Case Study - Madad FinTech

madadfintech.com

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1. Background:

Madad Fintech is an MSME Invoice Discounting Marketplace in Qatar. The platform helps micro, small, and medium enterprises (MSMEs) get loan access to working capital by allowing them to get loans against their unpaid invoices to institutional investors.

Many MSMEs struggle with cash flow issues due to delayed payments from their buyers. Traditional financing options, like bank loans, are often difficult to obtain due to strict requirements and lengthy processing times. Madad Fintech provides a fast, paperless, and efficient alternative to get liquidity.

2. Challenge:

As a Tech team member handling the full stack to develop elegant and intuitive fronted, robust and secure backend and functionalities to scale the overall tech you have to develop a lender assignment logic for Madad to assign the appropriate lender for the MSMEs based on the document and other details provided during the onboarding where goal is to optimise for the maximum credit limit and best rate

3.**Objective:**

Evaluate your ability to design, implement, and deploy the feature/functionality for a fintech application on Google Cloud Platform (GCP), emphasizing scalability, security, and compliance.

4. Scenario:

Madad is building a multi-tenant invoice discounting platform to facilitate financial transactions between MSMEs, buyers, and lenders in Qatar. The platform includes four portals:

a. Buyer Portal

b. Lender Portal

c. MSME Portal
d. Madad's internal portal

It must be secure, scalable to handle transaction spikes (e.g., during peak financing cycles), and compliant with financial regulations like PCI DSS or data storage or processing compliances.

The overall flow is:

Customer completes the onboarding in MSME portal **>** Application is reviewed by Madad portal **>** Application is sent to the lender portal **>** Lender reviews the case and approves the credit line by defining credit limit, interest rate and tenure > Post credit limit activation the MSME uploads the invoice > Buyer approves via Buyer POrtal > Lender gets the invoice for discounting in the Lender portal > Lender disburses the amount to the MSME > Lender updates the information in the lender portal > Payment status is updated in the MSME portal > MSME initiates the repayment via MSME portal > Ledder gets the payment > Lender updates in the Lender portal > Loan status is updated across all the Platform

5. Tasks:

You have to build a lender assignment logic functionality which gets activated when the MSME submits the application post completing the onboarding journey and uploading the relevant documents.

Details filled and Documents collected:

1. Commercial registration certificate (CR)
2. Trade License
3. Tax Card
4. Establishment Certificate
5. Audited financial statement
6. Bank Statement
7. Credit score (0 - 800)

Madad has multiple lenders and each lender has different criteria for evaluating and assigning credit limit based on the documents submitted. Please find the policies criterion below:

The parameters for lenders to evaluate the credit limit are:

1. Average monthly transactions based on the cash flow
2. Credit Score
3. Document Availability
4. Bank Statement Availability
5. Audited financial report availability

Based on these documents the different lenders have different multiplier on Average monthly transactions to assign credit limit :

Parameter /Multiplier on Average monthly transaction	**Lender 1**	**Lender 2**	**Lender 3**
Credit Score	**> 700:** 1.5	**> 700:** 1.5	**> 600:** 1.25
Credit Score	**< 700:** 1	**< 700:** 0.9	**< 600:** 1
All required documents : **A. CR (mandatory)** **B. Trade License** **C. Estd Certificate** **D. Tax Card**	All 4 available : 1.2 Any 3: 1.1 Any 2: 1.05 Only CR : 1	All 4 available : 1.5 Any 3: 1.25 Any 2: 1.1 Only CR : 1	All 4 available : 1.25 Any 3: 1.2 Any 2: 1.1 Only CR : 1
Bank Statement	1.2	1.25	1.25
Audited financial report	1.5	1.25	1.5

Example : Assume Monthly Average transaction value to be QAR 1,00,000

For a customer with all the documents and credit score > 700 the assigned credit limit for different lenders would be:

Then the lender 1 will assign the limit of QAR 3,24,000 (QAR 1,00,000 X 1.5 X 1.2 X 1.2 X 1.5)

Deliverables:

1. Build a minimal full-stack web application that simulates two simplified portal:

a. MSME application sharing portal which pushes information required for Lender assignment logic portal to evaluate the best offer

b. Lender Assignment Logic Portal with following capabilities:

- A user can create and define different programs (ex P1a for Lender 1 , P2 for Lender 2 , P1a for Lender 1 etc.) consisting of above mentioned parameters
- A user can check the best lender for any MSME whose info was received in the portal

2. A writeup to define the algorithm used for the implementation

Tech to use:
Frontend: React and Tailwind components (preferred)
Backend: Node.js (preferred
DB: MongoDB

Expectations:

- Code hosted on GitHub with clear README.
- Emphasis on clean code, reusable components, and error handling.
- Written note (1-pager) explaining technical decisions and edge case handling.

Deliverables: Submit both the assignments within 3 days.

Good luck!
