to satisfy the customer through early and continuous delivery of valuable software.

04 Business people and developers must work together daily throughout the project.

07 Working software is the primary measure of progress.

10 Simplicity—the art of maximizing the amount of work not done—is essential.

02 Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

D5 Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

08 The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

11 The best architectures, requirements, and designs emerge from self-organizing teams.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Of Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Of Continuous attention to technical excellence and good design enhances agility.

12 At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

Agile methodologies =>framework called Agile SCRUM framework.

Agile follows iteration: Sprint -duration (1 w - 4 w)- 2 weeks of sprint- 10 days

Sprint is a fixed length event, upto a month where all the work committed must be delivered.

- Every sprint should be of same length
- As soon as the sprint ends a new sprint starts
- It is a container of all the scrum events.

Roles:

- > Product Owner
- >Business Analyst
- >Scrum master
- >Scrum team

Product Owner (Client)

He/She defines the requirements, priorities, release dates.

Scrum Master:(project manager)

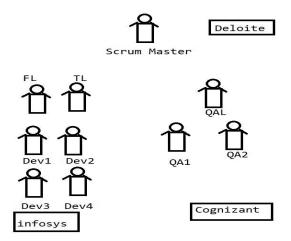
- 1. Remove the blockers
- 2. Safe guard
- 3. Progress of the work

Scrum Team:

Cross functional team

[Dev+QA]

[1 functional lead + 1 Technical lead + 4 dev + 1 QA lead + 2 QA]+ SM =>Scrum Team



Business Analyst:

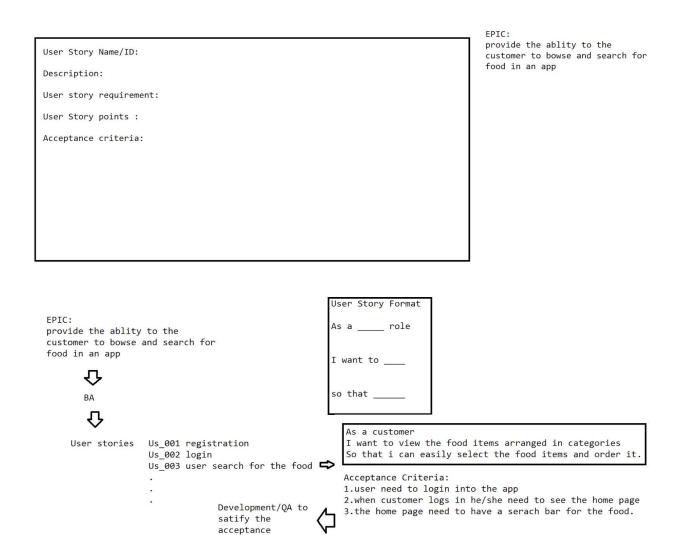
Collect the requirements from the Product owner

EPICS- a large body of work that can be broken further.

Ex: Open_cart_epic

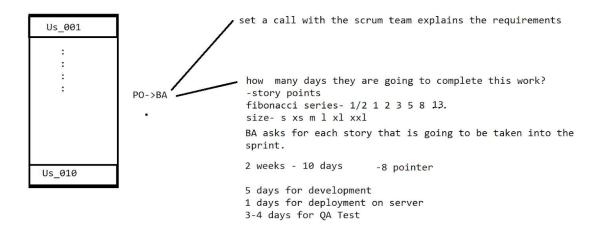
For a new ecommerce website to get launched . The highest business value will be when a user is able to buy an item from a website.

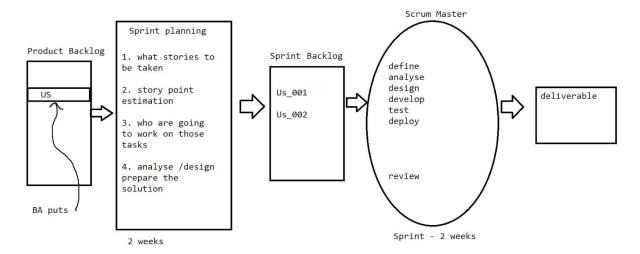
Business Analyst divide these EPICS into subtasks called "user stories" Short requirement which can be taken into the sprint for delivery .



All the user stories are put into a backlog -product backlog

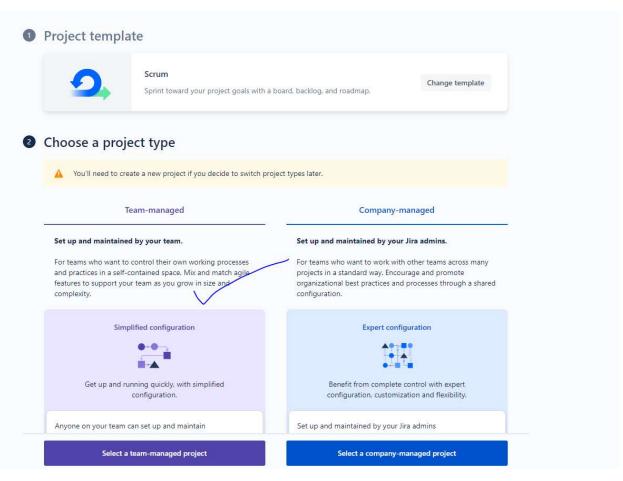
criteria

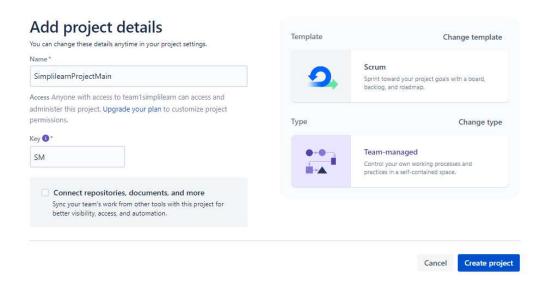


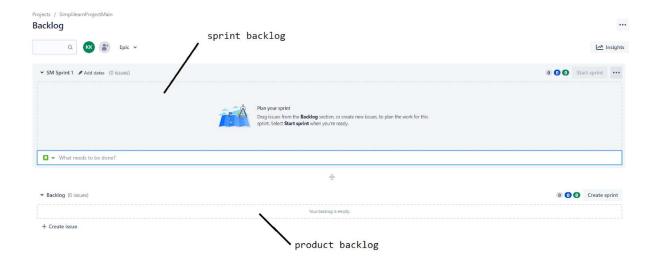


Agile Scrum Model

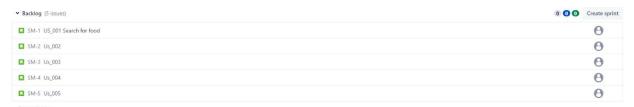








1. BA created the below stories in the product backlog



2. Setup a call

If the PO gives the priority?

if not?

We are going to give one day time for the team to read and pick the stories

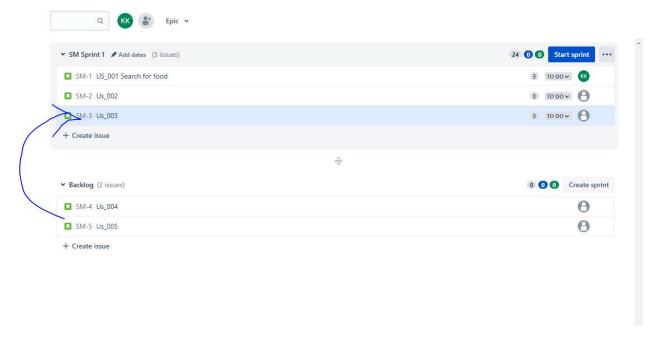
Requirement is explained

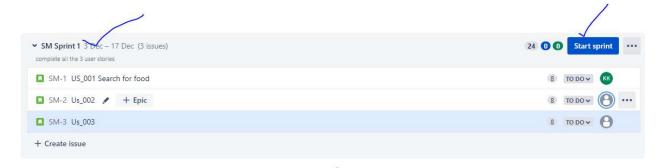


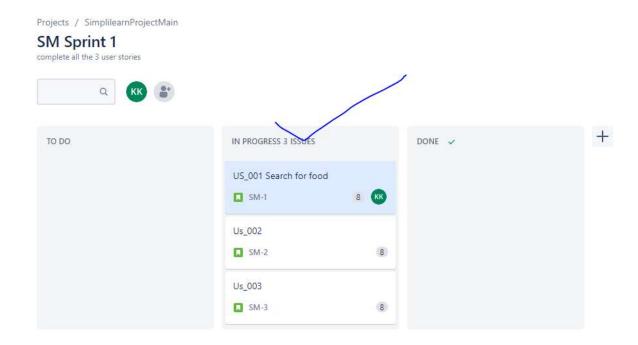
Planning the story point is updated by the BA in the jira ticket.

3. The scrum master brings the stories from the product backlog into sprint backlog

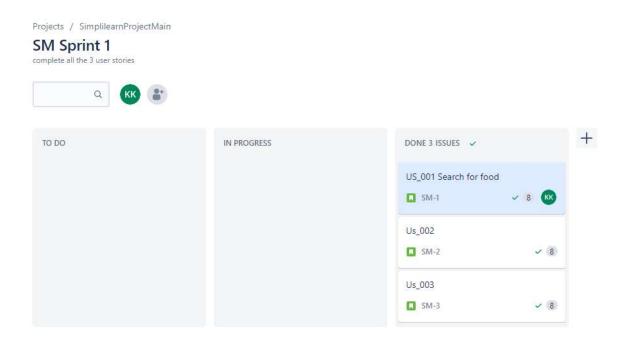
Backlog

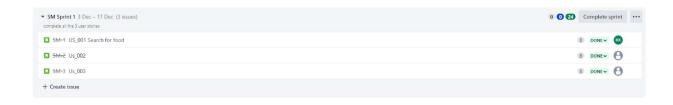






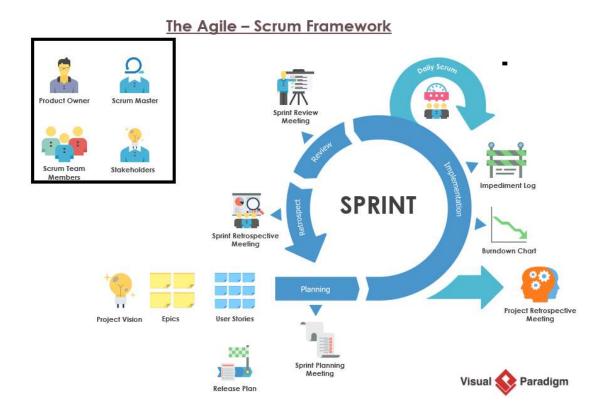
After completion of the dev in Inprogress is going to hand it over to tester.





Meetings (Ceremonies)

- >Daily stand up call- SM and the Team Lead -about the status of the past 24 hrs and what is going to be planned for the next 24 hrs?
- >Sprint Planning SM+ tech lead story points , no stories to be taken ,....
- >Sprint review a demo is given to the client after every sprint
- >Sprint retrospective closing meeting What went well? What are the blockers? How to overcome it in the upcoming sprint.?



Task : Adv and disadv