Roll No: 9592 SE-Assignment - I As the techology changes, the user requirement and encironment on which software is working also changes so every organization is ranked to lasted on the softwar engineering principles used by that organization Implementing and managing large size of software programmer requires a specific method modularize the tasks so that size of software can't harm the software quality. implementing complex rophvare systems with high quality without any standard method or management, it is difficult to address defect in the product and court as early as possible software engineeing provide this functionality Extending the previous software to add new functionally requires more cost in terms of time to develop and efforts taken by people, as compare to the process of developing new software to provide that functionally Software engineering provides a way in which rophian system can be able to seale as meded in future

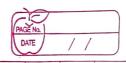
Teacher's Signature

Aston Castelino TE COMPS B

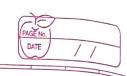


Waterfall model: Sequential and linear approach Each phase must be completed before moving to the mixt Clear and shirthard, suitable for projects with well-dyline requirements minimal changes and stable scope Limited flex; bility for changes outficult to adopt to evolving requirements, potential for late stage error discovery V-model (Volidation and Verification model): Parallel development and testing approach lack development place is followed by a error ponding testing phase strong emphasis on validation and surification dar Limited adaptibility to changing requirements potential for aniscommunication, reduce risk by identifying issues larly In cremental model - Similar to iteration models, but the software is built in increment, each delineing specific Early delivery of functional moduly, reduced time to market allows for better integration testing.

Requires areful planning to define increments possible integration Africaline Model: Similar to agile but with more showhard & defined phases Each ileration way include a subset of softwarm Allows for iterations refined features and early fedback suitable for peoples with evolving requirements
Require clear planning and coordination between iteration potential for scope creep



BB. The CMM models application in software development has sometimes been problematic applying multiple models that are not integrated within and across an organization could be costly in training appeaisals & improvement activities The capability maturity model Integration (CMMI) project was formed to sort out the problem of using multiple modely for software development processes, thus the CMMI model has superseded the CMM model though the CMM continues to be a general theore tical process capability model used in the public domain CMMI framework has thru groups: 1. CMMI for development (CMMI-DEV) 2. CMMI for service (CMMI-SVC) 2. CMM 1 for aquisation (CMM 1- ACQ) Evolutionary Brown Model O4. Prespective fraces Model 1) Stages consists of growing →1) Developed to bring order increments of an operational and structur to the software prochect with evolution software development process 2) Of can accompdate changing 2) Improvement is required in requirements. 2) It is less popular 3) It is more popular. as well as RAD model. y) Waterfall model and incremental model are a fin examples of proces produl.



Incremental model: when a project can be oclived into smaller Junctional increment allowing contain module to be developed and delivered independently while ensuing integration RAP model: when there is a meed to quickly produce of working prototype to gather user fullback and make refinements before proceeding with full chulepement Materfall model: When requirements are stable and changes are
minimal making it possible to plan and execute the

project in a linear sequence of phases

Agile model: Cs. crum) when flexibility and adaptibility are

crucial and the project can be adevided in to smaller incomments with frequent iteration, allowing for combinuous fed back and changes. Water fact model is the first approach upd in englower development sprovers It also called as classical life cycle model or linear sequentral model. In waterfall model any phase of Agite software durlopment describes an approach to rothware development inclear which requirements and solutions remote through the collaboration effort of self organizing of advocates adaptive planning anolutionary development early delivery and continual improvement and it encourages Trapid and fluible responen to change the term agile was popularized in this confect by the

marifusto for agili este development



Development Developement speed: · Waterfall is a linear of sequential muthodology where each phase must be completed before moving on the next This can lead to longer development cycles. Metrics: Time taken for each phase a requirements disign, development, testing, deployment) Adaptibility to change: Water Jall is test adaptable to changes in requirements due to ite rigid structuro Metrics inumber of change riquests impact conalyses time & Customis Soilisfaction Waterfall may have limited customer involment until the end, which could affect satisfaction Mekics : austomus judback at the end of the project postdeployment support require muils. 2) Agile (Scrum & Kanban) Deulopmind Spud: · Agile methodology emphasise incremental development allowing Jes quicher delivery of working features.

metrics: No of uper stories completed per sprint or cycle, time, rub Adaphibility to change: · Ayile me the dologies are highly adaptible to changing requiremile due to regular iterations of flexibility metics: No. of changes incorporated per sprint (eych., Lime taken to respond to change request. Agir involves continuous customer feedback and collaborations Customer satisfaction: Metrics: Regular customers feelback sions, friquency of coulowing



آنده					1 2
98.	features	Waterfall	Incement		Spinal
_		modul	model	model	Model
1.51	Requirement	well :	not well	not well	well
	Specification	understood	understood	understood	undustood
	• 0	a colon a g	AL WELL	I was also	3 /
e, l	Under Standing	well	prot all	not will	well
	Under Standing	undus bood	undistood	understood	undustood
			1.0	all canal	1
B. W. Bell Ville	Availibility of	sagnetic a	100000	4 4 4 1	
	remable	No	yes	J. Med. Wish	Yu
	components.	Mark Gara	5		
		413.15	ASA STABLE		and it is
	Rùk	only at	no risk	no tisk	yes
1.15	analyni	beginning	no risk analysis	analysis	
	J	April 190 Michael	1 1 1 1 1		7 1 1 2
14, 733	Un a la	only at	intermidiate	high	, high
•	Involvement.	beginning	Mus Vine	Tank thete	
	_	v 0		i i	•
	Iny enun fation	long	les	less	dejunds on
	lim.	J		they prove	project
\$ 7 u	1.4.1	Letter Victorian	The state of the s	wild when	
	Flexibility	rigi d	lus	high	Herible
about with	Esputisi	high	hig K	medium	high
	Requind.	-	U		
<u> </u>	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	111111	desire in	11.	
	Cost control	yu	· no	no o	yes
hon in	h ment	My Marie	4. 1.	1.	
	control	yes.	yes	no	yu.
, .				that was the	
	era kalina in era			2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	
	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	313			