Scenario: I the author of this document and the owner of the companyoversees creating an application for the university registration system. We will have a team of 19 people including 12 software engineers. Our assignment for this project is to merge the BYUI grad plan with the registration system. We need to find an optimum schedule that will decide the number of sections needed for any specific class in that semester.

**Roles:**

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| --- | --- | --- | --- | --- | --- | --- |
| Name of Role | Qualification | | Responsibilities | | People Assigned | |
| **Product Owner** | | Should be able to lead the team. Should have good product vision. Must have leadership and business background. | | Will be responsible to communicate with the development team and explain the needs for the product.  Takes major decisions in the development process.  Prioritize the product backlog.  Confirms the product completion and shippable product.  Will make decisions for the benefit of stakeholders. | | Owner/ Rochak. | |
| **Scrum Development Team** | It includes cross-function team members who will be responsible for building the product needed. People with skills needed in software development will be in this group.  Must be able to micromanage. | | Will plan a sprint with the product owner. Will decide how to develop the new feature.  Will collaborate with all the team members in a team to allocate work based on their area of expertise. Will do all the process needed to complete a sprint. This team will be responsible for analysis, design, coding, testing, planning for the future of the increment. | | Britney, Claire, Doug, Emily, Frank, Grace, Holly, Ingrid, Jack, Keith, Abe, Ursula, Xavier, and Larry. | |
| **Scrum Master** | Should have organizational and management skills.  Should be familiar with the tools and environment needed for a project.  Must be a good leader and coach.  Should be able to understand the development team member. | | Will do all the processes-working in the development team(team) and will be responsible for team efficiency and creativity.   Will conduct retrospective meeting.  Will facilitate sprint planning meeting, and other meetings, as well as facilitate almost all decision-making process without the direct involvement in decision making.  Keeps groups intact and will increase Dev team’s efficiency. | | Terri | |
| *Helper* | Should be able to help Rochak in office work if you are secretary. Keep the office clean if you are a custodian. | | Will do your assigned job.  Will make office a friendly workplace as a secretary. | | Stan, Sally, and Chrissy. | |

**Meetings:**

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| --- | --- | --- | --- | --- |
|  | Who (Scrum master is a facilitator) | Agendas | Purpose | Events |
| *Product Planning Meeting* | Product Owner, Development Team, and Scrum Mater | Understand the project and team one will be working on. | To understand the project and the working methodology. | At the beginning of the project only. |
| **Sprint Planning meeting** | Product Owner and Development Team. (Scrum Master is a facilitator. This will happen in all the meetings.) | Make a sprint backlog | Convert prioritized product backlog item to sprint backlog item and come up with the works that will be required to finish that particular sprint backlog item. Try to add as much as items in sprint backlog as long as team members feel like they can finish in a particular sprint without overtime. | Will be held at the beginning of each sprint, on Monday, and can go a maximum of 4 hours (exception can occur). |
| **Daily Scrum** | Development team | Work completed yesterday and what will be done today. Are you working with someone as a pair?  Any technical difficulty? | Discuss the item that was completed yesterday and explain to the team what you will be working on today.  To understand the development process that is going inside the team. Better collaboration among the team member.  Encourage collabotrative environment and encourage pair programming if needed. | This will occur every day in the first working hour for 15mins only. |
| **Sprint Review Meeting** | Development team, Stakeholder, and Product owner | Product Demonstration, Product Owner declares what done, and Measure velocity. [4] | The team reviews the sprint item selected and presents which are considered done, product owner checks to makes sure it fulfills the requirement for completion, and stakeholder gives reviews on it, and some feedback if anything is missing.  Anything that is incomplete will go back to PBI and will be reranked again.  If stakeholders want to add any new feature it will be added to PBI. | This will occur at the end of the sprint on Friday. |
| **Sprint Retrospective Meeting** | Development Team | To inspect and adapt the process of development. | To come up with a better working environment.  Scrum master would have an idea about the psychological state of all the team members.  This meeting will help in making a work environment healthy and friendly. | This will occur after the Sprint review meeting at the end of the day on Friday. |
| **Backlog Refinement Meeting** | Product Owner, Development team | Divide big PBI into small PBI and user stories.  Relook on the priority of PBI. | Product Owner (PO) sometime might not know the technical complexity hidden behind the feature he defines in PBI. So, Dev team and SM help big PBI to divide into smaller user stories so PO can re-prioritize those smaller PBI. | This should happen before the sprint planning meeting and will happen once every sprint. |
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**Documentation:**

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| --- | --- | --- | --- | --- |
|  | Authors | Audience | Purpose | Deadline and Usefulness |
| **Product Backlog** | Anyone but only PO can prioritize features. | Everyone | To prioritize the feature. | This will be useful for the lifetime of the software development process. |
| **Product Backlog Item** | Development team | Everyone | Sometimes written in user stories form for better clarification, so the PBI can be understood better.  Will help in developing acceptance criteria for a feature (PBI).  Goes deeper into technical things. | This is a part of Product Backlog, but each item dies or goes to increment after the feature is been released. |
| **Sprint Backlog** | Development Team | Development team | It a basically a copy from PBI but will be in more detail that will specify the work completed, in-process, and also the work that hasn’t started yet.  Keeping the team on track to develop only those features that are needed for feature completion. | This is useful for a given sprint. |
| **Increment** | Product Owner or Dev team. Done in a Sprint review meeting. | Everyone | Keep tracks of the PBI that are completed.  Helps to see if the minimum necessary feature is made for a product launch. | lifetime of the software development process. |
| **Sprint Task** | Dev team | Dev team | Dividing task among developer.  Encourages collaboration and idea-sharing.  Making a list of work that needs to be done to complete the sprint Backlog item. | Lasts for a sprint. |
| **Sprint Burndown Chart** | Dev team | Everyone | Helps to organize team  Helps to visualize the progress and work remaining. | Lasts for a sprint. |
| **Product/Release Burndown Chart** | Dev team | Everyone | Helps to “tracks the remaining Product Backlog effort from one Sprint to the next” | Last for a product lifetime. |

**Checkpoints:**

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| --- | --- | --- |
| Name | Time Estimation | Exit Criteria |
| *Daily Work* | Daily | The work that one hoped to complete at the beginning of the day must be done. It is more to oneself and does not have to be reported. |
| **Sprint** | For a Sprint/Iteration | All the analysis, design, coding, testing, and integration testing must be completed.  A feature put in a sprint backlog must be developed.  A sprint will be for 2 weeks and feature develops must be working. Non-working feature will go back to PBI. |
| **Minimum Shippable Product (MSP)** | Few Sprint | Until all the minimum criteria for making a minimum working product is developed.  It is unpredictable and can go from one sprint to a few. |
| **Iterative Release after MSP** | Most of the time bi-weekly after the minimum shippable product. | The sprint backlog must pass the requirements testing from the product owner.  It is like a regular update, so if new feature is added from PBI then the iterative release checkpoint is completed. It is basically a sprint after minimum shippable product. |
| **Complete Product** | The whole project maybe around 6 months. | All the requirements from PBI are completed  Stakeholders are happy and they don’t want anything extra.  And the product does the job. |

**Reflection:**

Since we have a small team of 16 people, I think this method will be good enough for making the product that can satisfy our customer. I am little scared about the efficiency because of the larger team size in my company, but if they can collaborate and micromanage this should work. There is regular feedback from customer as well as we will supply a working product ahead in the development process that can keep the customer happy as well as my employee motivated.

There are some weaknesses and Strengths in the Scrum model; some are listed below.

Weakness:

* It can be difficult to collaborate in a small team.
* The project can go very long because of the lack of end date and fixed requirement.
* It can be difficult to practice with inexperienced developers.
* No one has a fixed role, which might decrease efficiency.
* Daily meetings can be sometimes frustrating.
* There is no specific instruction from the project manager or lead engineer, so everybody has to be experienced and know what they are doing.

Strength

* Software can be delivered quickly.
* Large projects can be divided into small manageable sprints.
* Good for a small team
* Individual, as well as a team effort, is easily visible.
* Clear visibility of work in the scrum planning meeting.
* Clear direction to work because of the daily scrum meetings.
* Collaboration among team members and pair programming can bring a quality product.

**Resources:**

[1]. M. James, "Scrum Reference Card," [Online] Available: http://scrumreferencecard.com/ScrumReferenceCard.pdf

[2]. M. James, "Introduction to Scrum", Scrum Training series [Online] Available:[http://scrumtrainingseries.com/Intro\_to\_Scrum/index.html](https://content.byui.edu/items/fb36352f-44a4-473d-bb81-1e5a2ce36646/1/?.vi=file&attachment.uuid=46402a9f-4f13-4b6d-930d-8a9272a39534)

[3]. “Scrum Master Job Descriptions and Responsibilities In Agile Methodology,” *Yodiz Project Management Blog*, 10-Oct-2017. [Online]. Available: https://www.yodiz.com/blog/scrum-master-job-descriptions-and-responsibilities-in-agile-methodology/. [Accessed: 19-Oct-2019].

[4]. “Sprint Review Meeting - CollabNet Scrum Training Part 5,” *Collabnet*. [Online]. Available: Sprint Review Meeting - CollabNet Scrum Training Part 5. [Accessed: 19-Oct-2019].

[5]. Chandana, “Scrum Project Management Pros and Cons,” *Simplilearn.com*, 04-Oct-2019. [Online]. Available: https://www.simplilearn.com/scrum-project-management-article. [Accessed: 20-Oct-2019].

[6] “Introduction to Srum,” *Uzility*. [Online]. Available: https://www.youtube.com/watch?v=9TycLR0TqFA. [Accessed: 19-Oct-2019].

**Self Grading:**

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| --- | --- | --- | --- | --- | --- |
|  | Exceptional 100% | Good 90% | Acceptable 70% | Developing 50% | Missing 0% |
| Accuracy 40% | It is completely obvious which development methodology is described. Any knowledgeable person would be able to identify the methodology based on this document. | There is nothing to add and nothing wrong; the development methodology is completely described. One part of the plan may be misclassified as **bold** or *red/italic* | There exists one small problem (factual error or missing component). | There exists one large or multiple small problems (factual errors or missing components). | Large parts of the development methodology are inaccurately described or missing. |
| Application 30% | It is obvious that real thought went into the application (*the red/italic part*) of the plan. | The development methodology is applied to the scenario in an uncontrived way. | Every aspect of the scenario is incorporated into the development methodology. | Large parts of the plan are overly vague, do not appear to be related to the scenario, or do not appear to be related to the development methodology. | No attempt was made to apply the development methodology to the scenario. |
| Reflection 20% | The reflection cuts to the heart of the strengths and weaknesses of the development methodology. | The strengths and weakness of the development methodology are clearly communicated. | One strength and one weakness is mentioned in the reflection. | Little thought or effort was put in the reflection part of the paper. | The reflection part of the paper is missing. |
| Professionalism 10% | The paper is easy to read and ideas are clearly communicated. | Everything is properly cited, there are no grammar or spelling errors, and writing style is "professional." | One instance of a spelling error, grammar error, incomplete citation, overly verbose, poor formatting, or poor writing. | A citation is missing where one is needed (plagiarism alert!). |  |