Prateek Bawane

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EXPERIENCE

- **12+ years of experience** as a Technical Product Owner in the Software Industry.
- Working for **Rittal,** from Nov 2024.
- **Technical Product Owner** for Direct liquid cooling DLC 150kW and 1MW, Uniflair Monoblock, EasergyP5 and MV Breaker device driver.

    - Acted as a liaison between stakeholders, marketing team and scrum team to understand product features and client requirements for prioritizing the product roadmap.
    - Created Product Epic, features, backlogs and userstories. Backlog refinement and re-prioritizing user story with scrum team during product incremental planning.
    - Requirement presentation to the scrum team for story point mapping and estimating the efforts.
    - Ensured good collaboration within the agile scrum team during sprint helped in timely deliverable with an average of 95% PBI completion each sprint.
    - Managed and re-prioritized the product backlog to achieve stretch objectives.
    - Procured device or product for smooth development and verification.
    - Conducted product incremental demos to the customers and stakeholders for review and feedback.
    - Ensured zero bug policy for products released to delight customer.
    - Led and mentored a team of 9 members and foster cross functional and independent agile scrum team.

SKILLS

Communication, vision and strategy, product management, leadership and mentoring, decision making, collaboration, Stakeholder management and engagement, curiosity to ask right questions and learning and adaptation.

KEY STRENGTHS AND COMPETENCIES

- Product Strategy and Vision: Expertise in defining product vision, developing roadmaps, and executing strategies that align with business goals and market demands.
- Agile Methodologies: Proficient in agile frameworks, including Scrum and Kanban, with extensive experience in sprint planning, backlog management, and iterative development.
- Requirements Engineering: Skilled in eliciting, documenting, and prioritizing requirements, ensuring clear communication and alignment between stakeholders and development teams.
- Cross-Functional Leadership: Effective in leading and collaborating with cross-functional teams, including engineering, design, marketing, and sales, to drive product success.

- User-Centric Design: Strong focus on understanding user needs and behaviors, translating insights into actionable product features and enhancements.
- Release Management: Experienced in managing product releases, coordinating efforts across teams, and ensuring timely and quality delivery.
- Data-Driven Decision Making: Leveraging data analytics and user feedback to inform product decisions, optimize features, and drive continuous improvement.
- Stakeholder Engagement: Proven ability to manage stakeholder expectations, communicate progress, and facilitate decision-making processes.

TECHNICAL SKILLS

Project Management Framework	: Scrum
Software Development Methodology	: Agile
Language	: C, C++
OS	: Linux, Windows
Bug Tracking Tool	: Jira
Protocols	: Knowledge of TCP/IP protocol suite, SIP, IPACS, Modbus
Debugging Tools	: GDB
Profiling Tools	: Valgrind
Source Code Management Tools	: Git, Team Foundation Server
Agile Project Management Tools	: VersionOne, Azure DevOps, Miro
Threat Modeling Tool	: Microsoft threat modeling tool

ACADEMIC QUALIFICATION

- **B.E. (C.S.E.)** from Vindhya Institute of technology and Science, Indore, R.G.P.V.

CERTIFICATIONS

- Certified Scrum Master
- Blockchain Revolution

KEY SKILLS:

- **12+ years of experience** as a Technical Product Owner in the Software Industry.
- Design document creation and threat modelling for the project.
- Requirement gathering from marketing team,product managers, product management and pre development team.
- Drafting raw technical requirements into Epics, features, PBI's and user stories.
- Backlog refinement and prioritizing.
- Experience in device driver development for devices EasergyP5, Samsung, Altivar, PAC Series, EVLink Pro AC, EOS_BM100_PTM100_MCM100, EM3570A_AX, Uniflair Monoblock and TransferPacT Active Automatic for Power Monitoring Expert (PME)

- Good understanding of power data model (PDM)
- Experience in integrating the Schneider power meters, energy meters, fault location, active harmonic filters, thermal sensors.
- Experience in Programming, Analyzing, designing, reviewing the test descriptions, code, technical competence development of self, driving process and product innovations and experience in manual testing over IP (SIP and SCAIP) and GSM protocols, and Sensors.
- Experience in Linux Internals (practical experience with using Inter-process communication mechanism concepts, Good understanding of Kernel internals)
- Technically sound in resolving issues and implementing product enhancements with Strong hands-on programming skills in C, C++.
- C++, STL /Design patterns and understanding of Objected Oriented Design.
- Develop solutions by determining and designing system specifications, standards, and programming using C, C++ using Linux.
- Deep understanding of the Linux and ability to write the code Experience in development User-level debugging on any Linux flavor.
- Testing and verification of call codes for the specific sensors and alarm calls.
- Testing and verification of Temperature hysteresis.
- Ensure documentation, code comments and clear code in the software development life cycle.
- Ensure continuous learning and keeping oneself up to speed with the latest state-of-the-art development tools, programming techniques, and computing equipment.
- Quick learning capability, willing to be involved in development efforts with managers, helping in their design, development and debugging phases.
- Good communication and interaction skills.

PROJECT DETAILS:

Project 1 **: Direct Liquid Cooling (DLC) 150kW and 1MW**
Duration **: Nov 2024 till present**
Tools **: DevOps, Agile/Scrum**
Team Size **: 6**

Description:

Direct Liquid Cooling is a thermal management technology used to cool high-performance computing systems, data centers, or power-dense electronics by bringing a liquid coolant (typically water or a dielectric fluid) into direct contact with the heat source, such as CPUs, GPUs, or power modules.
Led the architecture, development, and deployment of high-efficiency Direct Liquid Cooling solutions for high-density data centers and HPC environments. Defined software requirement specifications, managed product lifecycle, and enabled real-time monitoring, diagnostics, and control through embedded and IoT platforms. Delivered scalable DLC systems supporting 150kW–1MW cooling loads with predictive analytics, redundancy mechanisms, and automated commissioning.

Contribution:

- Led end-to-end product development of a low-capacity 150kW and high-capacity 1MW Direct Liquid Cooling (DLC) solution for data center infrastructure, ensuring thermal efficiency, reliability, and scalability.
- Defined product roadmap, system architecture, and end-to-end software requirement specifications (SRS) covering critical control modes: commissioning, decommissioning, manual, automatic, maintenance/service and group control and features like autofill, boot mode, fail-safe mode, hot swap, purge, bleeding, pump switching and pump firmware update.
- Collaborated cross-functionally with hardware, firmware, and systems teams to enable intelligent cooling orchestration, real-time telemetry, and predictive maintenance through sensor fusion (temperature, flow, pressure, level and leakage).
- Integrated redundancy and group control logic for CDU (Coolant Distribution Units), supporting load balancing, failover, and aging rotation strategies across multiple units.
- Led system validation with extensive test case design, simulation of thermal load scenarios, and compliance with ASHRAE liquid cooling standards and data center energy efficiency benchmarks.
- Drove stakeholder engagement, aligning technical deliverables with business KPIs and sustainability goals, reducing energy usage and PUE (Power Usage Effectiveness).
- Selection of PoE based HMI/Display and power murata to integrate with DLC for real time monitoring, configuring and power backup respectively.

Project 2 **: Power Monitoring Expert (PME)**
Duration **: Nov 2020 to Jan 2024**
Environment **: C++, C#, Windows**
Tools **: MbPoll, Tester, Visual Studio, Azure DevOps, ION Setup, Device Type Editor(DTE), Wireshark, Easergy Pro, Microsoft threat modeling tool**
Team Size **: 11**

Description:

Power Monitoring Expert, a key element of EcoStruxure Power at Edgle Control level out of three levels, Connected Products, Edge Control and Apps Analytics & Services, is a powerful power monitoring software that helps ensure a more reliable and efficient electrical network. EcoStruxure, a single, open, IoT-enabled system.
Power Monitoring Expert (PME) is a client-server, on-premise software application that collects power monitoring data through a network of connected devices. The power monitoring data is processed and stored using Microsoft SQL Server and can be accessed by users in a variety of formats through different user interfaces.

Contribution:

- Requirement gathering from marketing team and product managers for the device driver.
- Device procurement.
- Drafting raw technical requirements into Epics, features, PBI's and user stories.
- Backlog refinement and prioritizing user stories and backlogs.
- Creation of design document and threat modeling.
- Implementation of real-time metering, ION, and XML file generation to view all real-time data available in the device using PME.
- Implementation of time sync module, the device should time sync with PME at a specified duration
- Design and implementation of vista diagrams, a UI representation to display real-time values from the device by polling registers.
- Implementation of registry for device drivers, a hierarchical data base that reserve low-level configurations for device drivers to use registry.
- Generation of device type license, whether the device will consume a high, medium, or Entry level license based on device complexity.
- Implementation of PC-based logging, this feature allows the device driver to log data at any given interval.
- Implementation of OPC and EWS driver-specific files for real-time data transfer.
- Implementation of PC-based event log, this feature allows the device driver to poll the device alarm register and check if any alarm has occurred in the device.
- Localization support.
- Creation of build definition and pipeline in Azure DevOps.
- Dev testing with the installer before releasing the build to the verification team to ensure minimal bugs and good quality driver delivered.
- Providing support and maintenance to the issues reported.
- Leading dev team, code review.
- Creating Modbus mapping file that defines
  - what the data is (eg. pressure or temperature readings)
  - where the data is stored (which tables and data addresses)
  - how the data is stored (data types, byte, and word ordering)
- Release package creation for delivery.

Project 3 **: Com'X**
Duration **: Aug 2018 to Nov 2020**
Environment **: C++, LINUX**
Tools **: MbPoll, Tester, Netbeans, Putty, PDM Test Interface, VersionOne**
Team Size **: 3**

Description:

The Com'X 510/210 energy server is a compact plug and play gateway and data logger and is an essential part of an entry-level energy management system.

It collects and stores the consumption of WAGES (Water, Air, Gas, Electricity, and Steam) and environmental parameters such as temperature, humidity, and CO2 levels in a building.

The Com'X 510/210 provides access to reports such as onboard device and circuit summary pages, as well as on-board data logging. Data can be securely accessed in real-time or transmitted as a report to an Internet database server.

Data is ready to be processed once received by the server. Data is displayed as web pages through energy management services provided by Schneider Electric, such as EcoStruxure Energy Operation and EcoStruxure Facility Expert, to support optimization of energy performance and cost management.

Contribution:

- Gathering the requirements for device integration into the Com'X
- Verification of the Power Data Model (PDM) for individual devices before device integration.
- Integration of Hybrid Energy Meters (EM6433H and EM6438H)
- Integration of Power Meter PM5350P
- Integration of AccuSine PCSn
- Integration of PowerLogic ION7400
- Integration of Veris H8163-CB
- Integration of Vigilohm IFL12C and Vigilohm IFL12H
- Integration of CL110 indirect and TH110 indirect.
- Designed a single device view page for Com'X for AccuSine PCSn, AccuSine PCS+, AccuSine PFV+, ION7400, IFL12C, IFL12H, Veris H8163-CB, CL110 indirect, TH110 indirect to get the real-time measurements from the device by reading the registers and display on the Com'X page.
- Created device application for the above devices
- Discovery of the devices in the Com'X
- Ensured energy parameters in the measurement table for default log and publish.
- Translation support.
- Supported topics are displayed for the respective devices in the Device Settings and Measurements Table views.
- Generate get all elements and discovery test profiles
- Added CI test support for the devices integrated.

Achievement :

Worked with the team to successfully address the customer issue **"**Com'X or Gateways does not have the capability to communicate and send data over MQTT protocol"
the team participated in the Hackathon event and won under the "Customer Delighter" category.
Now Com'X has the capability to communicate and send real-time data over MQTT protocol.

Project 4 **: Power Data Model**
Duration **: Aug 2019 to Nov 2020**
Environment **: xml, Schneider device data model**
Tools **: Visual Studio, PDM development tool**
Team Size **: 4**

Description:
The Power Data Model (PDM) provides presentations and documentation that aim to explain and specify the different concepts and deliverables.

Contribution:

- Analyze the device and device register map list for which the PDM needs to be created.
- Created PDM for ION9000, Sepam S60, PM55xx (PM5570 and PM5580), PM56xx (PM5650, PM5660 and PM5661) and PM57xx (PM5760 and PM5761)

Project 5 **: Lifeline ViIP Product Development**
Duration **: Aug 2015 to July 2018**
Environment **: C++, LINUX**
Team Size **: 40**

Description:

The Lifeline Vi provides a hub for tele-care in the home, compatible with a wide range of sensors, which can be chosen according to the needs of the user. We've also developed the Lifeline Vi+, an enriched version of Lifeline Vi for customers who require ultimate functionality and flexibility. It provides consistent and accurate monitoring of a patient's vital signs and symptoms via easy to use technology in their home. Patients take their readings and answer a series of health questions each day and the information is transmitted to a monitoring center where technical triage personnel will verify the results and only alert a clinician if the data is outside of the parameters set for that individual patient.

Contribution:

- Implemented Watchdog timer, a hardware timer that automatically generates a system reset, it is often used to automatically reset an embedded device that hangs because of a software or hardware fault.
- Implemented Version interface that upon calling this interface gives Hardware version, Firmware version, Boot-loader version, OS Version and Application version.
- Worked on GPIO pins.
- Implemented a Battery interface that supports fast charging when the device is at a low battery.
- Reporting the bugs in the code and resolving the bugs in the application assigned.
- Verified basic Functionality of the IPU before releasing the build to the testing team
- Executing test cases manually on a daily basis for the desired application and sending results to the mailing list.
- Verified the Singling of SCAIP protocol.
- Involved in the development and testing of the above listed features.
- Providing support and maintenance to the issues reported.

Project 6 **: Fraud Management System**
Duration **: Mar 2014 to Aug 2015**
Environment **: C++, LINUX**
Team Size **: 7**

Description:

Fraud Management is built to increase fraud prevention in the telecom industry by eliminating known frauds, uncovering new fraud patterns, minimizing fraud run time, augmenting internal controls, and supporting continuous fraud management process improvements. It detects known fraud types and patterns of unusual behavior help investigate these unusual patterns for potential fraud, and uses the knowledge thus generated, to upgrade and protect against future intrusions.

Contribution:

- Analyzed and implemented techniques to prevent fraudulent activities.
- Developed multithreaded applications and used Design patterns (Singleton).
- Proficient in Programming Using Make file, Inter-process communication, and Experience in developing code review and optimizations functionalities.
- Relevant use of Delta and dump to solve Storage related issues.
- Efficient use of the statistical and normal rule in Smart pattern.
- Able to find creative solutions for the given requirement.
- Implementation of IPC (Message Queue) and Scheduling Algorithm (Round Robin).
- Involved in implementing the Multithreading Concept to communicate with module components.
- Reporting the bugs in the code and resolving the bugs in the application assigned.
- Providing support and maintenance to the issues reported.
- Implemented several features for the product through solid with the product management team and delivered the same in a predictable manner.
- Troubleshoot run time and build problems and report findings.
- Understanding the existing code and modifying according to the specification.

Project 7 **: Firmware for POS printers**
Duration **: Feb 2013 to Mar 2014**
Environment **: C, Linux, Windows**
Team Size **: 5**

Description:

To offer some of the fastest and simplest to operate retail POS receipt and label printers available today resulting in high speed, efficient transactions and reduced customer-waiting times – an essential requirement for any retail outlet. The latest innovative software technology built in to enables you to further reinforce your brand and encourage customer loyalty with color receipts, logos, and special-offer vouchers, all of which will work alongside your current system.

Contribution:

- Primary responsibilities include troubleshooting, diagnosing and fixing production software issues, developing monitoring solutions, performing software maintenance and configuration, implementing the fix for production code updating, tracking and resolving technical challenges.
- Developed software using concepts like (Structures, Pointers, DMA)
- Translate project requirements into code, establish specific solutions, and leading the efforts including programming and testing.
- Participate in the complete product development lifecycle including requirement analysis, design, and development.
- To work on the MRs (Maintenance Requests) and doing coding and unit testing for MR.
- Able to identify problems before they happen and implement solutions that detect and prevent outages.
- Proven ability to troubleshoot and identify the root cause of issues.
- Developed make file scripts that will build the binaries and executes the test cases for the appropriate test branch.
- Executing test cases manually on a daily basis for the desired application and sending results to the mailing list.

Personal Details:

Date of Birth	: 17/05/1990
Nationality	: Indian
Marital status	: Unmarried
Willing Relocate	: Yes
Languages Know	: English and Hindi

Prateek Bawane