SE 216 – SOFTWARE PROJECT MANAGEMENT
SOFTWARE MEASUREMENTS DOCUMENT

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Questions to identify measurements:

1. How many features do we add?
2. How much effort did we spent on the training part?
3. How many requirements were added to the backlog?
4. How many APIs are we currently integrating with?
5. How effective are performance optimizations?
6. How many hours were spent on performance testing?
7. How many bugs were fixed?
8. How effective is the communucation?
9. How secure is the implemented system?

Identified measurements:

1.1. Total number of features added in the current development cycle .
2.1. Total amount of hours to spent on each tool that used in the project.
2.2. Persentage of success in each tool.
3.1. Total number of new user stories added to the backlog .
4.1. Total number of APIs integrated into the project.
5.1. Total number of performance optimizations implemented.
5.2. Impact of each optimization on system performance (speed effect,memory usage effect).
6.1. Total number of hours spent on performance testing throughout the project.
7.1. Total time taken to fix each bug .
8.1. Amount of hours to spent in sprint meetings.
8.2. Number of missunderstanding found in meetings.
9.1. Authentication system assessment.

Measurement storage and collection:

What

- Count of features, including personalized profiles,lecture materials,communities and announcement system.(1.1)
- Hours spent on learning each tool.(2.1)
- Success rate of the team in each tool.(2.2)
- The amount of new user stories added to the backlog.(3.1)
- Count of APIs integrated into project.(4.1)
- Count of performance optimizations.(5.1)
- System's Memory usage percentage and feedback time.(5.2)

- Total number of hours spent preparing and performing reviews.(6.1)
- Time to fix each individual bug.(7.1)
- Total number of meeting time.(8.1)
- Total amount of clarity times.(8.2)
- Combinatorial analysis. (9.1)

When

- After each feature development.(1.1)
- Before coding new parts of project(2.1,2.2)
- Just before a new sprint begin.(3.1)
- Recorded just after completion of each API integration.(4.1)
- After completion of each optimization task.(5.1)
- Evaluated during testing phase.(5.2)
- Recorded immediately following each review session.(6.1)
- Recorded after fixing of each bug.(7.1)
- Recorded immediately following each meeting session (8.1)
- Evaluated after implementation of each authentication system. (9.1)

Format

- Integer data (1.1, 2.1, 3.1, 4.1, 5.1, 9.1)
- Real number data (2.2, 5.2, 6.1, 7.1, 8.1)

How

- With using an online spreadsheet like exel.(1.1, 2.1, 2.2 , 8.1, 8.2)
- Tracked in the project's backlog management document.(3.1)
- Specified document for API integrations.(4.1)
- Tracked in a performance optimization log.(5.1)
- Recorded in a system performance report.(5.2)
- Entered into a pre-specified project spreadsheet by the review leader.(6.1)
- Logged in a spreadsheet that contains when the bug was fixed and how long it took to be fixed.(7.1)
- Combinatorial analysis report that done by experts. (9.1)

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Measurement Type	Description	Example Measurements
Project development efficiency	Measures, how efficient project development life-cycle going.	Sprint repetiton count, frequency , bug fixing time , hours spent on performance tests. - 2.1, 2.2, 6.1, 7.1, 8.1
Robustness	Measures how safe is the program.	bug fixing time. - 7.1
Performance of implementation	Measures the overall performance of the implemented system.	Total number of optimization implemented, Impact of these optimizations. - 5.1, 5.2
Functionality	How functional/useful is Project ?	Total number of features added. API count - 1.1, 4.1
Acceptability	How acceptable is this Project? Is this project satisfies customers needs?	Total number of new user stories added to product backlog - 3.1
Security	How secure is the implemented system?	Combinatorial analysis about authentication system - 9.1