Learning Journal 2

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Course: SOEN 6841 Software Project Management

Journal URL: https://github.com/Rafsan4084/SOEN-6841_Software-Project-Management-Fall2024

Dates Range of Activities: 22 September 2024 - 5 October 2024

Date of the Journal: 5 October 2024

Key Concepts Learned

This week's focus was on Risk Management and Quality Management in software projects.

Risk Management

- **Risk Identification & Classification**: Discussed technical, organizational, and external risks, emphasizing early identification to mitigate issues effectively.
- **Risk Assessment**: Explored both qualitative (risk matrix) and quantitative (risk exposure) methods, enhancing my ability to prioritize risks based on impact.
- **Risk Control**: Examined strategies like avoidance, mitigation, transference, and acceptance to manage risks appropriately.

Quality Management

- **Quality Planning**: Setting quality standards and metrics to align outcomes with customer needs.
- **Quality Assurance (QA)**: A proactive approach that ensures robust processes are in place to prevent defects.
- **Quality Control (QC)**: A reactive approach involving testing and reviews to detect and fix defects.

Application in Real Projects

- **Risk Management**: In a mobile banking project, identifying risks like security vulnerabilities helps in prioritizing mitigations such as encryption, risk transfer via insurance, or using AI-based threat detection. An innovative approach could involve leveraging blockchain technology to create an immutable ledger for enhanced security, minimizing risks related to data integrity and fraud.
- **Quality Management**: Setting benchmarks, such as a 2-second load time for a Content Management System, ensures performance standards are met. Using unit testing and peer

reviews can maintain quality, while automated testing frameworks like Selenium improve efficiency by detecting issues early, leading to reduced cost and time in quality control.

Peer Interactions

Discussions with peers compared risk mitigation in agile and waterfall projects. Agile focuses on adaptability and frequent feedback, while waterfall emphasizes comprehensive upfront planning, which suits projects with fixed requirements like healthcare. One peer shared insight on compliance audits in regulated industries, helping me understand quality requirements in sensitive domains. Additionally, peer feedback encouraged me to explore automated risk management tools, which has influenced my approach to integrating automated risk assessments, improving both accuracy and response time in risk management.

Challenges Faced

Differentiating QA from QC was challenging due to their similar objectives of ensuring product quality. QA ensures robust processes are in place to prevent issues, whereas QC is focused on identifying and fixing defects. Discussions with peers and practical examples clarified these distinctions. Another challenge was applying quantitative risk assessment without historical data. To overcome this, I practiced creating risk scenarios, reinforcing the importance of maintaining a well-documented history for future projects. This experience highlighted how valuable comprehensive documentation is for effective risk management.

Personal Development Activities

To address these challenges, I reviewed literature on risk management, practiced creating risk matrices, and attended a webinar on ISO 9001 and Six Sigma. These activities deepened my understanding of industry standards and best practices for ensuring consistent quality. Additionally, I explored Jira for QA management, learning to automate issue tracking and integrate QA activities. Experimenting with Selenium for QA automation also improved efficiency, reducing manual efforts in testing and providing insights into integrating QA tools with CI/CD pipelines for continuous quality assurance. These experiences helped bridge the gap between theory and real-world application.

Goals for the Next Week

1. **Learn Quality Metrics**: Deepen understanding of defect density and customer satisfaction metrics to enhance product quality.
2. **Practice Risk Management**: Create a risk management plan for a small project, incorporating predictive analytics.
3. **Explore QA Tools**: Further explore Selenium for QA automation, focusing on integration with CI/CD tools to streamline quality checks.