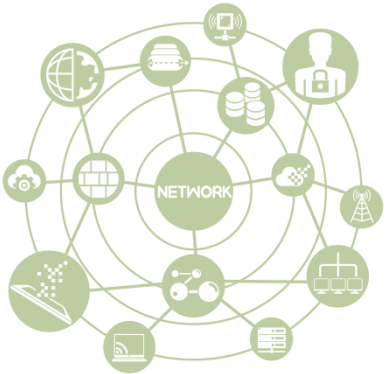
BTM FINANCIAL
INNOVATION AT WORK

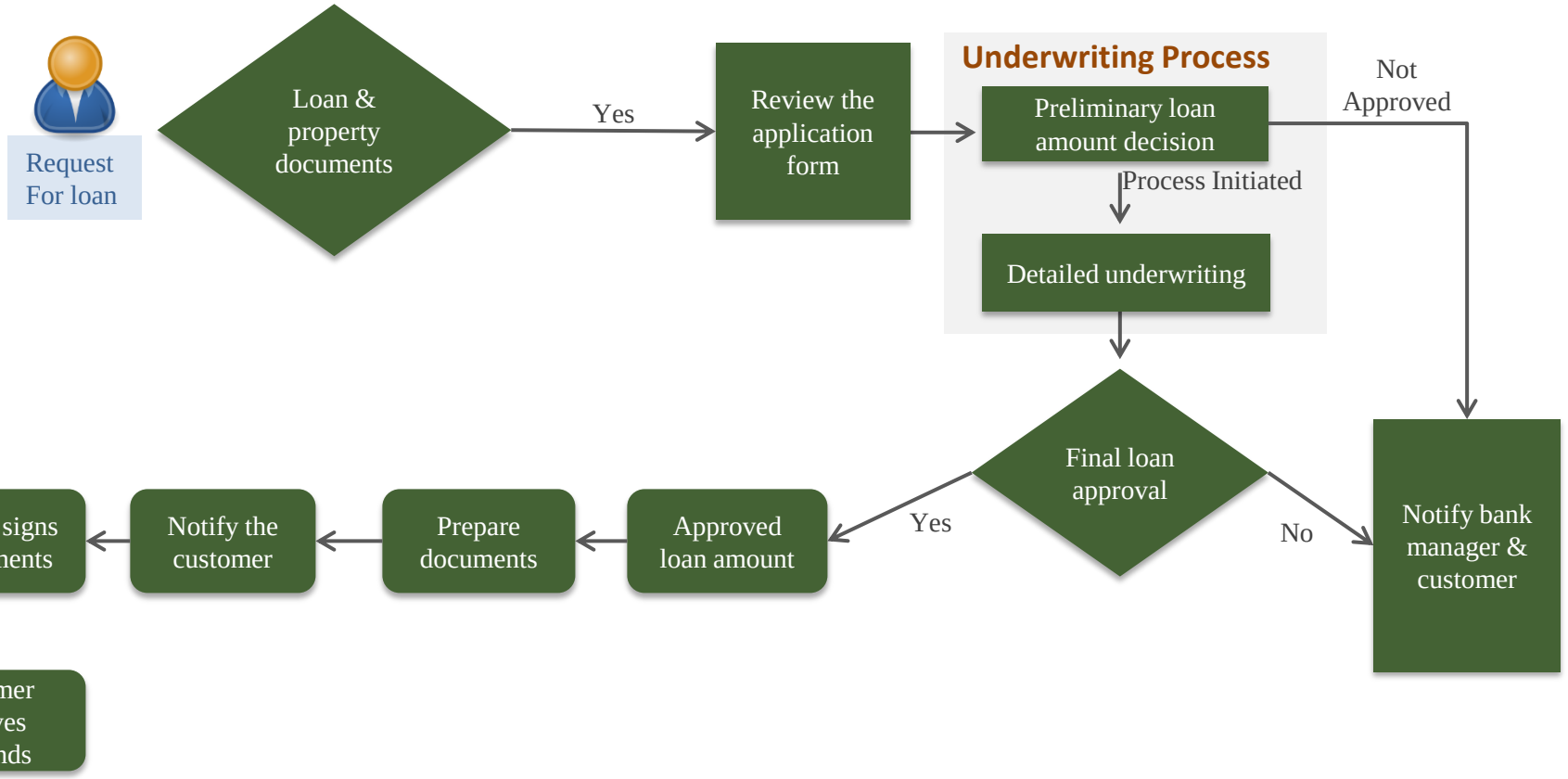
Blockchain Enabled Lending Platform



Blockchain-Enabled Lending Platform

The Blockchain enabled lending platform utilizes Blockchain technology to automate the lending process, making it more efficient as compared to conventional processes. This platform combines the power of the Blockchain technology to autonomously facilitate an end-to-end loan application and disbursement process.

Background: Existing Process of Loan Disbursement from a bank



EXISTING SCENARIO: CHALLENGES

The existing loan application process includes many challenges, some of which are mentioned below:

Current lending platforms requires the lending agencies to place their trust on platform and hence, there is always a scope of collusion between platform & one of the Lending agencies which makes the process unfair for other participants

The current loan application process is often cumbersome. Customers do not know what stage of the process their loan application is in, or how long it will take to receive an answer to their loan request.

The current data storage techniques used by most lending platforms are often vulnerable to hackers. Stored data could be changed or stolen, with severe consequences for the customers and the company.

APPLICATION DETAILS

Target Users

Lending Agencies

Brokers/Loan Applicants

Objective

The underlying objective of creating this software is to create a platform that facilitates the complete lending process and ensures complete transparency, fairness, and the prompt dissemination of information to all stakeholders.

Process

- The process will begin with a loan applicant (or a broker on behalf of a loan applicant) uploading the related property and information/documents.
- Once uploaded, the loan application can be accessed by all the participating lending agencies on the platform. The lending agencies that are interested in making the loan will proceed with their due diligence and underwriting processes.
- If the loan application meets all the required criteria, the agencies will then offer a loan to the loan applicant with specific terms and conditions.
- The loan applicant then chooses the loan offer that they prefer.

Advantage

Lending Agencies

Our Blockchain-enabled loan platform is a new avenue for easily and securely initiating loan applications by importing data from the lending agencies' in-house underwriting platform and offering loans to approved borrowers.

Brokers/Borrowers

We offer a single and comprehensive platform to apply for a loan and get loan offers from different lending agencies in an easy, completely transparent manner.

APPLICATION PROCESS

Loan & Property Documents

Notify User

Loan Offer

Reject

Accept

Loan Amount

BLOCKCHAIN-ENABLED LENDING PLATFORM

Extract data Using AI

Not Approved

Approved

Loan Disbursal

Notify Bank

Underwriting Process

Preliminary Loan Amount Determined

Detailed Underwriting

Not Approved

Process Initiated

Review of Application Form

Review subject property w.r.t comparable properties & relevant amenities in the neighborhood.

Import UW data from Lending agencies' in-house web-based, desktop-based & Excel-based UW platform for e.g. Rockport, ARGUS, etc

Documentation

APPLICATION ADVANTAGES

Transparency

The platform facilitates complete transparency as it stores all the relevant data on Blockchain including Lending agencies' UW data and the Borrower documents.

Decentralized Application

By virtue of being a Blockchain enabled platform, this is a decentralized application. Even if one node failed the network would still be able to operate.

Independent Platform

The participants do not have to trust or rely on any central authority to oversee the transactions.

Data Security

The technology ensures that all the data is stored in an encrypted format, thus ensuring top-notch data security.

Artificial Intelligence & IoT

Using AI-based algorithms, structured data can be extracted from borrower-uploaded documents. Also, for IoT enabled properties, the relevant data can be imported directly from IoT servers.

Auditability

The platform allows for comprehensive auditability as it stores all the historical data securely due to the properties of Blockchain technology.

Token Generation

Custom tokens can be generated to facilitate efficient transactions on the platform.

Accurate Status Tracking

Easily find out the exact status of the loan application at any given time.

Underwriting Plugin

The platform provides the option of importing UW data from various sources including Lending agencies' in-house web-based, desktop-based & Excel-based UW models.

What is Blockchain?

Blockchain is a shared, distributed ledger with secure transactions that can work in the absence of trust across a peer-to-peer network.

Blockchain and its decentralized distributed-ledger technology has the underlying power to disrupt the way that businesses process digital transactions and to provide them with a considerable competitive advantage.

Blockchain is an incorruptible digital ledger of transactions that can be programmed to record financial transactions and virtually all other documents of value., such as property ownership records.

Blockchain technology also allows all the parties involved to track information via a secure network without the requirement for any third-party verification.

Uses an append-only (not delete) system of records shared across business networks

Shared Ledger

Cryptography

Ensures secure, authenticated and verifiable transactions

All parties agree to network-verified transactions

Consensus

Shared Contract

Business terms will be embedded in the transaction database and executed with transactions

BLOCKCHAIN ADVANTAGE

TRANSPARENCY

Since every participant in the process is using Blockchain, it will be impossible to conduct any fraudulent transactions.

IMMUTABILITY

Blockchain removes the need for third-party verification by ensuring that the stored data cannot be changed.

DECENTRALIZED APPLICATION

The various participants do not have to trust or rely on any central authority to oversee their transactions.

SECURITY

Blockchain uses cryptographic identity and hashing, making it one of the most secure network to date.

UNDERWRITING BASICS

Loan underwriting is the process of a lender determining if a borrower's loan application is an acceptable risk. Underwriters assess the borrower's ability to repay the loan based on an analysis of their credit, capacity, and collateral.

Preliminary Loan Amount Determination

Verify the loan documents and perform the basic projections and analytics of property's cashflow to determine the loan applicant’s ability to pay back the loan.

An analysis is done based on standard cut-off levels of DSCR and LTV as decided by the bank based on its risk appetite.

This is a preliminary analysis that does not involve detailed verification of line items but is based on standard procedures to have a basic understanding of the loan proposal.

Detailed Underwriting

Verify the loan documents and perform the basic projections and analytics of property's cashflow to determine the loan applicant’s ability to pay back the loan.

An analysis is done based on standard cut-off levels of DSCR and LTV as decided by the bank based on its risk appetite.

This is a detailed analysis where every document for every line item is thoroughly verified to project the cashflow.

This process begins with a review of the lease, rent reconciliation, reimbursement analysis, third-party report analysis, cash flow projection, market/sub-market analysis, etc. Asset Summary report is then generated, summarizing the insights of complete analysis.

TECHNOLOGY STACK

Multichain

Multichain is an off-the-shelf platform for the creation and deployment of private Blockchains, either within or between organizations. It provides immutability, peer-to-peer node handshakes, native assets and data stream.ing One of the key advantages of using Multichain is the ease of storing large data files in Blockchain along with a very low amount of ‘transaction spam’.

The ASP.NET MVC is a robust and lightweight web application framework developed by Microsoft, which implements the model-view-controller (MVC) pattern. It is open source software and uses the latest security measures.

Telerik is a third-party tool for ASP .NET MVC development. It is very customizable and offers user friendly user interface components such as grids, auto-fill text boxes, etc.

IIS Server

Internet Information Services Server (IIS) is a flexible, general-purpose web server from Microsoft that runs on Windows NT systems to serve requested HTML pages and files. It reduces the server footprint and offers automatic application isolation for increased security.

MS SQL Server is a relational database management system based on Structured Query Language. It offers native compatibility with .NET and is a scalable and high-performance system widely used for internet-based applications.

APPLICATION SECURITY

Access Management

This will be implemented by using roles and permissions. Users are only authorized to access certain features of applications.

Secure Document Storage

Documents will be encrypted by using salted hashes. These document hashes will be stored in Blockchain.

Advanced Encryption Algorithms

AES is used for encrypting sensitive data.

SSL Integration

HTTPS is the most secure protocol. It includes the Secure Socket Layer security protocol.