Agile model / Agile Medthodology / Agile Process

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Agile is basically an Iterative and Incremental Approach/(process)

Iterative - Same kind of process that we are repeatating again and again.

What we are repeating

1. Getting the requirement,

2. Desigin,

3. coding

4. and Testing

While we repeating the above process again and again is called iterative

Incremental - means, we will implement some features at the begining in the softwares, and keep on

adding some new features or new modules to the particular existing software.

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Agile Principles

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1). Customer no need to wait for long time. (we can deliver the piece of software everytime with few

number of functionalaties).

2). We develop, test and release peice of software to the customer with few number of features.

3). We can accept/accomadate requirement changes.(this is not supported in kind of other models llike

waterfall or spiral model or anyother model.

4). So with any time of software development process we can accept and accomadate the

requirement changes from the customer.

5). And in agile process there will be good communication bewtween Developers, QA(Testers) and

customers, business Analyst. (Good Team Communication).

one more thing deliver is very very faster in Agile comapring to some other models.

Advantages:

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1. Reqirement changes are allowed in any stage of development (or) We can accomadate Requirement

changes in the middle of development.

2. Releases will be very fast (weekly).

3. Customer no need to wait for long time.

4. Good communication between Team.

5. It is very easy model to adopt in our company

Disadvantages:

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Less focus on design and documentation since we deliver software very faster.

This is the only disadvantage in Agile process.

Sometimes there is no docmentation also.

Why because we are delivering software in short period i.e., with in week or two weeks.

where as in someother models like waterfall model they were maintain documents like

1. FRS Document,

2. Design Document,

3. Low-Level Design Document,

4. High-Level Design Document,

5. Test Plan Document.

Clearcut docment will be there in other models.

We cannot maintain these kind of document in Agile process, short span of time releasing piece of software.

Documentation will take more time, so we are not maintainin document in agile.

But we will have more number of meetings, in those meetings we will discuss the requirements.

Scrum

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Scrum is a framework through which we build software product by following Agile Principles.

Scrum includes group of people called as Scrum Team, Normally contains 5-9 members.

What is Scrum in Agile ?

What is the difference between Scrum and Agile?

Agile is basically a defined process model, to follow the agile process we use Scrum

Scrum is kind of framework through which we will develop and test the software, we release the software

to the customer.

In Scrum There are set of people will be involved, or Scrum Team.

If we see who are all in the Scrum Team

1. Product Owner

2. Scrum Master

3. Developing Team

4. Testing or QA Team.

In agile process all these type of people work under one Team.

Roles and Responsibilities of Scrum Team:

I. Product Owner:

1). Product owner is the (Actual person writes the fearues) one who Define the feature of the product.

2). Prioritize features according to market value

( For exapmple, He collect all the Features and Functionalties from the customer, and once he collected he will

Prioritize that by comparing it with what are all the features are mainly required to the market or customer,

So he will adjust those features, by prioritize that.)

3). Adjust feature and priority every iteration as needed.

If there is 100 features to be developed for the product and among 100 features he will be decide what

are the feature to be implemented in first, second and third cycle as needed.

4). Accept or reject work results.

Devoloped and Tested software have to give demo to the product owner, product owner is the first point of contact

to the customer and he will decide to accept or reject the features.

II. Scrum Master (Leader)

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The main role is facilitating and driving the agile process

(He is not a Developer, not a Tester, not belonging to any manager or any management process)

1. Scrum Master is the one who is aware of entire Agile process, facilitate the process, drive the process

2. He knows each and every activity in Agile Process, how to drive the Agile Process.

3. He make sure rest of the people are there in the project team like Developers, Testers etc, are properly follow

Agile process or not. And he facilitate if not somebody not aware of Agile process, he will give aware of Agile process.

4. Each and Every stage from the begining of the process to untill we delivering the project to the customer, each and

every step will take of Scrum Master.(most of the meeting will be conducted by Scrum Master only)

III. Developer and QA:

Develop and Test the Software

Developers will design the software like unit testing, integration testing, coding.

so these are the task done the developers.

and Testers understand and writing the test cases, executing the test cases, bug reporting

so these tasks are common

Scrum Terminology

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User Story : A Feature or module in a software is a User Story (in classic models we call them as functionalties or Feaures

Epic: Collection of user stories.(larger requirements)user stories will be derived from epics and these will be prepared by

Product Owner in form of user story or Epic

Product Backlog : Contains list of user stories, prepared by the Product Owner in the begining as excel.

Sprint/Iteration : Period of time to complete the user stories, devided by the product owner and team, Usually 2-4 week of time

(call it as 1st sprint, 2nd sprint, 3rd sprint or 1st iteration, 2nd iteration....Complete process for a feature.)

Duration with in 2-4 weeks of time to complete the user stories(both dev and test) and deliver to the customer is Sprint/Iteration.

Sprint planning meeting: Meeting conducts with the team to define what can be delivered in the sprint and duration.

Two things will be main focused....

1. How many Stories we have in the Backlog

2. How many Stories we are going to Develop and Test during the sprint and what is the duration of the sprint(sometimes oneday

meeting in the begining).

Sprint Backlog: List of committed stories by Dev/QA for specific sprint.

Once the product owner says like having 100 stories in my product backlog, then the developer and QA will

choose some of the stories for developing and testing in that particular sprint. Those list of stories

called as sprint backlog, it is just like a Product backlog but only the difference is product backlog

contains all the stories from the product, every story will be written in product backlog but in sprint backlog we have

only few number of stories which were committed by the Dev and QA. So Dev and QA accepted that these are the

Stories we are going to Develop and test within this period of sprint time is called Sprint Backlog.

Scrum Meeting: Meeting conducted by Scrum Master everyday 15 mins. Called as Scrum call / Standup meeting.

Scrum Meeting is particularly conducted by the Scrum Master who is responsible for facilitating and

Driving the process.

So if there are any blockers, if there are any requirement missing or developer is not able to do

something and if The tester is not able to complete something, the ScrumMaster will take care of it.

The scrum master will drag the entire status which following in the agile process. So ScrumMaster will be

conducting the scrummeeting everyday for 15 mins, hardly 10 to 15 mins...including product owner, developer

and QA, Everybody will be involoving in the meeting and within the 15 mins everybody should say the status.

That is what are all the tasks completed yesterday

what are the tasks planned today and

what are the tasts planned for tomorrow.

and if there are any blockers, while doing their tasks, if they face any challanges, if there is any delay, we have

to discuss within this particular meeting. This is called Scrum Meeting.

And this Scrum Meeting is mainly focusing on Three Questions. Everybody in this team should answer these

Question, and what are all the three questions? is..

What did you do Yesterday?

What will you do Today?

Are there any impediment /blockers in you way/tasks?

So that we have to discuss these in Scrum Meeting. and within a sprint everyday there will be 15 mins meeting.

We can discuss or think solution also we will think in that meeting itself.

Sprint Rectrospective Meeting : Conducts Meeting after completion of every sprint. The Entire team, including

both the ScrumMaster and the product owner should participate

If in entire project cycle, suppose we have 5 sprint, we will have Sprint Rectrospective Meeing at the end of

each sprint.

Here we will discuss about, What went well

What went well wrong and

What are improvements we have to do in the next sprint.

Story Point : Rough estimation of user stories, will be given by Dev & QA in the form of Fibonacci Series.

So from the product backlog we have all the list of stories defined by the product owner

and from that Dev and QA Accepted and choose some stories to be done Development

and test in particular Sprint. but in what basis Dev and QA will choose or pick up those stories to

Develop and test within a sprint is Story point.

For Example:

Let us say suppose Login is The Story then

Developer will say i need this much of time or i require this much of time to desin and develop the

Story for the Login Story. and

QA guy says i require this much of time to write the test cases and executig the test cases, finding the defects,

retesting the defects this much time i needed for this particular stroy.

This is called Story Point.

Fibonacci Series: Since the Byte code are like 0's and 1's we have

0 1 1 2 3 5 8 13 ...

So we have 0 1

Then 0+1=1, previously we have 0 1 and adding the answer 0+1=1

1+1=2, and now we have the answers 0 1 1 2 adding last two answers

1+2=3, and now we have 0 1 1 2 3 adding last two answers

2+3=5, and now we have 0 1 1 2 3 5 like wise it will go on as 0 1 1 2 3 5 8 13.......

And then now

1 story point = 1 hour / 1 day (6 hours depends on the company)

so Dev says 5 story point for Login and

QA says 3 story point for Login

Login -------> Dev-5 and QA-3 ==> 8 Hours / 1 Day

Burndown Chart : Shows how much work remaining in the sprint,. Maintained by the scrum master daily.

So after taking status from everyday scrum meeting, scrum master will calculate the story point

like How much time the Dev and QA estimate and given and.,

How much time they are exactly spending

Suppose let say for 1 story it will be completed with in 3 days.

1 story --------> 3 days(18 hrs)

and this is the given estimation at the

time of sprint meeting, but once i have started the feature/module it took more than 3 days and then

what happens, automatically sprint cycle is affected and scrum master will ask why this much time has

taken, why these many days taken for this particular sprint. Then we have to give proper reason to

justify that. Then how the Scrum master will know how much work completed and how much work

is in pending, so for that the ScrumMaster will a Excel Chart and that is called Burndown Chart.

And Burndown chark is a kind of a graph which will prepare by the ScrumMaster.

Throughout this process there are three things we need understand

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1). Roles

First thing is what are the people who were involved in the team and what are their Roles.

2). Artefacts

Artefacts means what are all the Documents we have in the process

So We have,

Product Backlog : Contains all the user stories defined by the Product Owner

Sprint Backlog : List of committed stories by Dev/QA for specific sprint.

Burndown Chart : Shows how much work remaining in the sprint,. Maintained by the scrum master daily.

3). Ceremoniew

Sprint planning meeting, Daily Scrum Meeting, Sprint Review or Sprint Rectrospective meeting.

Scrum Board:

Scrum Board is nothing but which contain some user stories, like we can Track and drag the stories as

Stories:

what are all the user stories accepted by the Dev and QA , and

ToDo:

What are all the user stories in ToDo section.

In progress:

What are all the user stories is in progress

Testing:

What are all the user stories is in Testing Place

Done:

How many story are done:

On day to day basis the Scrum Board will be Updated, So previously few years back These things

Done Manually, by establishing one white board, make multiple sections, using some sticky notes

paper written and move on those sticky note paper in different sections. But Nowadays in the tools

itself we can do that, Especially JIRA Tool provide a kind of a Scrum Board, where we can move all

the stories to one status to another status, like drag the To Do to Inprogress, and can drag Inprogress

to Testing like that..and we can move it to the Done,

And once the Story is completed to the Done Stage, then that Story is ready for Demo and after that

Demo we can release the software/particular feature/Module/particular Sprint's story to the customer.

Scrum Board is maintained by the team and it says how many stories we have planned, how many are

ready for to do, how many are completed testing and how many are ready to deliver.

So Whatever the tasks or activities that we have discussed so far as part of Agile Process each Activity

we can track using a tool which is called AGILE MANAGEMENT TOOL like JIRA is a example, JIRA is

a tool, in which we can define the product backlog, we can write all the stories, we can plan the Sprint

we can also desire the Story for SprintBacklog, We can create the sprint, we can track the time and

effort, everything like we can also do some test management activities like we can write the test cases,

we can execute the updates, we can execute the test cases, we can report the BUG. Everything we

can do using JIRA itself.

Before this tools came into market, people are doing with Templates using Excel files and drag

everything manually, But Now-a-days The Toools will do Everything based upon our datas.

Finally we have,

Definition of Ready(DOR) & Definition of Done(DoD). see Screen Shot