Case Study

Digital Asset Trading Platform

DigitalAssetForge: Revolutionising Institutional Finance

Webmob Software Solutions

BESTECH BUSINESS TOWER, SUITE NO 829, SECTOR – 66, MOHALI, PUNJAB 160066

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About WEBMOB

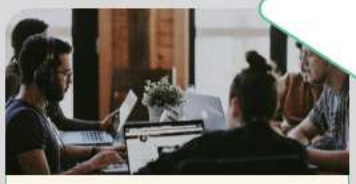
Webmob has emerged as a service delivery pioneer in this dynamic fintech industry, serving a legion of laurelled clients in Europe and the Middle East. With AI/ML-powered, Cloud-native, and Blockchain in our stack, Webmob provides cutting-edge solutions to fulfill the customer's advanced and disruptive requirements.

Particularly for the FINTECH industry, Webmob offers unparalleled robust solutions in Trade Finance, Money Market, Fiduciary, Commercial Real Estate Loan Tokenization, and NFT Marketplaces on top Blockchains.
Webmob is, as of today, weaponed with a fully-equipped R&D lab, aka WikiDLT.com, and consulting certified professionals, especially to explore new possibilities for innovative Blockchain implementation.

Overview

Our platform is a comprehensive digital asset lending solution, both secured & unsecured, tailored exclusively for institutional clients seeking efficient borrowing and lending avenues within the digital asset space. Offering a seamless peer-to-peer experience, the platform supports both collateralised & uncollateralised lending of digital assets. With a focus on transparency and trust, our platform incorporates an extensive onboarding process and rigorous risk assessment procedures to ensure the integrity of each transaction throughout the credit lifecycle.

Clients benefit from a suite of services, including collateral management, which empowers them to manage assets effectively while complying with regulatory requirements. Whether opting for collateralised & uncollateralised lending solutions, institutions can experience peace of mind knowing their borrowing and lending needs are met with reliability and efficiency. Our platform aims to revolutionise digital asset financing for institutions, offering a holistic approach that optimises capital efficiency and fosters growth in the rapidly evolving digital asset landscape.



Business Needs

- Needed a collateralised & uncollateralised digital asset lending platform
- Lack of efficient digital P2P lending processes
- Required expanded secured & unsecured credit access

Our Solution

- Streamlined Lending Experience
- Comprehensive Treasury Services
- Transparent Marketplace
- Diverse Lending Options
- Tailored Risk Management

Benefits

- Efficient Captial Deployment
- Enhanced Risk Management
- Both collateralised & uncollateralised lending solutions
- Transparent P2P lending platform
- Increased Market Access

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Solution

Streamlined Lending Experience:
Our platform simplifies lending by providing a user-friendly interface and intuitive workflows. Borrowers can easily submit loan requests, while lenders can efficiently review and approve them, leading to faster transactions and improved user experience.

Tailored Risk Management:
We offer tailored risk management solutions specifically designed to address the unique risk profiles of institutional clients. These include advanced risk assessment tools, customisable risk parameters, and real-time monitoring capabilities to mitigate potential risks effectively.

Comprehensive Treasury Services:
Our platform offers a comprehensive suite of treasury services, including asset management, collateral optimisation, and liquidity management. This enables institutions to maximise capital efficiency by efficiently managing their assets and collateral while ensuring sufficient liquidity to meet operational needs.

Transparent Marketplace:
Transparency is at the core of our platform, and we strive to foster trust and transparency among participants by providing clear and open transactions. Borrowers and lenders can access detailed information about loan terms, interest rates, and collateral requirements, enabling informed decision-making and promoting trust in the lending marketplace.

Efficient Settlement Services:
Our platform offers efficient settlement services, facilitating seamless asset transfers between borrowers and lenders. This includes automated settlement processes, real-time transaction tracking, and secure escrow services to ensure timely and reliable transaction settlement.

Integrated Fireblock Online Payment Service:
Seamlessly integrated Fireblock's secure online payment service into our platform, providing users with a trusted and efficient payment solution for transactions.

Offered Roll Over Deal Options:
We provided roll-over deal options to users, allowing them to effortlessly extend the duration of their lending agreements, which provided flexibility and convenience.

Implemented Negotiate Chat Feature:
Implemented a negotiate chat feature, enabling borrowers and lenders to communicate directly and negotiate terms in real-time, fostering transparent and efficient deal-making.

Technology

React Js:
React Js is utilised to build our frontend user interface, offering a highly responsive and dynamic user experience. Its component-based architecture allows for efficient development and easy maintenance of complex UI components.

JWT (JSON Web Tokens):
JWT is employed for secure authentication and authorisation processes, ensuring only authorised users can access our platform's features and functionalities.

2FA (Two-Factor Authentication):
2FA enhances security by requiring users to provide two verification forms before accessing their accounts, adding an extra layer of protection against unauthorised access.

Docusign:
Docusign integration facilitates electronic signature capabilities, streamlining document signing processes and enhancing workflow efficiency.

Sockets:
Sockets establish real-time communication between the frontend and backend components, enabling instant updates and notifications for users.

Node Js:
Node Js is the backbone of our backend infrastructure, providing a scalable and high-performance runtime environment for executing server-side logic and handling client requests.

MongoDB:
Our database solution offers flexibility and scalability for efficiently storing and managing large volumes of structured and unstructured data.

Redis:
Redis is employed as an in-memory data store and cache, optimising performance by storing frequently accessed data in memory for faster retrieval.

SonarCube:
SonarCube is utilised for code quality management and continuous code inspection, ensuring the reliability, maintainability, and security of our codebase.

Challenges

Earlier institutional clients grappled with many challenges within the digital asset landscape. Accessing diverse credit channels proved arduous, limiting their ability to deploy capital efficiently and explore lucrative investment opportunities. The complexities of managing credit, market, and operational risks and the absence of tailored solutions led to uncertainty and inefficiencies in risk management and compliance efforts.

Furthermore, settlement and custodial services were often marred by inefficiencies and security concerns, hampering transaction processing and asset management. Without comprehensive Treasury, Collateral, and Liquidity (TCL) services, institutional clients faced heightened operational overhead and capital inefficiencies, diverting resources from core business activities. These challenges underscored the crucial need for a robust platform tailored to the specific needs of institutional clients in the digital asset space.

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QA Process

Our QA process involves a systematic approach encompassing various stages to thoroughly assess the platform's functionality, security, and user experience.

01 **Test Planning:**
We defined the scope of testing, identified objectives, allocated resources, and developed a comprehensive test plan outlining our approach, timelines, and deliverables.

02 **Requirement Analysis:**
We reviewed the requirements documentation to understand the platform's expected behaviour and ensured our team accurately captured all functional and non-functional requirements.

03 **Test Environment Setup:**
We established testing environments mirroring the production environment, installed the necessary software, configured databases, and ensured the availability of test data representing various marketplace scenarios.

04 **Test Case Design:**
We developed detailed test scenarios and cases covering functional workflows, boundary conditions, error handling, and exception scenarios, prioritising based on criticality and risk.

05 **Functional Testing:**
We executed test cases to verify the functionality of different modules and features, including various workflows, integration with external systems, and compliance with regulatory standards.

06 **User Interface Testing:**
We evaluated the user interface for usability, accessibility, and responsiveness, ensuring consistency in design elements, layouts, and navigation across different screens.

07 **Security Testing:**
We performed security assessments, testing authentication and authorisation mechanisms, data encryption, and secure communication protocols, and conducted penetration testing to assess resilience to security breaches.

08 **Regression Testing:**
We re-ran previously executed test cases to ensure new changes did not introduce any regressions, automating regression test cases where feasible and validating backward compatibility.

09 **Integration Testing:**
We tested data exchange mechanisms and validated data consistency and integrity across integrated systems, including file uploads, API calls, and message queues.

10 **Documentation and Reporting:**
We maintained a detailed documentation of test cases, results, and defects, generated test reports summarising test coverage and provided stakeholders with regular updates on testing progress and identified issues.

11 **User Acceptance Testing (UAT):**
We collaborated with end-users and stakeholders to conduct UAT, obtaining feedback on the platform's functionality, usability, and performance, ensuring alignment with user expectations.

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Security Testing of the Platform:

1. API Testing:

Objective: Evaluate the functionality, reliability, security, and performance of APIs used in the platform.

Tools:

- **Postman:** Automated testing tool for API automation testing, enabling comprehensive testing of API endpoints and payloads.
- **SoapUI:** Another automated testing tool suitable for API testing, providing features for functional testing, load testing, and security testing.

2. Penetration Testing (PenTesting):

Objective: Identify and exploit vulnerabilities in the platform to assess its security posture.

Tools:

- **Burp Suite:** A comprehensive toolkit for web application security testing, including manual and automated vulnerability scanning, request interception, and exploitation of security flaws.
- **Metasploit:** A penetration testing framework offering various exploits and payloads for testing network and application security.

3. Patch Testing:

Objective: Verify the effectiveness of security patches applied to the platform.

Process:

- Testing patches on a sandbox or staging environment ensures they do not introduce regressions or new vulnerabilities.
- Automated and manually tested critical functionalities affected by the patch to ensure they operated as expected.

4. Third-Party Testing:

Objective: Gain independent verification and validation of the platform's security measures.

Process:

- Engaging external security firms or independent security researchers to conduct thorough security assessments, including penetration testing, code review, and vulnerability scanning.
- Utilising bug bounty programs to incentivise external security researchers to discover and responsibly disclose security vulnerabilities in the platform.

5. Source Code Testing:

Objective: Evaluate the security of the platform's source code to identify and remediate vulnerabilities and ensure robust protection against potential threats.

Process:

- The source code testing process for the platform begins with configuring and integrating tools like SonarQube and Checkmarx into the development environment.

Tools:

- **SonarQube:** Analyzes the platform's source code for bugs, vulnerabilities, and code smells, providing insights into code quality and security.
- **Checkmarx:** A static application security testing (SAST) tool that identifies security vulnerabilities in the source code, helping developers remediate potential issues before deployment.

6. Network Testing

Objective: The primary objective of network testing is to assess the security and resilience of the platform's network infrastructure, ensuring protection against potential threats and vulnerabilities.

Process:

- Network testing begins by examining the network infrastructure's configuration and setup to identify any potential weaknesses or misconfigurations.
- Comprehensive scans are conducted using specialised tools to analyse server ports, configurations, versions, and subdomains within the network.

Tools:

- **Nessus:** A powerful scanning tool utilised for comprehensive network scans, providing detailed insights into potential security risks and vulnerabilities within the network infrastructure.
- **Nmap:** Another widely used scanning tool that enables thorough examination of network configurations and identifies potential security loopholes and weaknesses.

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Development Phase

01 **Requirement Gathering**
Requirements were gathered through meetings and discussions to understand the platform's functional and non-functional aspects.

02 **System Design**
Based on the gathered requirements, system architecture and design were finalised. It included defining the database schema, application modules, and integrations with external systems.

03 **Coding**
Our developers wrote code according to the design specifications using programming languages & frameworks suitable for the platform's requirements.

04 **Quality Assurance**
Our QA engineers conducted comprehensive platform testing, including source code, functional, security, and performance testing, that helped us identify & resolve any defects or issues.

05 **Review & Integration**
The platform has undergone thorough code reviews to ensure its stability and performance. Our team addressed any feedback or issues identified during testing and made necessary integrations.

Deployment Phase

01 **Preparation**
The necessary infrastructure and environments were set up, including development, staging and production.

02 **Deployment Planning:**
We have created a pitch-perfect deployment plan outlining the steps and procedures for deploying the platform to the production environment.

03 **Release Management:**
Our team deployed the platform to the product environment following the deployment plan. It involved deploying code, configuring servers, and ensuring all dependencies were met.

04 **Monitoring and Optimisation**
After deployment, our team continuously monitored the platform for performance, security & stability. We promptly addressed any issues or anomalies and made necessary changes.

05 **Post-Deployment Review**
We conducted a post-deployment review to assess the deployment process's success and gather user feedback. Additionally, our team documented any lessons learned for future deployments.

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Project Methodology

Our team adhered to an Agile methodology during this project, fostering efficient and iterative development. We structured our workflow around sprints, each lasting two weeks, allowing us to focus on specific features and functionalities. Regular feedback sessions with the client, occurring after every sprint, were integral to our process. It ensured our work aligned with the client's evolving requirements and expectations.

Additionally, we employed project management tools such as Trello to streamline collaboration and task management, facilitating transparent communication and real-time progress tracking. These practices enabled us to maintain a dynamic and responsive development approach, ultimately delivering a high-quality solution that effectively met the client's needs.

Timeline

01 Total months: **7 months**

02 No. of Resources: **8 Resources**

03 Experience of Resources: **2 Frontend - 4 years**
2 Backend - 4 years
2 QA- 4 years
1Devops-4 years
1 Project Manager-7 Years