

SE 216 – SOFTWARE PROJECT MANAGEMENT
SOFTWARE MEASUREMENTS DOCUMENT

PROJECT NAME: ECOLIB

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Questions to identify measurements:

1. What is the average occupancy rate of the library during peak hours?
2. What was the duration allotted for the planned sprints?
3. What is the overall level of Stakeholders satisfaction with the reservation system?
4. How many issues (bugs, defects, errors) were encountered during testing phases?
5. How effectively are the algorithms performing in terms of accuracy and efficiency during development?
6. How long did it take from the start of the project to the delivery of the final product?
7. How effective are the algorithms performing in terms of accuracy and efficiency during development?

Identified measurements:

1. **Measurement: Average Occupancy Rate**
 - **Definition:** The percentage of seats or study areas occupied during peak hours in the library.
 - **Method:** Regular monitoring and data collection through the reservation system.
2. **Measurement: Sprint Duration**
 - **Definition:** The length of time allocated for each sprint in the Scrum development process.
 - **Method:** Tracking the start and end dates of sprints in the project management tool.
3. **Measurement: Stakeholders Satisfaction Level**
 - **Definition:** The level of satisfaction expressed by stakeholder with the reservation system after for each sprint.
 - **Method:** Surveys or feedback forms collected after using the deliverable of each sprint.
4. **Measurement: Number of Issues Encountered**
 - **Definition:** The total count of bugs, defects, or errors identified during testing phases.

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- **Method:** Tracking issues reported in the project management or bug tracking system.

5. **Measurement: Algorithm Accuracy and Efficiency Rate**

- **Definition:** The percentage of correct outputs generated by algorithms and their computational efficiency.
- **Method:** Benchmarking algorithms against known datasets and measuring execution time.

6. **Measurement: Project Duration**

- **Definition:** The total time elapsed from project initiation to the delivery of the final product.
- **Method:** Tracking project milestones and completion dates in the project management tool.

7. **Measurement: Algorithm Performance (Accuracy and Efficiency)**

- **Definition:** The effectiveness of algorithms in terms of both accuracy and computational efficiency during development.
- **Method:** Evaluation through testing and profiling tools, measuring accuracy and execution time.

Measurement storage and collection:

1. **Measurement: Average Occupancy Rate**

- **What:** Number of occupied seats or study areas
- **When:** Regularly during peak hours (e.g., every hour)
- **Format:** Percentage
- **How:** Captured automatically by the reservation system, then entered into a pre-specified project spreadsheet by the responsible personnel.

2. **Measurement: Sprint Duration**

- **What:** Duration of each sprint
- **When:** At the end of each sprint
- **Format:** Weeks
- **How:** Recorded by the Scrum Master, then entered into a pre-specified project spreadsheet documenting sprint details.

3. **Measurement: Stakeholders Satisfaction Level**

- **What:** Satisfaction scores or ratings
- **When:** After stakeholders interact with the each sprint increment
- **Format:** On a scale of 1 to 10
- **How:** Collected via surveys or feedback forms, then entered into a pre-specified project spreadsheet by the team responsible for analyzing stakeholders feedback.

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4. Measurement: Number of Issues Encountered

- **What:** Count of bugs, defects, or errors
- **When:** Throughout testing phases
- **Format:** Integer data
- **How:** Reported and tracked using a project management or bug tracking tool, with data entered into a pre-specified spreadsheet by the testing team.

5. Measurement: Algorithm Accuracy and Efficiency Rate

- **What:** Accuracy percentage and execution time
- **When:** During algorithm testing and evaluation
- **Format:** Percentage and milliseconds
- **How:** Benchmarking against known datasets and performance profiling, with results recorded in a pre-specified project spreadsheet by the development or testing team.

6. Measurement: Project Duration

- **What:** Total time elapsed for project completion
- **When:** After project delivery
- **Format:** Weeks or months
- **How:** Recorded by the Product Owner or responsible personnel and entered into a pre-specified project spreadsheet documenting project milestones.

7. Measurement: Algorithm Performance (Accuracy and Efficiency)

- **What:** Accuracy percentage and execution time
- **When:** During algorithm development and testing
- **Format:** Percentage and milliseconds
- **How:** Evaluated using testing and profiling tools, with results documented in a pre-specified project spreadsheet by the development or testing team.

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Measurement Type	Description	Example Measurements
Average Occupancy Rate	The percentage of seats or study areas occupied during peak hours in the library.	75%, 80%, 65%
Sprint Duration	The length of time allocated for each sprint in the Scrum development process.	2 weeks, 3 weeks, 4 weeks
Stakeholders Satisfaction Level	The level of contentment or happiness expressed by stakeholders with the reservation system.	8 out of 10, 4 out of 5, 90% satisfied
Number of Issues Encountered	The total count of bugs, defects, or errors identified during testing phases.	10 issues, 15 defects, 5 bugs
Algorithm Accuracy and Efficiency Rate	The percentage of correct outputs generated by algorithms and their computational efficiency.	90% accuracy, 95% efficiency
Project Duration	The total time elapsed from project initiation to the delivery of the final product.	12 weeks, 6 months, 1 year
Algorithm Performance (Accuracy and Efficiency)	The effectiveness of algorithms in terms of both accuracy and computational efficiency during development.	85% accuracy, 50 milliseconds