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Practice Assignment 2

Exercise 2-1

Businessman would like to build a restaurant website where customer can view all restaurants inside website. Also, he can add review to any restaurant. In addition, he can search for any restaurant name. Also, low rating restaurants must be removed from website.

Team of two software Engineering decided to build the restaurant website.
Note that each member works 8 hours daily for only five days per week.

1. Design the product backlog and sprint backlog

Do not forget to mention the estimated working days and priority of each user story.

Solution:

Product Backlog				
ID	User Stories	Estimated (working days)	priority	Status
1	As a user I want to search for restaurant name or to filter restaurants based on ratings	4	High	New
2	As a user I want to add a review on any restaurant	2	Medium	New
3	As a user I would like to view all restaurants	2	High	New
4	As a user I want to add a rating on any restaurant	4	Medium	New
5	As a user I would like to view each restaurant profile	4	High	New
6	As an admin I can delete a restaurant from website	2	Medium	New
7	As an admin I can add new restaurant to website	2	High	New
8	As an admin I can edit any restaurant profile	4	Low	New
9	As a user I want to create an account on website	6	High	New
10	As a user I want access my account on website	6	High	New

Prioritized Product Backlog				
ID	User Stories	Estimated (working days)	priority	Status
1	As a user I want to search for restaurant name or to filter restaurants based on ratings	4	High	New
3	As a user I would like to view all restaurants	2	High	New
5	As a user I would like to view each restaurant profile	4	High	New
7	As an admin I can add new restaurant to website	2	High	New
9	As a user I want to create an account on website	6	High	New
10	As a user I want access my account on website	6	High	New
2	As a user I want to add a review on any restaurant	2	Medium	New
4	As a user I want to add a rating on any restaurant	4	Medium	New
6	As an admin I can delete a restaurant from website	2	Medium	New
8	As an admin I can edit any restaurant profile	4	Low	New

Note that User requirements initially were divided into user stories. Then we assign priority for each user story. Then we sort user stories according to its priority.

The sprint backlog

Sprint 1					
ID	User Stories	Estimated (working days)	priority	Status	
1	As a user I want to search for restaurant name or to filter restaurants based on ratings	4	High	New	
3	As a user I would like to view all restaurants	2	High	New	
5	As a user I would like to view each restaurant profile	4	High	New	
7	As an admin I can add new restaurant to website	2	High	New	
9	As a user I want to create an account on website	6	High	New	

Sprint 2					
ID	User Stories	Estimated (working days)	priority	Status	
10	As a user I want access my account on website	6	High	New	
2	As a user I want to add a review on any restaurant	2	Medium	New	
4	As a user I want to add a rating on any restaurant	4	Medium	New	
6	As an admin I can delete a restaurant from website	2	Medium	New	
8	As an admin I can edit any restaurant profile	4	Low	New	

Exercise 2-2

The following product backlog was designed by two software engineering experts.

ID	User Stories	Estimated (working hours)	priority	Status
1	As a user I want to search for restaurant name or to filter restaurants based on ratings	8	High	New
2	As a user I want to add a review on any restaurant	10	Low	New
3	As a user I would like to view all restaurants	6	High	New
4	As a user I would like to view each restaurant profile	6	Medium	New
5	As a user I want to create an account on website	20	High	New
6	As a user I want access my account on website	20	High	New
7	As an admin I can delete a restaurant from website	8	Medium	New
8	As an admin I can add new restaurant to website	8	High	New
9	As an admin I can give authorization to restaurant owner user to create or edit his restaurant profile	4	Medium	New
10	As a owner Restaurant user I can edit my restaurant profile	15	Low	New
11	As a owner Restaurant user I can create my restaurant profile	15	Medium	New

The two software engineering experts decided to build website.

Each team member works for 20 hours per week.

1. Design the sprint backlog
2. Will the team be able to deliver project within a month ? Justify your answer

Solution:

1. Design the sprint backlog

Sprint 1					
ID	User Stories	Estimated (working hours)	priority	Status	
1	As a user I want to search for restaurant name or to filter restaurants based on ratings	8	High	New	
3	As a user I would like to view all restaurants	6	High	New	
5	As a user I want to create an account on website	20	High	New	
6	As a user I want access my account on website	20	High	New	
8	As an admin I can add new restaurant to website	8	High	New	
9	As an admin I can give authorization to restaurant owner user to create or edit his restaurant profile	4	Medium	New	

Sprint 2					
ID	User Stories	Estimated (working hours)	priority	Status	
4	As a user I would like to view each restaurant profile	6	Medium	New	
7	As an admin I can delete a restaurant from website	8	Medium	New	
9	As an admin I can give authorization to restaurant owner user to create or edit his restaurant profile	4	Medium	New	
11	As a owner Restaurant user I can create my restaurant profile	15	Medium	New	
2	As a user I want to add a review on any restaurant	10	Low	New	
10	As a owner Restaurant user I can edit my restaurant profile	15	Low	New	

Note: there might be different solution based on how much buffer is going to be left.
The main concern is to make the backlog based on priority and the capacity (total hours) of the sprint.
It is recommended to leave between 10% and 20% of each sprint capacity as buffer

2. Will the team be able to deliver project within a month ? Justify your answer

Yes because the product backlog is designed by software engineering experts. Also, The same team of experts are going to build project. Experts mainly make accurate estimates due to their high level of experience. A single Month is equivalent to two sprints. Thus, we got 160 free hours to finish project and the total time estimated to finish project is 120 hours. Therefore, we got extra 40 hours as buffer.

Note : The default duration of software engineering sprint is mainly two weeks. We got team of two experts where each expert works for 20 hours per week. Total time for sprint = $(2*20)*2 = 80$ hours

Exercise 2-3

The product backlog in Ex 3.1 used working days as an estimate for time taken to finish user story.
However, The product backlog in Ex 3.2 used working hours as an estimate.

Which is better between working days and working hours as estimate in product backlog ?
Justify your answer

Solution:

Working hours is preferable due to the efficient use of human resources. Working hours are more precise while using working days is an overestimate for the time needed to complete a task. The source of income can be declined due to overestimate. For example, company is currently working on two projects. They declined a third project which is source of income for them because they did overestimates.

Exercise 2-4

Explain the differences between overestimating and underestimating in terms of time taken to complete a project.

Solution:

Overestimation is the estimated time to complete the project is greater than the actual time to finish a project. Overestimation can indeed result in the poor utilization of human resources. When team members are allocated for a longer duration than necessary, it can lead to under-utilization, which is not cost-effective for the organization. Efficient resource allocation is critical for project success. Overestimation can lead to misguided choices, like rejecting new projects that could be financially beneficial for the organization

Underestimation is the estimated time to complete a project is less than the actual time to finish a project. Underestimating can increase the risk of not delivering on time which can lead to customer dissatisfaction and potentially losing the customer as well as damaging the company's reputation.