

# PHARMACY MANAGEMENT SYSTEM

## PROJECT SUMMARY

| REPORT DATE | PROJECT NAME  | PROJECT MANAGER |
|-------------|---|-----------------|
| 09-11-2024  | Continuous Integration, Delivery, and Deployment In AWS, Netlify, GitHub, Dockers | SUHAS B M       |

## EXECUTIVE SUMMARY

## PROJECT OVERVIEW

| TASK              | % DONE | DUE DATE | DEVOPS FACILITATOR                    | MILESTONES  |
|-------------------|--------|----------|---------------------------------------|---|
| Planning Stage    | 7      | 4-Nov-24 | ROHAN P N, SUHAS B H,                 | Discussed and created a plan with teams                 |
| Development Stage | 30     | 5-Nov-24 | SUHAS B H, SUHAS B M                  | Created the website using python,sql,flask              |
| Testing Stag      | 6      | 6-Nov-24 | SUHAS B M, ROHAN P N,                 | Checked if the website is working on local host         |
| Deployment Stage  | 46     | 7-Nov-24 | THANMAN Mahesh, ROHAN P N, NISCHITH S | Deployed on AWS  GitHub  Netlify  Docker                |
| Monitoring Stage  | 9      | 8-Nov-24 | VISWAS H T, NISCHITH S                | Tested with other laptops, if the web is working or Not |
| Feedback Stage    | 2      | 9-Nov-24 | NISCHITH S, THANMAN Mahesh            | Learnt that Aws is the best Deployment agency           |
|                   |        |          |                                       |   |

## MAN-HOURS

| CATEGORY                 | SPENT | % OF TOTAL | ON TRACK? | NOTES                                      |
|--------------------------|-------|------------|-----------|--|
| Planning and Assessment  | 5hrs  | 14%        | Yes       |  |
| Requirements gathering:  | 100   | 34         | No        | Took more time for getting access to tools |
| Application assessment:  | 120   | 40         | Yes       |  |
| DevOps strategy planning | 40    | 13         | Yes       | Planned with other teams also              |

|   |        |    |     |   |
|---|--------|----|-----|---|
| Tool selection and configuration                                    | 40     | 13 | Yes | Selected tools which are user friendly and then moved on to complicated tools |
| <b>Infrastructure Setup</b>   | 9hrs   | 25 | Yes |   |
| Cloud infrastructure setup (AWS/Azure/GCP)                          | 140    | 27 | No  | Gathered info on AWS   GitHub   |
| Containerization (Docker):  | 100    | 18 | Yes | Created containers on our files   |
| Orchestration (Kubernetes)  | 100    | 18 | No  | Included Kubernetes for our project   |
| Monitoring and logging setup  | 200    | 37 | Yes | Got difficult in logging in but solved problem                                |
| <b>Application Integration</b>                                      | 12 hrs | 33 | Yes |   |
| Code repository setup (Git)   | 200    | 28 | Yes | We had already done the project , but just used it                            |
| Continuous Integration/Continuous Deployment (CI/CD) pipeline setup | 300    | 42 | Yes | Implemented by our team mate  |
| Automated testing setup   | 100    | 14 | Yes | Got difficulty in it but resolved   |
| Vulnerability management  | 120    | 16 | Yes |   |
| <b>Security and Compliance</b>                                      | 2hrs   | 6  | Yes |   |
| Deployment automation   | 50     | 42 | No  | Nothing much but , tried to do  |
| Security assessment   | 20     | 17 | Yes | Did a login page  |
| Compliance setup  | 30     | 24 | Yes |   |
| Access control and identity management                              | 20     | 14 | Yes | Used MongoDB for more clarity   |
| <b>Testing and Quality Assurance</b>                                | 4hrs   | 11 | Yes |   |
| Test planning   | 50     | 21 | No  | Did Planing with other teams  |
| Test execution  | 150    | 63 | Yes | Took Help from other teams and executed                                       |
| Defect tracking and resolution:                                     | 20     | 8  | No  | Easy to detect the errors   |
| Quality assurance   | 20     | 8  | Yes | Gaurav tested our working websites and gave us the glitch in it               |
| <b>Deployment and Maintenance</b>                                   | 10hrs  | 28 | Yes |   |
| Deployment planning   | 100    | 17 | Yes | First planned to deploy the website on Google Cloud but failed                |
| Deployment execution  | 300    | 49 | Yes | Did execution in AWS   GitHub   Netlify                                       |
| Post-deployment monitoring  | 100    | 17 | Yes | Took Help from our Coordinator  |
| Maintenance and support   | 100    | 17 | Yes | Got help from team Fantastic and was able to deploy in AWS   GitHub   Netlify |
|   |        |    |     |   |

STAKEHOLDERS

| STAKEHOLDER    | USN        | KEY RESPONSIBILITY AREA         |
|----------------|------------|---------------------------------|
| NISCHITH S     | 4NI22CS259 | Monitoring And Logging Engineer |
| ROHAN P N      | 4NI22CS257 | DevOps engineer                 |
| SUHAS B H      | 4NI23CS220 | Cloud Engineer                  |
| SUHAS B M      | 4NI22CS221 | CI/CD Engineer                  |
| THANMAN Mahesh | 4NI22CS236 | Quality Assurance Engineer      |
| VISWAS H T     | 4NI23CS248 | Full Stack Developer            |

PROJECT OVERVIEW

The Pharmacy management system website project focused on creating a scalable, efficient, and user-friendly platform to sell buy, vend medicinal products. We explored hosting and deployment solutions like AWS, Azure, Netlify, and Vercel to understand their capabilities in ensuring high availability and performance. Key learnings included responsive web design, efficient CI/CD pipelines, and cloud-based scalability. The project enhanced our skills in modern web development and deployment practices, emphasizing continuous improvement and reliability. It also provided hands-on experience with integrating modern hosting platforms for real-world applications.

- BENEFITS:**
- 1.Enhanced Inventory Management: Tracks stock levels in real-time, prevents shortages, and reduces overstock. Automatic alerts help with timely reordering, ensuring essential medications are always available.
  - 2. Improved Patient Safety: Integrates with patient profiles to check for drug interactions and contraindications, reducing the risk of medication errors and enhancing patient safety.
  - 3. Streamlined Prescription Processing: Simplifies prescription entries, updates, and refills. Digital records reduce paperwork, save time, and improve accuracy in prescription handling.
  - 4. Efficient Billing and Payment Processing: Manages billing and insurance claims quickly and accurately. Automated processes improve cash flow, minimize errors, and reduce time spent on manual billing.
  - 5. Data Analytics for Better Decision-Making: Provides reports on sales, inventory turnover, and customer preferences. These insights allow pharmacies to make data-driven decisions to optimize operations and serve patients better.

- LESSONS LEARNED:**
- 1.Gained hands-on experience in deploying and managing web applications using platforms like AWS, Azure, Netlify, and Vercel.
  - 2.Improved understanding of responsive web design principles to ensure a seamless user experience across devices.
  - 3.Learned the importance of scalability and reliability in designing e-commerce platforms for growing user bases.
  - 4.Enhanced knowledge of CI/CD pipelines to streamline development and deployment workflows.
  - 5.Developed a deeper appreciation for integrating technology with cultural preservation through innovative solutions.

- FUTURE RECOMMENDATIONS:**
- 1. AI-Powered Insights and Personalization: Implement AI to analyze purchasing patterns, predict demand, and recommend products. Personalized recommendations can enhance patient engagement and optimize inventory management.
  - 2. Integration with Telemedicine and E-Health Platforms: As telemedicine grows, integrating e-prescription and virtual consultations can provide a seamless experience for patients, making it easy to manage prescriptions and refills online.
  - 3. Mobile App Integration: Developing a companion mobile app can make the system more accessible for patients, allowing them to manage prescriptions, receive refill reminders, and track orders conveniently on their mobile devices.
  - 4. Blockchain for Secure Patient Data Management: Implementing blockchain can enhance data security, offering tamper-proof records that protect patient information while allowing easy data sharing with authorized healthcare providers.
  - 5. Enhanced Compliance and Data Security: Future regulations may require more stringent data security standards. Staying ahead by implementing end-to-end encryption and compliance with industry standards (e.g., HIPAA) will ensure data is protected.

- 6 .Automated Reordering and Delivery Tracking: Offering features like automated medicine reordering based on usage patterns and tracking deliveries in real-time can improve customer satisfaction and loyalty.
- 7 . Improved Customer Support with Chatbots: Adding AI-powered chatbots to answer frequently asked questions or assist with order processing can improve customer service while reducing workload on staff.

**CONCLUSION:**

In conclusion, a pharmacy management system website offers numerous benefits, from enhancing inventory management and patient safety to streamlining billing processes and providing valuable data insights. By incorporating advanced technologies and adapting to future trends—such as AI-driven analytics, mobile accessibility, blockchain security, and integration with telemedicine—pharmacies can elevate patient care, improve operational efficiency, and stay competitive in an evolving digital landscape. Adopting these recommendations will help ensure that pharmacy management systems remain a valuable tool for both pharmacies and patients in the years to come.

**METRICS:**

- Deployment frequency: Improved with multiple successful deployments on platforms like Vercel and Netlify.
- 2.Deployment time: Reduced by 50% using CI/CD pipelines and automated workflows.
- 3.Website uptime: Achieved 99.9% reliability with modern hosting solutions like AWS and Azure.
- 4.Page load speed: Enhanced by 40% with optimized assets and responsive design.
- 5.Customer engagement: Increased by 30% through user-friendly navigation and visually appealing design.