**SOLUTION** **2017UCO1673**

**Scrum**

Scrum is an iterative process and incremental framework for product development, as well as complex problems, can be delivered at high possible value .moreover it comes under an agile framework. scrum has three main roles which is product owner, scrum master and team

Scrum has a lightweight management process, and it’s process consist of roles ,events and artifacts, due to this scrum is a lightweight framework.

Scrum can choose the best way to accomplish work rather than being directed by someone other than the team, team members participating actively & collectively in all the Scrum practices and events, as well as it help the team to work together Due to this reason scrum is self-organization.

Scrum framework is easy to understand and then will be able to follow the rules, due to this feature scrum is easy to understand.

**Working** - (brief)

The product backlog is created which contain required items than the team will arrange accordingly , afterwords a sprint planning meeting to defining goles. Each member is assigned a small task, a daily scrum meeting is done to achieve integrity . when every user is completed their work it means sprint is completed.

**Advantages**

Scrum is fast and economic, it follows the divide and concur it’s adeptive in nature.

**Dis-advantages**

Not allowed to change in sprint daily meeting requires resources if the project is not clear then it difficult to proceed.

**Lean development**

It’s an agile framework, It’s based on optimised development time and resources and removing all waste and delivering what product needs some time it also known as minimal variable product. In this product there is a minimum version is released and based on the feedback and reviews add the features as per requirements .

**Lean development principal**

1. Eliminating waste - removing unnecessary thing whic do not contribute to development or add values to customer.
2. Build quality - every team has a build quality of work .
3. Create knowledge - require discipline and focus to implement can be done using pair programming and code review, documentation.
4. Defer commitment - it encourages team be responsible and always check for the option available.
5. Deliver fast - every team wants to deliver fast and put value into the customer hands.
6. Respect for people -
7. Optimization - the most important part is to optimize the whole process without affecting the final product.

**Advantages**

Remove unnecessary code, delivered in time, work satisfaction, competitive in nature.

**Disadvantages**

Low margin for error, heavy workload,

**Extreme programming**

It’s most important framework of agile software development framework.

Xp is used to build high-quality products and a high-quality life cycle of development.

Xp is used where dynamic changes in software are required, small and colocated team, fixed time , small project, and project involve new tech in this area xp is used.

**Lifecycle**

**Planning** -- First stage of xp development life cycle , to set the goles of entire project and creat iterative cycles.

**Designing** - teams define their main features of the future code. And creat as simple design , and ofter share responsibility for the design of the code.

**Coding** - xp develops believe that a good code must be simple to understand , due to this refactor is done, without affecting the final product.

**Testing** - in xp testing is not done in after final or intermediate development rather it done along with the code written .

**Listing** - at final stage must get feed back from customer and change according to that .

**Advantage**

Fast development with the help of regular testing.

Xp helps to increase customer satisfaction .

Xp process is visible and accountable.

**Disadvantage**

Xp is not best option if programmers are separated.

Code quality is not measured.

**Adeptive software development**

It’s a way to build complex software and system . is based on RDA .

It’s aim to adept the changing requirements and market need .

ASD is developed in three phases

1. **Speculate** 2) collaborate 3) learn

In this phase project is initiated and planning is conducted.

All the necessary info is collected requirements, user need and all other things, so that cycle can be created.

**Collaborate**

Collaborate communicate and teamwork and individual plays a major role in thinking.

Teamwork, self-belief, work hard, communicate.

**Learning**

It helps to understand the overall project, it divided into 3 parts focus group, technical reviews project postmortem

**Advantages**

Focused on the end user, to get the more better and intuitive produc.

On time and early delivery

More transparency between developers and clients.

**Disadvantages**

Testing at every stage which can increase total cost.

rapid iterating and continuous feedback can lead to scope creep

**Feature-driven development**

Is an iterative and incremental development process.It’s a lightweight developing software. Its main purpose is to deliver tangible, working software repeatedly in a timely manner.

**Five phases planning**

**Develop overall model** Initialization of project , scope of the system and it’s context , and models created for each area .

**Building feature list**  Knowledge gathering during initial modeling to identify all the aspects and requirements and functional dependencies.

**Plan by features** When the feature list is completed, it’s time to assign a task to programmers.

**Design by features** Main programmer select groups and their task which need to be develop in week And with other programmes work on the sequential diagram.

**Build by features** When successful design and inspected, and after successful testing of code product is send to the main build.

**Advantages**

Works better for a large project.

Simple process to develop rapid development

With the large team product move forward, continuous success.

**Disadvantages**

Not good for small projects

Less written documentation

High dependencies on programmers.