Best Practices - Software Development

Indu R Porwal
Senior Manager Solutions Development, IEEE

Email: i.porwal@ieee.org
Linkedin: https://www.linkedin.com/in/induporwal/
**Software Development**

1. Project Initiation: **Project Development Estimate**
2. Team formation: **Recruit team members**
3. Project Planning: **Project Plan, Set Milestones, Targets**
4. Requirements Analysis
5. Design
6. Build
7. Testing
8. Implementation
9. Maintenance

Own It

Communicate More often

Think Out of Box

what inspires you?

AGILE

Retrospect

TRAINING

DOCUMENT

COS
1. Project Estimation

1. What is the purpose?
2. How users intend to use the product?
3. Complexity of the product
4. Highlight Risks/Unknowns
5. Assumptions
6. Probability of Changes
7. Availability of client to clarify requirements - Set expectations
8. Cost estimates - probability of change
Why user wants what’s being asked for?

Developer understanding

User ambition
2. Development Team formation

1. Define High Performing Team
2. Define skills of Team
3. Define Team Training Plan
   a. Explain Purpose
   b. Remind Purpose
   c. Evaluate Understanding
3. Project Planning

1. Define Project Plan
2. Define Stakeholders
3. Defines Roles and Responsibilities
4. Identify Steering Committee
5. Identify frequency of communication with every stakeholder
6. Explain methodology - AGILE
7. Set expectations for engagement
8. Escalation Criteria & levels
9. Identify Operational Processes
10. Technical debt Sprints planning
4. Requirements Analysis:

1. Requirements mostly capture **what to do, not why**
2. **Ask, Ask and Ask**
3. Develop prototype and get early feedback
4. Discuss alternatives
5. Design

1. Maintenance - Readability, Modularity, Scalability
2. Define high level framework
3. Define **Data Privacy Rules**
4. Define **permissions** on every action
5. Define **Coding Best Practices**
6. Define **Security Considerations**
7. Set up review process
8. Set up **Security Scan** process
Reviews & feedback

1. Peer Reviews
2. User feedback
3. Set up a mandatory process for reviews
4. Constructive feedback
5. Is everyone participating?
6. Build

1. **Automate** Operational processes
2. Integrate build with minimum *test* coverage
3. Define Change Control process
4. Define build frequency & communication plan
5. Publish Release notes
7. Testing

1. Review Purpose
2. Positive Testing
3. Negative Testing
4. **Automated Test Scripts**
5. Different **browsers**
6. Different **devices**
7. **Usability**
8. Performance - Load Testing
8. Implementation

1. Define Go-live plan
2. Explain Roles & Responsibilities
3. Inform *users* if required
4. Plan for buffer time
5. Team on Standby
6. Define *Disaster Recovery Plan*
7. Define *back up plans*
9. Maintenance

1. Define **day to day** operational activities
2. Roles & Responsibilities
3. What is **bug**? What is **defect**?
4. **Service Level Agreements**
5. Plan regular **Disaster recovery exercises**
Key Principles

1. Brutal Honesty
2. Communication
3. Inspired team
4. Innovation
5. Retrospect
Brutal Honesty

1. Being Vulnerable
2. Start from I
3. Acceptance of failures
4. Team owns all success and all failures
5. Learn from failures
6. Schedule time to discuss lessons learnt
Communication

1. Identify stakeholders
2. Identify frequency of updates
3. What updates
4. Escalation Mechanism
5. More is better
6. Upwards & Downwards
7. Steering Committee
Inspired Team

1. Discipline
2. Flexibility
3. Sense of Achievement
4. Each others support
Innovation
Retrospect frequently

STOP

LESS

START

MORE

KEEP
Thank you

Indu R Porwal
Email: i.porwal@ieee.org
Linkedin: https://www.linkedin.com/in/induporwal/