

Business Analyst - Case & Behavioural Interview – Franco Fan

Q1 –TASK1

What are the various interactions (for the borrower and for the lender) and key characteristics of the portal that you think will be necessary to facilitate a good experience?

To answer this question, my approach is to:

1. Think from both perspective (draft idea)
2. Question the business (market research, competitive analysis)
3. Draft requirement (solution outline)
4. Define solution structure (construct solution components)
5. Picture ideal product (product mapping & final touch)



Role in Lending business

Define roles within simplified workflow

- Borrower (And potential clients)
- Loan Operator

(Case operations includes customer servicing, technical support roles)

- Loan Approver

(Evaluating cases, assessing creditworthiness,
analyzing financial documents, loan approval decision maker)

- External Service Provider

(External partners for completing the workflow, such as
ID verification solution vendor, Credit Reporting Agencies)

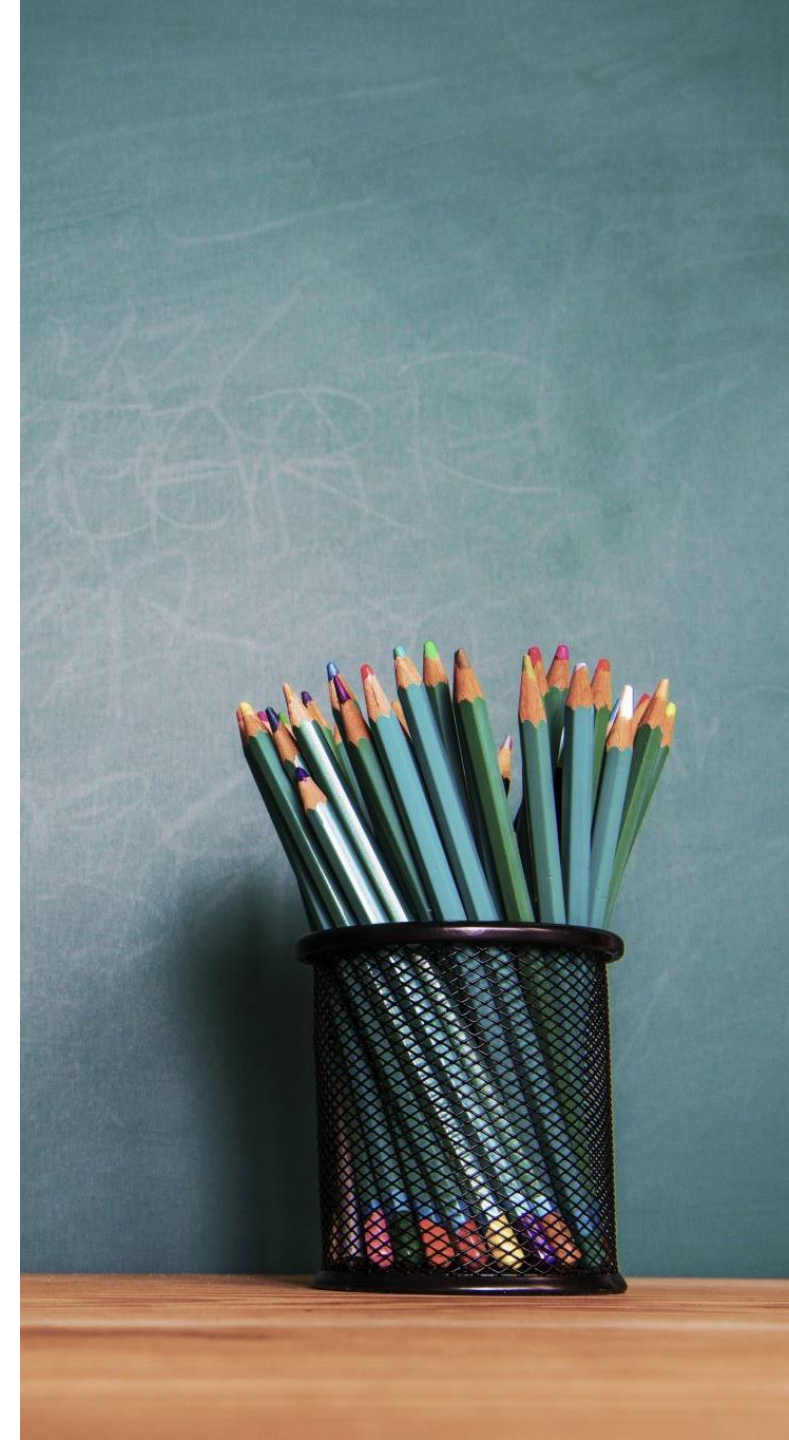


Borrower perspective, portal requirement:

Expectation and rationale: (Assume no priority in orders)

List top 10 wishes and rationale as client

- Anytime everywhere - Accessible by their own device and easy to use by everybody
- Efficient - Workflow process are efficient, Simple user interface
- Predictable - Ability to predict loan schedule, repayment information before application
- Secured - Capable in information protection
- Accessibility - Round-the-clock accessibility
- Informative - Ability to provide detailed loan information and deliver notification
- Customized service - Adaptability for customized user experience (e.g. notification channel, payment method)
- Progress update - Ability for real-time update
- Payment reminder - Reliable in scheduled reminder to avoid penalties
- Device friendly - Accessibility for any devices (e.g. Mobile, Windows/ Mac, iPad)

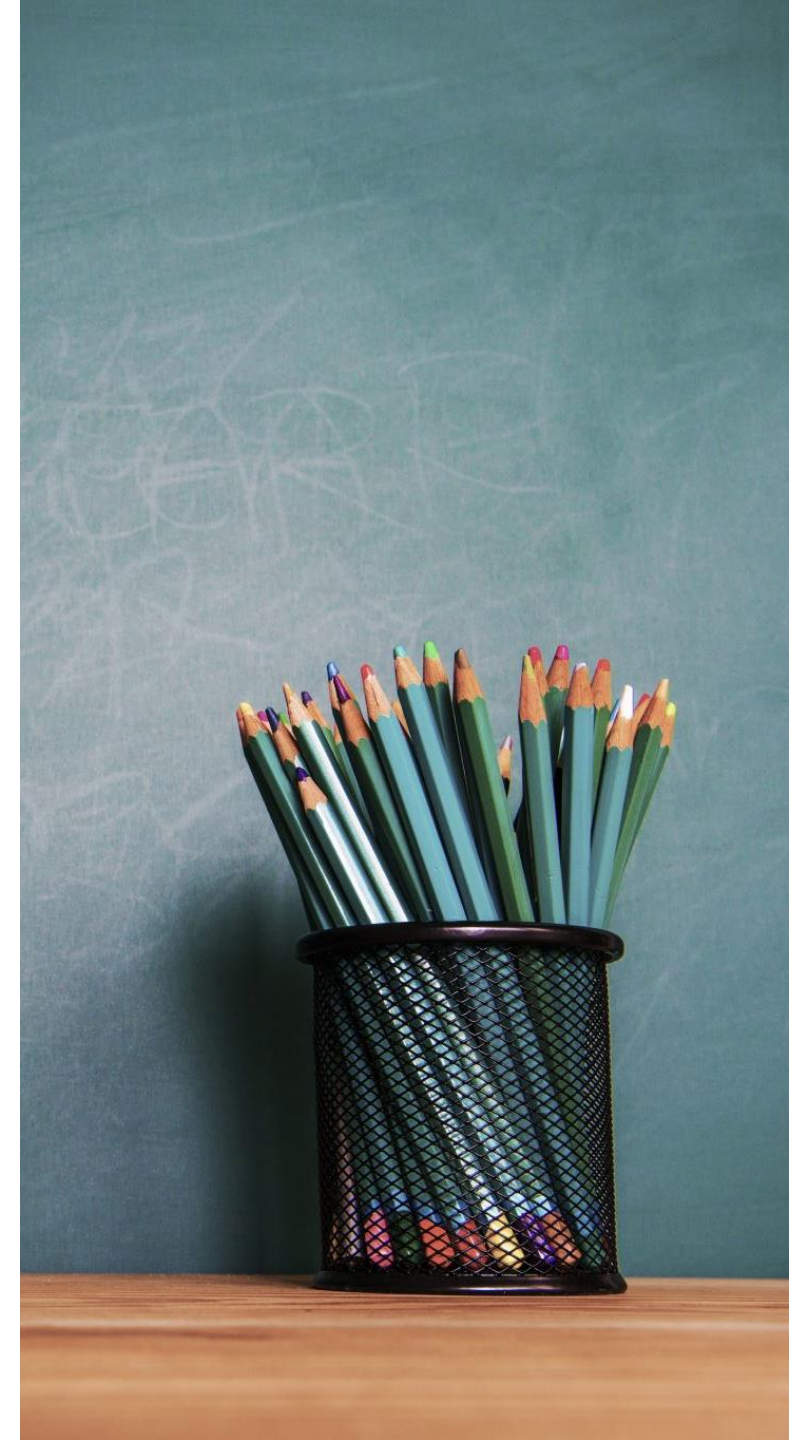


Lender perspective, portal requirement:

Expectation and rationale: (Assume no priority in orders)

■ List top 10 wishes and rationale as business owner

- Compliance - Adaptability for regulatory standards to avoid operational risk (fines, license cancellation)
- Standardize - Universal workflow design for diverse products
- Business Intelligence - Capability in business analytics (client value, operational KPIs, product trend)
- Easy-to-use - Accessible for everybody
- Authorization - Ability in setting customized authorization level between users to facilitate business use cases
- Automation - Ability in automated risk monitoring, KPIs tracking, notifications
- Exceptional handling – Adaptability in manual intervention
- Secured - Reliability in information protection
- Communication - Ability to facilitate users communication
- Editable - Flexibility to facilitate adjustment in product information, client profiles, promotion materials



Q1Task1 Various interactions (for both borrower and lender) and key characteristics of portal to facilitate good experience

Various interactions:

- Anytime everywhere
- Efficient
- Predictable
- Secured
- High availability
- Informative
- Customized service
- Progress update
- Reminder for payment
- Device friendly
- Compliance
- Standardize
- Business Intelligence
- Easy-to-use
- Authorization
- Automation
- Exceptional capability
- Secured
- Communication
- Editable

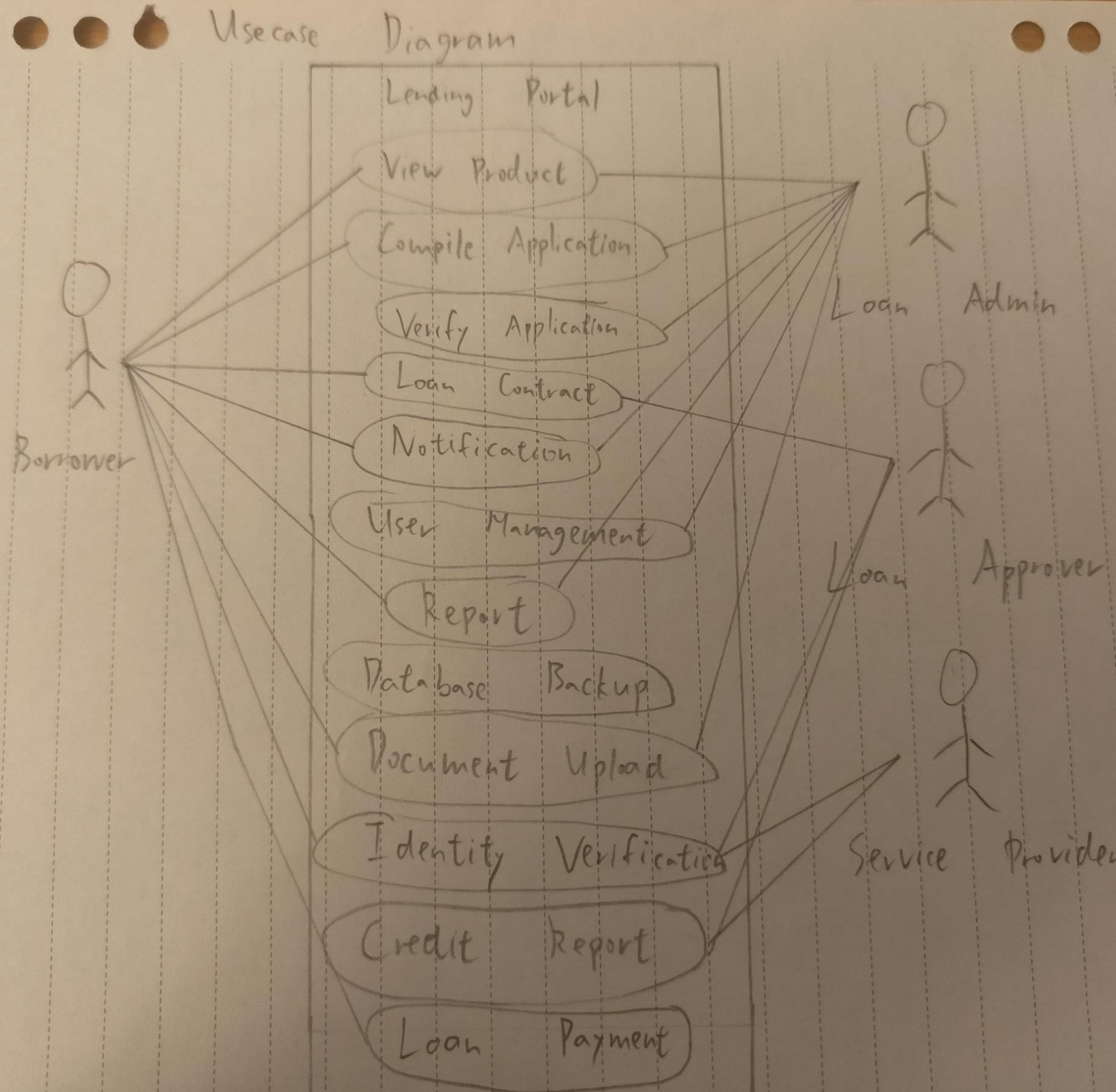
Key Characteristics:

- Reliable, high availability system architecture
- User-friendly interface, efficient workflow design
- Progress bar to show application status
- Secured in information protection
- Business analytic service for borrower and lender
- Payment reminder
- Responsive web application
- Adaptability in regulatory adjustment
- Universal design to fit 3 types of loan product
- Ability for different user authorization level
- Process automation for enhanced efficiency
- Manual intervention possibility
- Chat functions between users

*Revisit to the list after completion of workflow/ use case diagram to ensure every essential characteristics are captured.

(added after diagram is completed): Database Recovery, Connectivity to external vendor (these are crucial for operation efficiency, should be count into Key Characteristics)

Functional Use Case Diagram



Borrower

view product

compile application

loan contract

loan payment

notification

report

document upload

Loan admin

view product

compile application

verify application

loan payment

notification

report

user management

document upload

Loan approver

loan contract

identity verification

credit report

Service Provider

Identity verification

Credit report

Remarks: 3 main roles in loan processing (simplified)

Loan admin involves in case processing excluding approval.

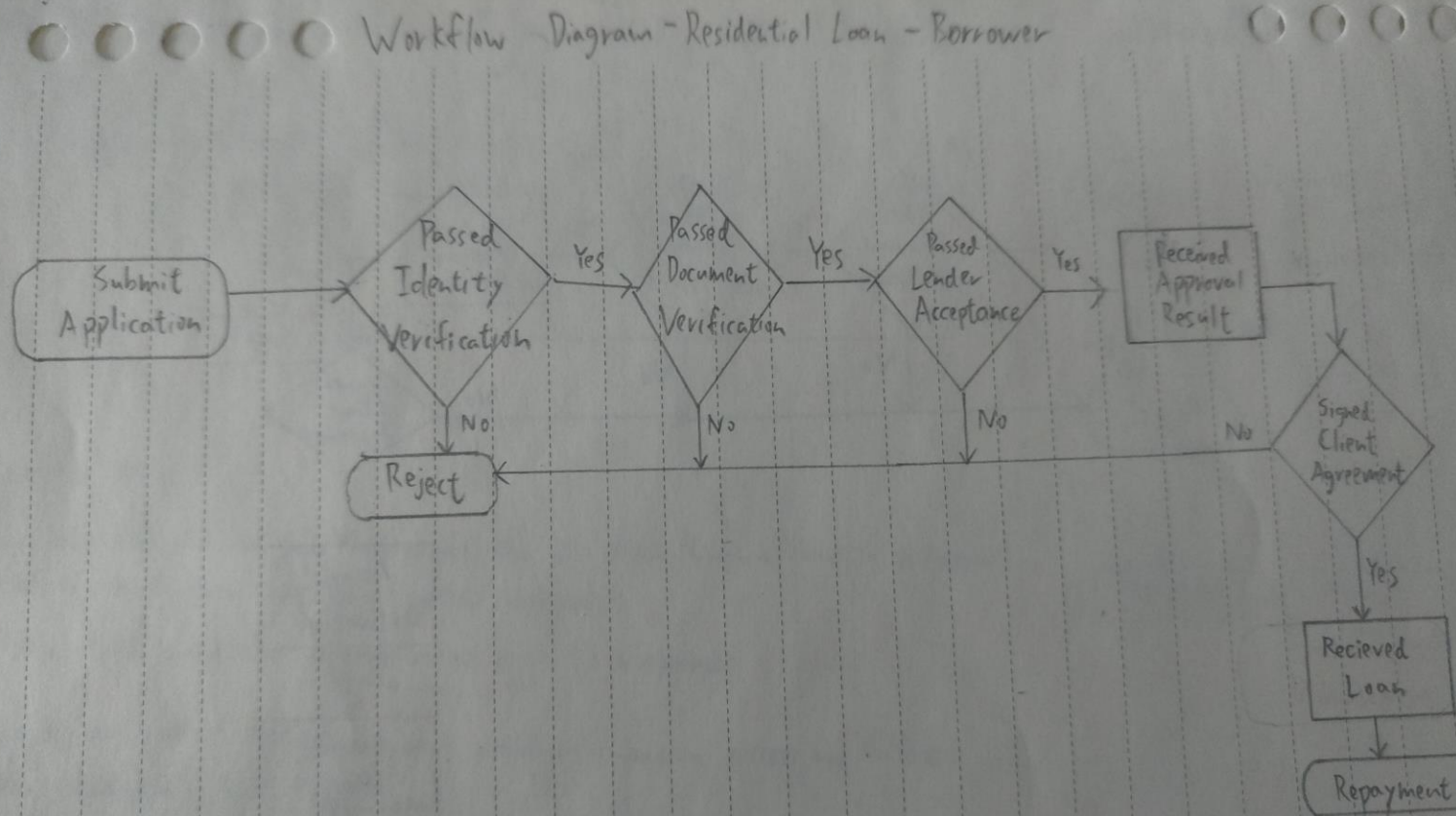
Loan approver acts as independent risk gatekeeper, focusing on Loan decisioning.

Service Provider (external vendor) facilitating the workflow (Electronic ID verification/ Credit rating service provider)

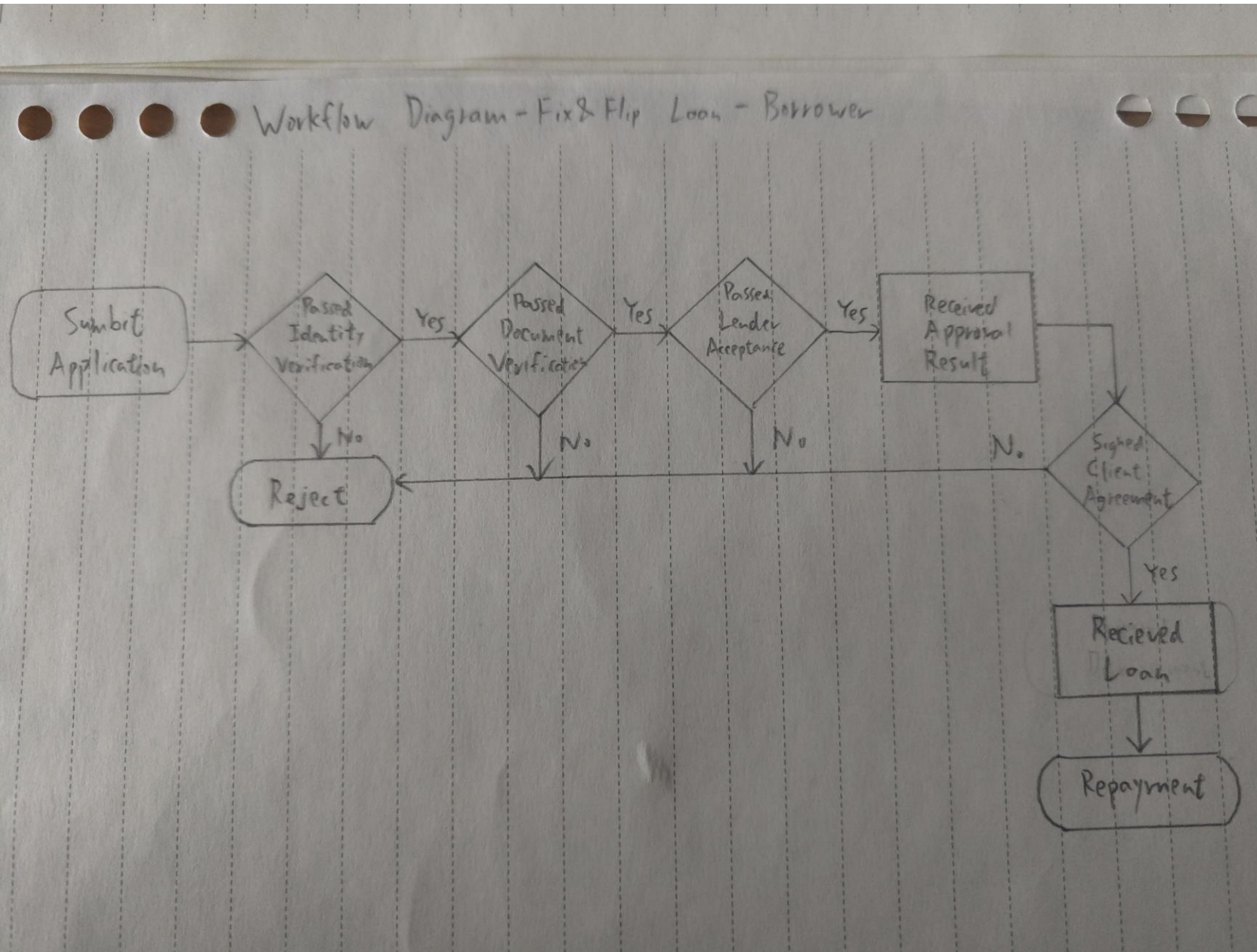
Borrower journey – Residential Loan

Assumption:

1. Diagram for Happy Flow for borrower only
2. Loan agreement is attached when borrower receiving approval result
3. Identity verification is a one-step simply process for borrower, and they gets the result instantly
4. In happy flow, document verification and lender acceptance were completed by system in real-time. Borrower gets the results of each process in a very short period. Waiting period ignorable.
5. Client agreement is digitally signed through portal in real-time.
6. Portal had automated loan disbursement process for happy flow borrower.



Borrower journey – Fix & Flip Loan



Assumption:

1. Same approval process with Residential Loan in happy flow (Fix & Flip Loans) for borrower
2. Loan agreement is attached when borrower receiving approval result
3. Identity verification is a one-step simply process for borrower, and they gets the result instantly
4. In happy flow, document verification and lender acceptance were completed by system in real-time. Borrower gets the results of each process in a very short period. Waiting period ignorable.
5. Client agreement is digitally signed through portal in real-time.
6. Portal had automated loan disbursement process for happy flow borrower.

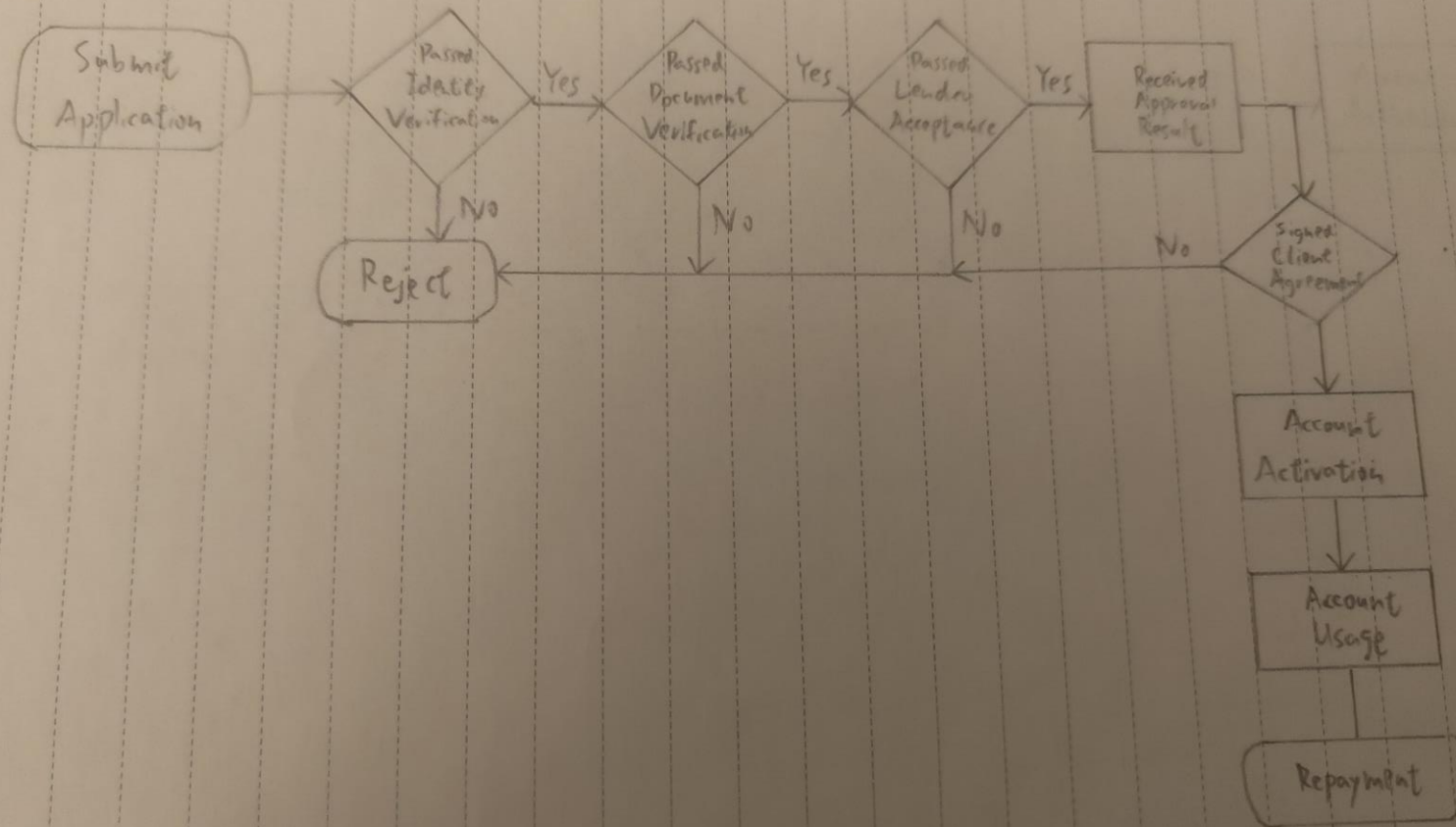
Remarks:

Main differences in Fix & Flip loans when compared to residential loans:

1. Document submission requirement is different: renovation quotation and schedule plan are needed
2. Disbursement process might split into stages instead of one-time
3. Higher interest rate
4. Shorter tenor

Borrower journey – Line of Credit

Workflow Diagram - Line of Credit - Borrower



Assumption:

1. Same approval process with Residential, Fix & Flip Loans in happy flow (Line of Credit) for borrower
2. Loan agreement is attached when borrower receiving approval result
3. Identity verification is a one-step simply process for borrower, and they gets the result instantly
4. In happy flow, document verification and lender acceptance were completed by system in real-time. Borrower gets the results of each process in a very short period. Waiting period ignorable.
5. Client agreement is digitally signed through portal in real-time.
6. Portal had automated loan disbursement process for happy flow borrower.
7. Lender have full decision in reviewing client account status and renewal for client agreement
8. Client won't actively asking for account renewal/ closure

Remarks:

Main differences between Line of Credit and the other two types of loans:

1. No disbursement process. If no account usage, no repayment process.
2. Line of credit products can have short or long duration with client, depending on the specific product features.
3. Detailed workflows for different line of credit products may be different

Minimal Viable Product

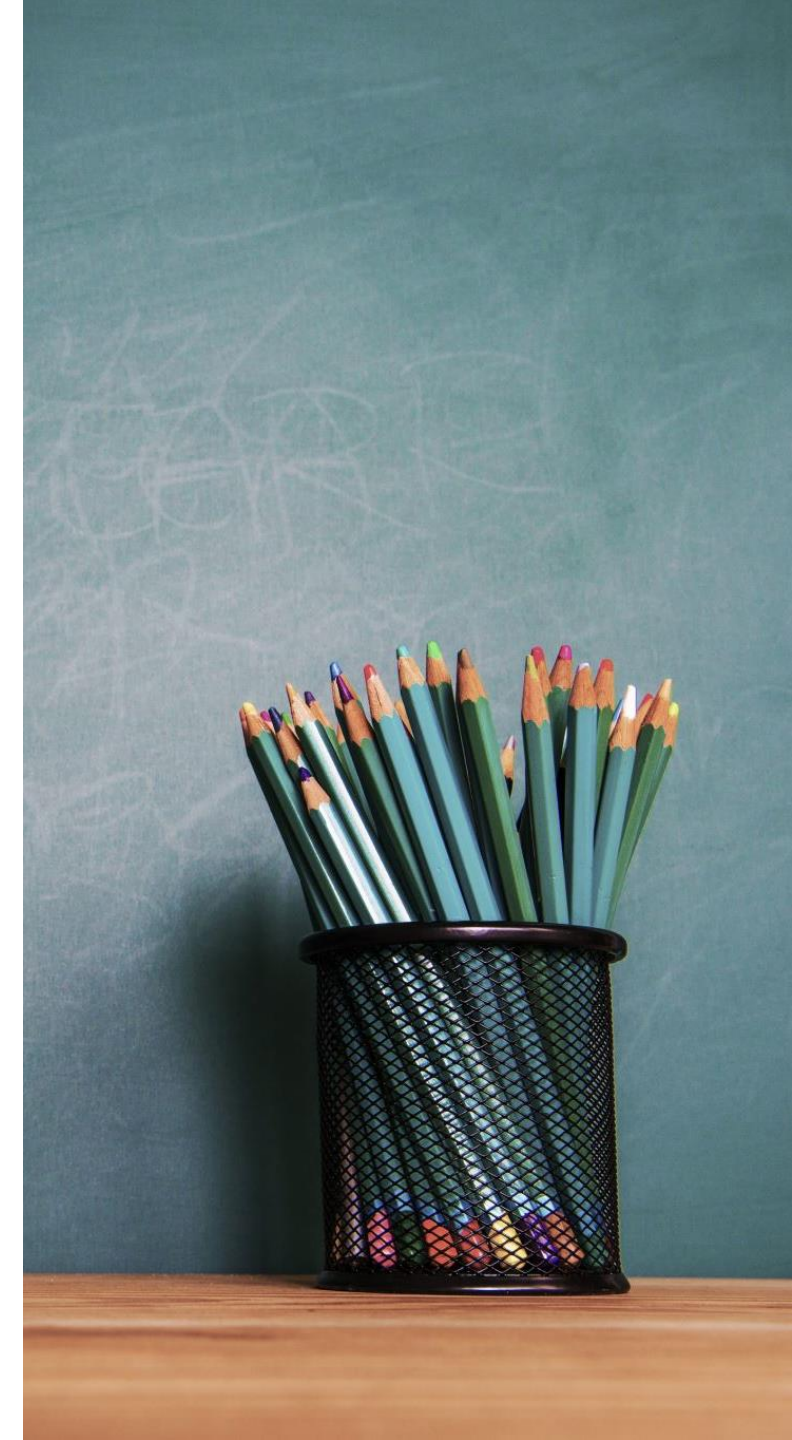
Mock-up screens for borrower workflow:

Design by using Canva resources:

https://www.canva.com/design/DAF6Yt1VP_o/hqxiDU9a1EXXIXzPJiczuQ/edit?utm_content=DAF6Yt1VP_o&utm_campaign=designshare&utm_medium=link2&utm_source=sharebutton

Assumption:

1. System requirements on 3 types of product are universal, minimal adjustment needed for facilitating all use cases.
2. Details in application form, declaration, consent, agreement, product information, dashboards are to-be-confirm.
3. Mock-up screen is the happy flow of borrower journey in residential loan application only.



Q2 Workflow

You're a Business Analyst at Mortgage Automator and you've been assigned to a project to optimize a critical workflow. In your first few weeks, we discovered that multiple lenders on our platform have been experiencing delays, leading to increased turnaround times for approvals and funding.

Thinking Process

I will start by questioning:

What is the problem? Can I define them?

What is the workflow? What are the roles involved?

Where can I get information to help me analyze the root cause? Who should I look for to get that info?

My approach involves 5 steps:

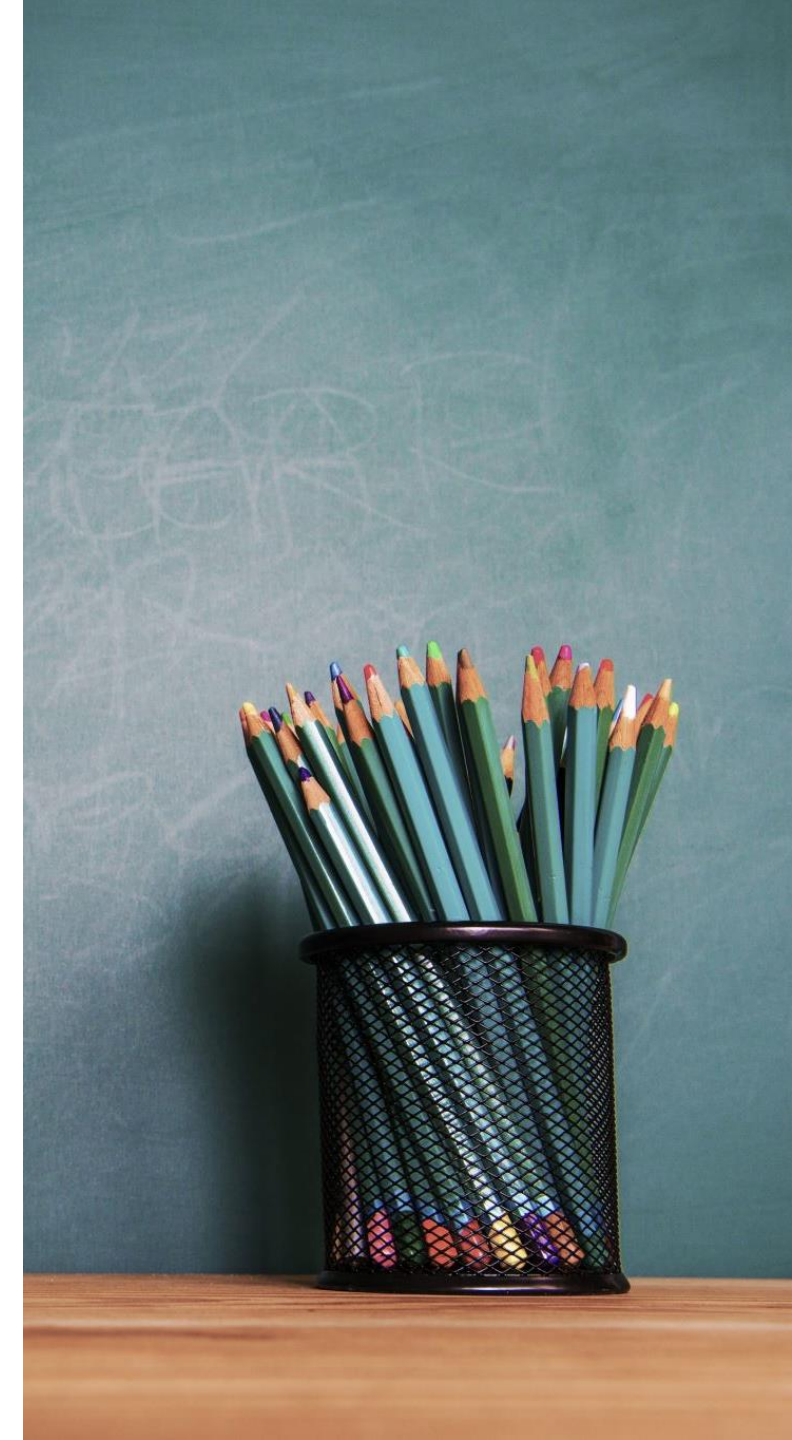
First, understanding how the business and platform operate.

Next, gathering all relevant platform details.

Then, breaking down issues into manageable parts and defining project goals.

Following this, I collaborate closely with stakeholders, create a clear delivery plan, and seek budget approval.

Finally, kickstart the system enhancement project.



Q2

Task 1 - How would you approach this situation?

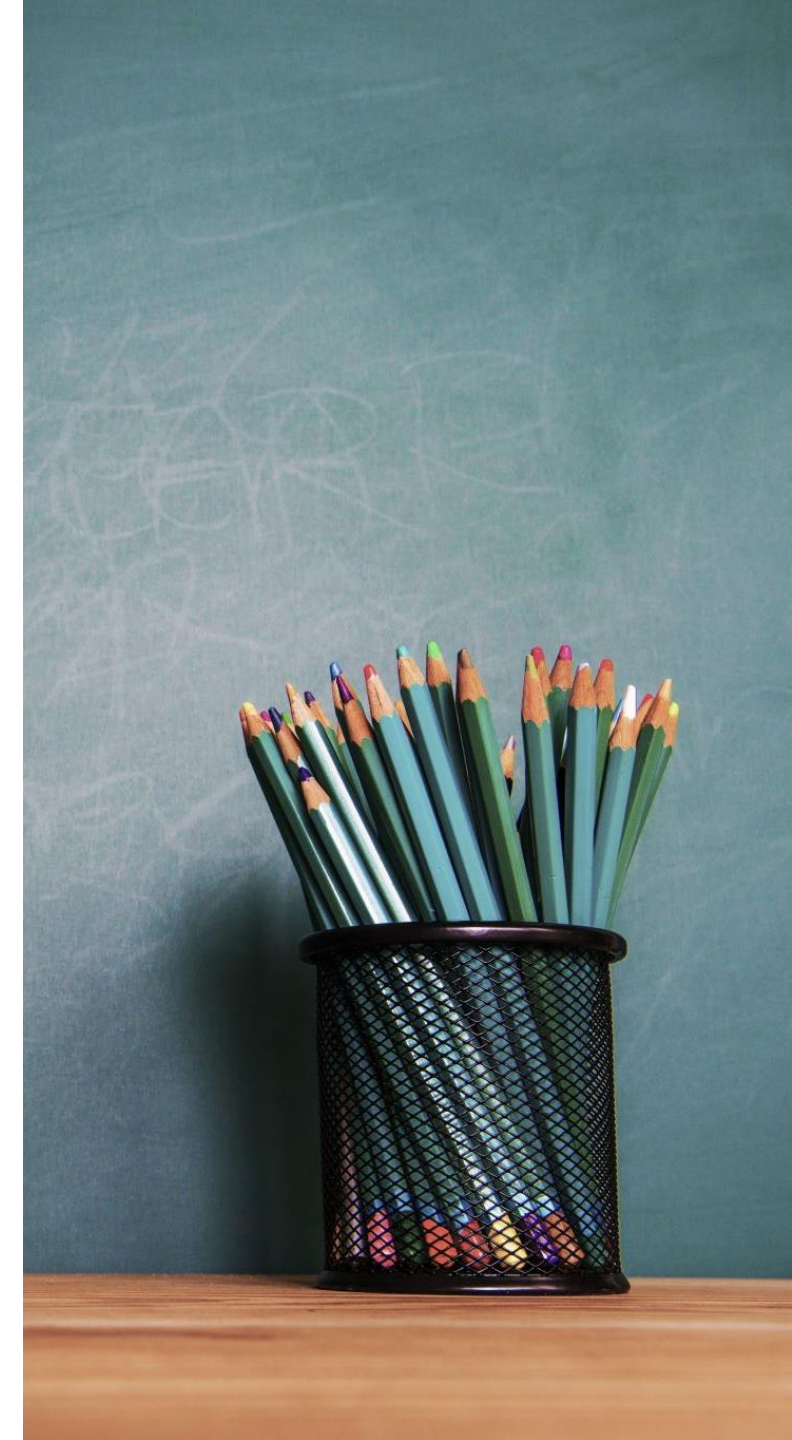
My full answer to question 2 task 1:

To address any problem or enhancement opportunity, my initial steps involve a comprehensive questioning process. I start by identifying the problem and determining if it can be clearly defined. Understanding the workflow and roles involved is crucial, prompting inquiries into how the business and platform operate.

To analyze the root cause and gather relevant information, I seek input from key stakeholders and identify sources such as system documentation, previous project records, and interviews with users. This questioning phase helps me form a solid foundation for the subsequent steps.

My approach comprises five key steps.

Firstly, I focus on understanding the operations of both the business and platform. This is followed by gathering all relevant details about the platform. The third step involves breaking down identified issues into manageable parts and defining specific project goals. Subsequently, I collaborate closely with stakeholders to create a clear delivery plan, seek budget approval, and ultimately kickstart the system enhancement project.



Q2

Task 2- Can you outline the steps you would take, any key factors or actions you would take?

My full answer to question 2 task 2:

I begin the enhancement process by gathering comprehensive information about the platform, including performance metrics, user expectations, business workflows, and the roles involved. This data is sourced from stakeholders, system documentation, previous projects, database records, interviews with users, and internet research.

The next step involves identifying performance issues by questioning delays and understanding the differences between 'delays' and 'normal' in platform operations. Collaborating with project managers, product managers, and users, we define the duration differences and break down problems into minimal unit processes. Through this analysis, we estimate durations, compare them with historical data, and determine whether the issues stem from manual or system processes. Solutions are then crafted, such as organizing platform training sessions for manual processes or collaborating with technical leads to identify tools or technologies for system processes. Costs, manpower, and time are evaluated with project and product managers, considering various options and their pros and cons. Once the solutions are agreed upon, the project is initiated. (One possible solution is implementing Optical Character Recognition(OCR) technology into the business process. This finding is inspired by market research.) I present the possible options to stakeholders, ensuring mutual consent on the project's direction, budget, and timeline. The project is kicked off with detailed documentation, collaboration with the technical team to ensure quality deliverables, and planning with the project manager for resources, testing, and launch. Throughout the project, I prioritize minimizing business effects on users during system deployment and maintain continuous communication between users and technical teams regarding product enhancements.

In summary, my approach involves six key steps:

1. Understanding the platform and workflow,
2. Identifying problems,
3. Building solutions,
4. Initiating the project,
5. Contributing to its progress,
6. Closing the project.

To ensure efficiency and transparency, I keep detailed records, track development progress closely, and communicate any changes transparently to stakeholders.



Q3 Data Analysis

In summary, the types of error can be categorized into 6:

‘Missing Value’, example: Refers to picture A

Worksheet “Brokerage” > Row 3 > Columns (F, G, H) title ”phone”, ”fax”, “brokerage license”

‘Data Format Issue’, example: Refers to picture B

Worksheet “Investor Profiles” > Row 6 > Column (B) title “Investor Type”

‘Worksheet Structural Problem’, example: Refers to picture C

Worksheet “Brokerage” > Column (A) title “ID” is missing (Please refers to Import Template)

‘Data Not Align Between Worksheets’, example: Refers to picture D

Worksheet “Broker” > Row 2, 3 > Column (A) title “Broker ID” with input “001” and “002”,

corresponding Broker ID with details not found in worksheet “Brokerage”

‘Redundant Data’, example: Refers to picture E

Worksheet “Investor Profiles” > Row 3 > Column E title “Corporation Name”

‘Incorrect Input’, example: Refers to picture F

Worksheet “Broker” > Row 3 > Column E title “E-Mail”

Input is not in expected structure

P.S.: List of found errors for first 20 rows were recorded in excel file “Data analysis-screening result record”

Assumption: Questionable data such as abnormal loan amount, broker fees, funding date is excluded as they might not be an error

Picture A

F	G	H
Phone	Fax	Brokerage License

Picture B

Investor ID	Investor Type	Fund Name	F
001	Fund	Mortgage Fund	
002	Corporation		
abc	Corporation		
qwe	non-corporate		
r2b2	Individual		
Add	1000	more row	

Invalid:
Input must fall within specified range

Picture C

	A	
1		
2	Brokerage	Address
3	Brokerage Firm	123 North /
4		

Import Template

	A	B
1	Broker ID	Brokerage ID
2	001	
3	002	

Picture D

B	A
Brokerage ID	Brokerage
001	Brokerage Firm
002	

Picture E

A	B	C	D	E
		Fund Only		Corporation Only
Investor ID	Investor Type	Fund Name	Fund Start Date	Corporation Name
001	Fund	Mortgage Fund	2013-8-1	Mortgage Fund v1

Picture F

A	B	C	D	E	F	G	H	
Broker ID	Brokerage ID	First Name	Last Name	E-Mail	Phone	License #	License Type	Lic
001	001	Gandalf	The Grey	gand_t_grey@harry.com				
002	002	Loan	Broker	#REF!				

Error
Unresolved sheet name 'Sheet36'.

Q3 Data Analysis

- List of found errors for first 20 rows were recorded in excel file “Data analysis-screening result record”

Assumptions:

- Questionable data such as abnormal loan amount, broker fees, funding date not an issue in data migration
- The sample of the first 20 rows of data can represent most of the error cases in the whole datasets
- Dataset are balanced, errors are normally distributed
- Excel formula, source reference are not expected from the input data
- Excessive data, missing data, data format and other error types are equally important as they all results in migration fail, no prioritization on critical level of error is needed(except cross-worksheet errors)
- Client had experienced in import error handling, able to investigate and fix their data issues independently given specific data issues are known

Q3 Data Analysis

Task 2 - Help structure an email back to the client, asking them to please correct their mistakes, so we don't have to take on the workload of cleaning up their data.

Email Title: Welcome Aboard! Important Data Migration Details

Dear Mr. Anderson,

Hope you're doing well! We're excited to have you on board and start working together in this new year. Thank you for promptly submitting the import template. We're eager to help you in getting familiar with the data import process. Our team checked the template you sent, and we noticed a few things that may need attention to ensure a smooth process. Here are a couple of examples:

- Missing Value:**
In the "Brokerage" sheet, the cells in row 3, columns (F, G, H) with the title "phone," "fax," and "brokerage license" are missing.

- Data Format Issue:**
In the "Investor Profiles" sheet, the cell in row 6, column (B) with the title "Investor Type" is not in a valid format.

- Worksheet Structural Problem:**
In the "Brokerage" sheet, should starting from Column A with the title "ID," the mandatory column maybe accidentally deleted by your team.

- Data Not Align Between Worksheets**
In the “Broker” sheet, the cells in row 2&3, column A with the title “Broker ID” is not align with the cells in “Brokerage” sheet, row 3&4, column A with the title “ID”

- Redundant Data:**
In the "Investor Profiles" sheet, the cell in row 3, column (E) with the title "Corporation Name" should be empty as this column is for corporations only.

- Incorrect Input:**
In the "Broker" sheet, the cell in row 3, column (E) with the title "E-Mail" is not in expected structure.

- Questionable Data: (recommend to have check to determine whether it is an error)**
In the "Loan Import" sheet, the cells in rows 6 and 7, column (R) with the title "Funding Date" show input from the year 1900.

Fixing these bits will help things run even better. If you have questions or need help, check out the import instructions and the error log I've attached in the email. And feel free to reach out if you're unsure about anything. We're here to help, and your assistance in fixing these matters will make a huge difference. Thanks for choosing us! We're excited about working with you.

Warmest regards,
Franco Fan
Business Analyst
(433) 644-9367
Mortgage Automator

Attachments: 1) Import instructions video, 2) Data analysis-error log