

Loan Origination System for a Bank Using Angular JS, Bootstrap, Spring Boot & MySQL

Business:

Development & Data Analytics

Domain:

Banking (Loans)

Tools:

AngularJS, HTML 5, CSS 3,
Bootstrap, Spring Boot, MySQL

Key Highlights

Key Success:

- » Reduced 70% of the manual work receipt process, directly contributing to a robust origination process and improved responsiveness to loan applicants.
- » The architecture implemented is highly scalable and responsive to various data sources.

Version Control:

GIT Hub Repository

Project Management:

JIRA

Design:

Google Material Design

Client

The client is a leading US Community bank serving consumers and small businesses for nearly 100 years in CA.

Overview

Given the sheer number of transactions, the client's existing workflow processes were inefficient, time consuming and expensive. Work receipts were uploaded manually and processed for further decision making, leading to a highly unproductive system with an oversized resource allocation for mundane and automatable tasks. The bank required a revamp of their loan origination system that eliminated the current manual process and streamlined the entire business process to near total automation.

1 Status Quo

The client is a leading US Community bank serving consumers and small businesses for nearly 100 years in CA. The FinTech Company is focused on innovative payday loan solutions. Loan origination is conducted through their online portal which processes over 7 million transactions for 0.5 million customers.

Given the volume of transactions, the processing system was inefficient in terms of processing time. Work receipts were uploaded manually and processed for further decision making leading to a highly unproductive system.

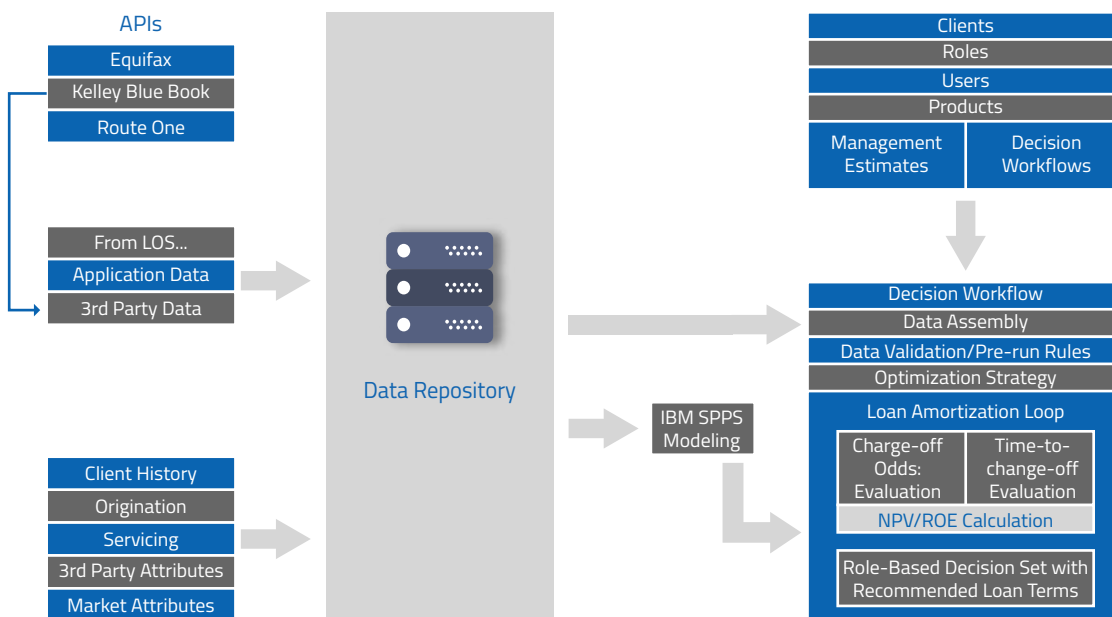
2 Solution

The bank required a responsive user interface that ruled out the current manual process and streamlined the entire business process to near automation.

- » Indium software set out by understanding,
 - The business workflow, including the decision workflows in the loan approval process.
 - Decision system interaction touch points with APIs.
 - Data flow analysis from APIs, client attributes and third-party data to a converged central data repository.
 - Use cases in decision making utilizing data models.
- » Indium Software created comprehensive wireframes to visualize the decision workflow and approval process.
- » Automated the work receipt upload mechanism by creating a comprehensive user interface that captures data fields to contribute to decision inputs.
- » Upgraded the current system using scalable architecture (Java, AngularJS and Spring Boot) without disturbing the existing functionality.

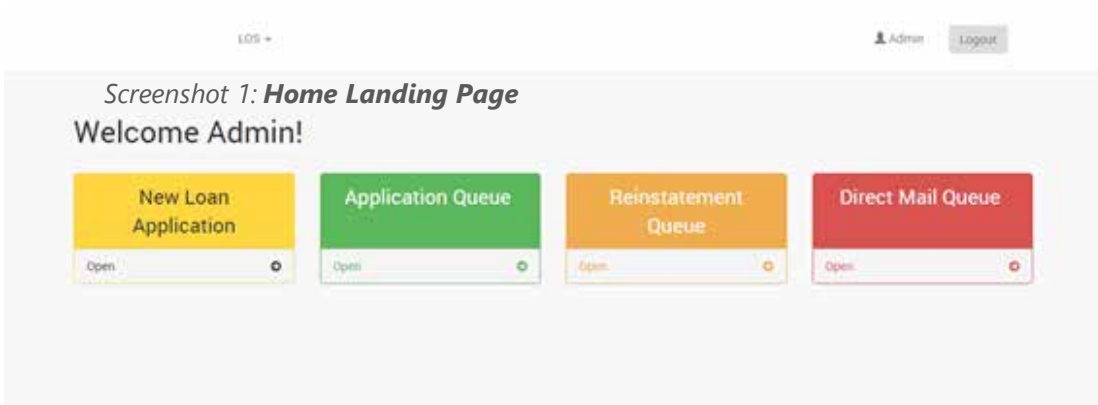
3 Business Impact

- » Reduced 70% of the manual work receipt process, directly contributing to a robust origination process and improved responsiveness to loan applicants.
- » The architecture implemented is highly scalable and responsive to various data sources. The data repository is an efficient feed for decision workflows and optimization strategies.



Architecture Diagram

4 Application Screenshots



Screenshot 1: Home Landing Page

This screenshot displays the 'New Loan' application form, specifically the 'Step 1: Applicants' section. The form is organized into several sections:

- Primary Applicant:** Includes fields for Prefix, First Name (ANDER), Middle Name, Last Name (HERRERA), and Suffix. Below these are fields for SSN/ITIN (123-45-6789) with an 'Add/Edit SSN' button, and Birth Date (03/03/1980) with an 'Application History' button. An Email field is also present.
- Phone Numbers:** A table with columns for Phone, Type, Day Time, and Evening. Two phone numbers are listed: 222-222-2222 (Cell) and 111-111-1111 (Home). Each row has a 'Remove' button.
- Current Address:** Fields for Address Line 1 (30 PACIFIC ST), Address Line 2, City (BAKERSFIELD), State (CA), and Zip (93305-3425). A 'Length at Address' field is split into Years (5) and Months (5).
- BSB Account Info:** Four sets of radio buttons for 'Has Deposit Account', 'Has closed loan accounts paid off in good standing', 'Has open loan account in good standing', and 'Has open loan account delinquent'.

At the bottom right, there are three buttons: 'Add Co-Applicant', 'Discard Changes', and 'Update & Next'.

Screenshot 2: New Loan Applicants Page

LOS Admin Logout

New Loan

Applicants **Loan Information** Employment & Income Assets Contacts Review Credit Reports Liabilities Decision Finalize

Application Number: 88
 Applicants: ANDER HERRERA
 Application Date: Feb 23, 2017
 Dealer: _____
 Application Status: Data Entry

Created By: Admin
 Status Date: Feb 23, 2017

[Hold](#) [Manager Review](#) [Canceled By Customer](#) [Contents](#)

Step 2: Loan Information

Loan Information

Loan Product *
 Auto, Indirect, Simple Interest, Recourse

Branch *
 Delano Branch

Dealer *
 2WIN AUTO SALES

Is Recourse
 Yes No

Dealer App ID

Loan Amount

Interest Rate

Term(Months)

Loan Purpose

[Discard Changes](#) [Prev](#) [Save & Next](#)

Screenshot 3: New Loan Information Page

LOS Admin Logout

Consumer Loan Queue

Application Number	SSN/ITN	Dealer	Loan Purpose	Branch	Current Status	First Name	Middle Name	Last Name	App Date	Created User	
72	222222222	CLOVIS AUTO TRADERS CORP	Vacation	Delano Branch	Data Entry	NIVASH		P.	Feb 14, 2017	CU DL	Delete
92	123456789	ALFRED MATTHEWS, INC.	Preapproval	Dealer Track	Data Entry	VIRAT		KHOLI	Feb 27, 2017	CU DL	Delete
68	111111111	5 STAR AUTO SALES, INC.	Car repairs	Bakersfield Branch	Data Entry	DINESH		BABU	Feb 10, 2017	CU DL	Delete
73	222222222	2WIN AUTO SALES	Refinance + cash out	Delano Branch	Data Entry	KRISHNARAJ		R	Feb 16, 2017	CU DL	Delete
98	123456789	2WIN AUTO SALES	Car repairs	Delano Branch	Data Entry	GOPAL		GOPAL	Mar 1, 2017	EMMANUEL	Delete
69	111111111	A & W AUTO PLAZA	Car repairs	Corporate	Data Entry	KARTHICK		ADMIN	Feb 10, 2017	CU DL	Delete
88	123456789	2WIN AUTO SALES		Delano Branch	Data Entry	ANDER		HERRERA	Feb 23, 2017	CU DL	Delete
94	565656565	2WIN AUTO SALES	Furniture purchase	Bakersfield Branch	Data Entry	SENTHIL		KUMAR	Feb 28, 2017	CU DL	Delete

[« Prev](#) | [Next »](#)

Screenshot 4: Consumer Loan Queue Page



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