

Design Work.

Michael Cabus.

Smart Watch

Problem Statement.

Using an Excel based data set which calculates the optimal interest rate for a consumer based on future value of assets, create a consumer-friendly app that guides the consumer without being too complex

Problem Definition

Step 1. Who are the consumers using this product?
What are their characteristics?

User Research

1. Worked with ethnographers hired to do in-depth interviews with mortgage customers on ideas about finance and home ownership
2. Worked with sales department to understand how financial decisions related to refinancing will impact customers

Because I did not have a background in finance, I focused on domain analysis, using research with customers and internal staff.

My newness to the domain helped me come up with novel ideas

User Persona

SmartWatch Persona. Refinance

CHARACTERISTICS

Unsure what a refinance would mean

Unsure of financial terms, finance concepts

Has goal of financial planning but often trusts experts to help fill knowledge gaps

MOTIVATION

Wants to be able to sell house for a profit; wants to know what interest rate is best; desire to be informed as long as content is easy to understand and consume

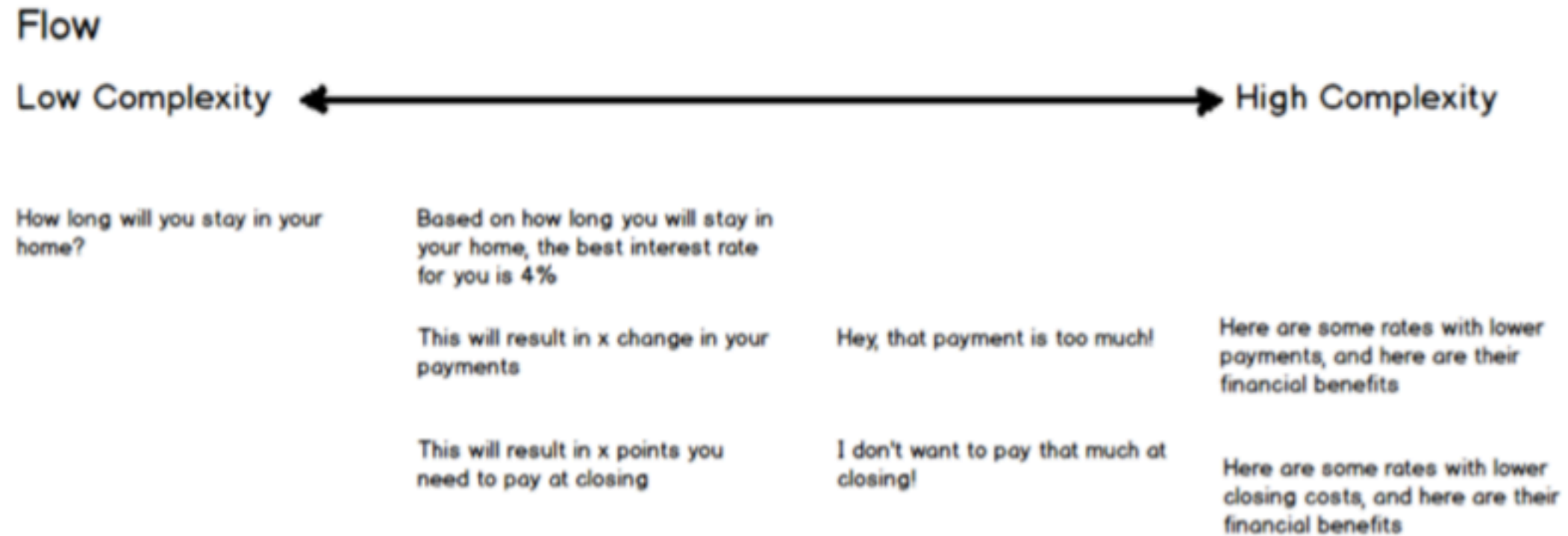
LEGEND

- ♥ Moment of Joy
- ⚠ Point of confusion, could cause disconnection, loss of engagement

New Customer	Phase of Journey	Defining goals	Seeing what is possible
	Emotions at Touchpoint	Hopeful Hesitant	
	Thoughts at Touchpoint		<p>What do these different rates mean for my future?</p> <p>How can I measure the benefit to me?</p> <p>How can I compare in a meaningful way?</p>
		<p>● User enters loan amount</p> <p>● User enters loan term (15 or 30 year)</p> <p>● User enters expected rate</p> <p>● User enters point at which they will move or refinance</p> <p>♥ Establishing financial literacy</p> <p>♥ Seeing mortgage as a goal-oriented product</p> <p>⚠ Does not fully understand what expected rate means</p>	<p>● User sees what rate they should refinance at</p> <p>● Described as most savings for loan amount funded</p> <p>● User can see comparison of expected and recommended</p> <p>● User can adjust length of transaction to see changes</p> <p>● User can change loan conditions</p> <p>♥ User may be inticed to refinance at a higher rate than they wanted, seeing the benefit</p> <p>♥ More informed before going to sales (more likely to be ready to apply)</p> <p>♥ Being able to understand benefits of financial decision</p> <p>⚠ Unsure of benefit, unable to understand what the benefit means to them</p> <p>⚠ Applies without fully understanding implications</p>

When consumers are considering whether to refinance their mortgage, how do they make that decision?

Concept Mapping



Aligning the data to the consumer research, it became evident that the ability to understand the mix of payments, interest rate, and closing costs needed to be understood

It is only worth paying for a lower interest rate with closing costs if you make enough payments over time; in some cases a lower interest rate is best

Design Hypotheses

Consumers may want to refinance, but are unsure whether they should pay for a low interest rate, or get a higher interest rate, and are not able to see the long-term financial impact of choosing one interest rate over another.

By showing them what rate will result in the most financial savings over time, we can get more customers to chose higher rates when appropriate, particularly for consumers who plan to sell or refinance in a short time period

Early Designs. Testing Concepts

Your Optimal Interest Rate
5.75%
Based on Your Current Loan Terms >

Payments
\$839

\$694 \$716 \$793 \$839 \$863

Closing Costs
+\$6,187

\$-3,937 \$-2,062 +\$3,375 +\$6,187 \$+6,750
You Pay At Closing You Receive At Closing

Financial Benefit
\$1,359.32

Present Value of Cash Flow >

30-year loan term over 4 years v

Apply

Present user with optimal interest rate, and resulting payments and points, show some representative number of why this rate is most beneficial (not overly complex)

< **Your Current Loan Terms**

Current Loan Amount
\$150,000

Loan Term
30 Years

Current Interest Rate
4.125%

Users can see their current loan terms (we could also do a comparison of financial benefit of current rate vs. optimal rate)

< **Financial Benefit**

The financial benefit is determined by the cost of the loan (in payments and closing costs) and the resulting payoff balance after the loan term. Each interest rate offers different financial benefits

Explain in greater detail how financial benefit is determined

Your Optimal Interest Rate
5.75%
Based on Your Current Loan Terms >

Payments
\$839

\$694 \$716 \$793 \$839 \$863

Closing Costs
+\$6,187

\$-3,937 \$-2,062 +\$3,375 +\$6,187 \$+6,750
You Pay At Closing You Receive At Closing

Financial Benefit >
\$1,359.32

Present Value of Cash Flow

30-year loan term over 4 years v

Time in Home
4 Years

Loan Term
30 Years

Update

Apply

Users can change loan terms or length of time in home to see affect on interest rate

Refining Design

Simplifying the Mortgage Process

At What Rate Should You Refinance?

What is an ideal interest rate for refinancing? Using this tool will help you determine if you should refinance

Show Me Refinancing Options

What Are Your Home Ownership Goals?

What's Important to You Financially?

My Financial Goal Is

Low Monthly Payments

Low Closing Costs

Financial Benefit Over Time



What Are Your Home Ownership Goals?

How Long Do You Plan to Live in Your Home?



Length of Time Living in Home

Next


Refining Design

Your Optimal Mortgage

Your Optimal Mortgage


Interest Rate
5.375%

Payments
\$839



\$694 \$716 \$793 \$839 \$863

Interest Rate Credit
Amount You Will Receive as a Credit
+\$6,187




\$3,937 \$2,062 +\$3,375 +\$6,187 +\$6,750

Based on your current loan terms >

Financial Benefit >

Life of Loan Savings Rate



1.015

Loan Terms

30-year fixed, 4 years living in home ^

30-Year-Fixed

4 years living in home

Apply

Your Optimal Mortgage

< **Financial Benefit**

The financial benefit is determined by the cost of the loan (in payments and closing costs) and the resulting payoff balance after the loan term.

Each interest rate offers different financial benefits.

Rate Comparison

Financial Benefits

Life of Loan Savings Rates


3.75%	0.17
4%	0.389
4.875%	0.92
5.375%	1.012
5.625%	0.746

Your Optimal Mortgage

Your Optimal Mortgage


Interest Rate
3.75%

Payments
\$694



\$694 \$716 \$793 \$839 \$863

Interest Rate Cost
Amount You Will Pay For This Interest Rate
\$3,937




\$3,937 \$2,062 +\$3,375 +\$6,187 +\$6,750

Based on your current loan terms >

Financial Benefit >

Life of Loan Saving Rate



0.017

Loan Terms

30-year fixed, 4 years living in home v

Apply

Conclusion After Research

Goal-based application too complex for phase 1. Focus on interest rate comparison

Having a goal-based application for phase 2 would be game-changing for the company, but needs more research

Final Design

GET YOUR
MORTGAGE NOW:
1-800-700-9212



OPTIMAL INTEREST RATE

What is the best interest rate for you to refinance your mortgage? Is your expected or current rate your best rate? Find out with ditech's optimal mortgage rate calculator

Loan Amount

What is Your Loan Amount?

Next

Your loan amount is either the amount you want to borrow, or the amount you owe on your current home that you want to refinance

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MORTGAGE NOW:
1-800-700-9212



OPTIMAL INTEREST RATE

What is the best interest rate for you to refinance your mortgage? Is your expected or current rate your best rate? Find out with ditech's optimal mortgage rate calculator

Loan Term

What Loan Term Do You Want?

Next

Your loan-term can either be 15-year or 30-year fixed.

GET YOUR
MORTGAGE NOW:
1-800-700-9212



OPTIMAL INTEREST RATE

What is the best interest rate for you to refinance your mortgage? Is your expected or current rate your best rate? Find out with ditech's optimal mortgage rate calculator

Interest Rate

What is Your Expected Interest Rate?

Minimum 4.5%

Next

If you are refinancing, this is your current rate; if you are wanting a new loan, this is the rate you expect to get

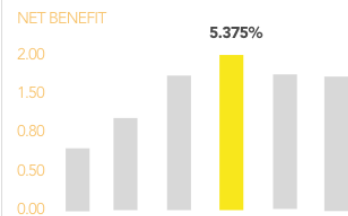
Final Design

OPTIMAL INTEREST RATE

[Change Loan Conditions](#)

Your most beneficial interest rate is 5.375%

This will result in the most
savings for the loan amount
funded



At what point will you move or
refinance?



Next steps

Apply now to refinance at this rate

[Apply Now](#)

Mortgage Comparison

Comparing your expected and
recommended interest rate

Closing Costs

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	COST
\$2,300	\$800	\$800

Principle and Interest

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	BENEFIT
\$491	\$506	\$14

Interest Paid

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	BENEFIT
\$25,000	\$27,000	\$2,000

Future Debt

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	BENEFIT
\$2,300	\$800	\$415

GET YOUR MORTGAGE NOW: 1-800-700-9212

[MAKE A PAYMENT](#) | [FIND A HOME LOAN SPECIALIST](#) | [BLOG](#) | [CONTACT](#) | [ABOUT](#) | [CAREERS](#)

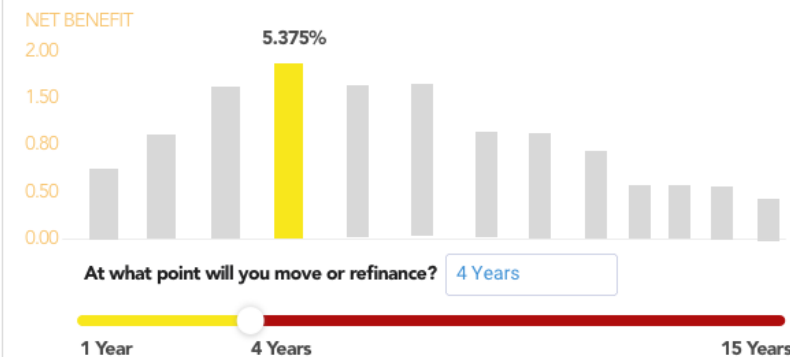
[APPLY NOW](#) [BUY A HOME](#) [REFINANCE](#) [CALCULATORS](#) [MANAGE MY ACCOUNT](#)

[LOG IN](#)

OPTIMAL INTEREST RATE

Your most beneficial interest rate is 5.375%

This will result in the most savings for the loan amount funded



Next steps

Apply now to get this rate

[Apply Now](#)

Mortgage Comparison

Comparing your expected rate of 4.5% and recommended interest rate

Closing Costs

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	COST
\$2,300	\$800	\$800

Principle and Interest

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	BENEFIT
\$491	\$506	\$14

Interest Paid

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	BENEFIT
\$25,000	\$27,000	\$2,000

Future Debt

EXPECTED RATE (4.5%)	RECOMMENDED RATE (5.375%)	BENEFIT
\$88,723	\$89,183	\$415

Loan Conditions

My current loan amount is...

My loan term is...

My expected interest rate is...

Minimum 4.5%

[Update](#)

Customer Experience Design

Design interfaces that align to mortgage application process

Problem Statement.

How to design an experience the both supports the regulatory environment of the mortgage industry and helps customers through the mortgage application process

Business Problems

Current internal processes and systems are causing delays in time between customer application and closing the loan

Delays in the process caused credit rate lock expiration, requiring customers to get a different (often higher) interest rate

Customers not informed about the status of the mortgage application process, causing dissatisfaction

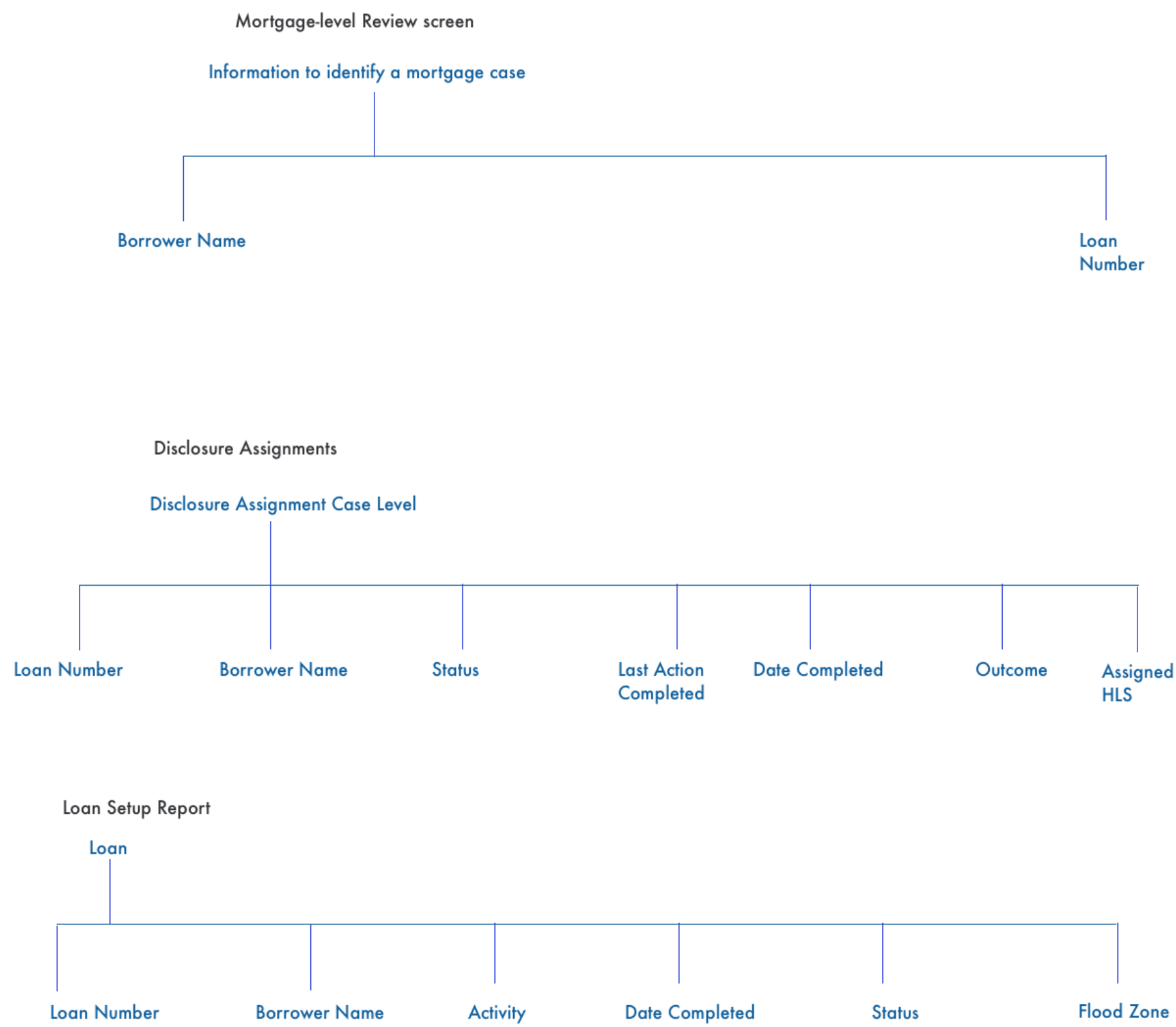
Defining User Roles and Information Needs

Roles	Assignments	
Document Manager	Flood Assignments	Assignment Confirmation Screens
SPOC	Escrow Assignments	Case-level Review for Each
SPOC Manager	Disclosure Assignments	Mortgage-level Review screen

Because this project was data-intensive, it was important to understand the roles internal user took on to work on a mortgage application, and the information needed

This led to detailed information architecture work to understand information needs

Defining User Roles and Information Needs



User Research

Involved understanding internal employees who worked as document specialists, underwriters, and loan officers

Also involved understanding the mortgage application experience from the consumer perspective

The business also needed to understand the underlying systems used to support marketing, to improve customer acquisition, and understand how sales acted on leads

Marketing Processes

In my dialogs with business, it emerged that a need was understanding the connection of marketing to sales

From user interviews, I created a process flow document to create better shared understanding

Key to Channels

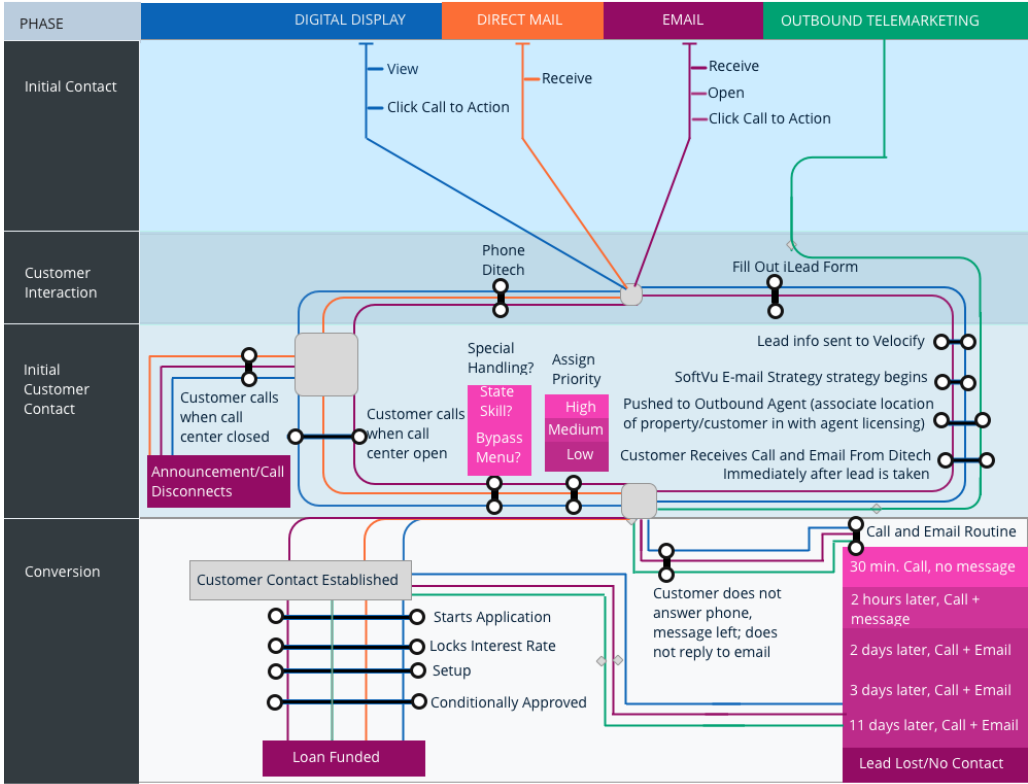
Digital

Direct Mail

Email

Outbound Telemarketing (Trigger and List Based)

 USER FLOW



OUTBOUND TELEMARKETING EMAIL AND CALL STRATEGY

Day	Day 1	Day 3	Day 5	Day 7	Day 14
Phone and Email	Call and Email	Call and Email	Call and Email		Call and Email
Email Only	Email	Email		Email	

METRICS

LEAD PHASE	DIGITAL DISPLAY	DIRECT MAIL	EMAIL	OUTBOUND TELEMARKETING					
Initial Contact	Number of Impressions Cost/Impression	Number Sent Cost/Solicit Cost/Campaign	Number Sent Number Delivered Number Opened Cost/Impression Cost/Campaign	Number Attempted Percent Attempted Time to First Contact % Leads Emailed Time to First Email					
Customer Interaction	Clicks Cost/Click iLead Form Submit Number Called Abandoned Rate Answer Rate	Number Called Abandoned Rate Answer Rate	Clicks Cost/Click iLead Form Submit Number Called Abandoned Rate Answer Rate	Percent Contacted Number Contacted Answer Rate					
APPLICATION PHASE									
Conversion	Number App File Starts	Number/ UPB App Locks	Cost Average Lock UPB	Setup	Conversion Rate	Number/ Conditional Approval	Cost/ Conditional Approval bps	Cost/ Submit	Cost/ Fund
Application Starts					Loan Funded				

User Research

Mortgage Level Review. SPOC

CHARACTERISTICS

Managing multiple information points
Attempting to meet goals that are dependent on team and customer contexts
Managing people and processes (the “fixer”)
Experienced with mortgage process, mortgage industry

MOTIVATION

Wants to know the status of loans managing; wants to understand if any loan is falling behind targeted goals for meeting milestones; wants to know if any complications need their attention/assistance. Wants to monitor employee performance

LEGEND

♡ Moment of Joy

⚠ Point of confusion, could cause disconnection, loss of engagement

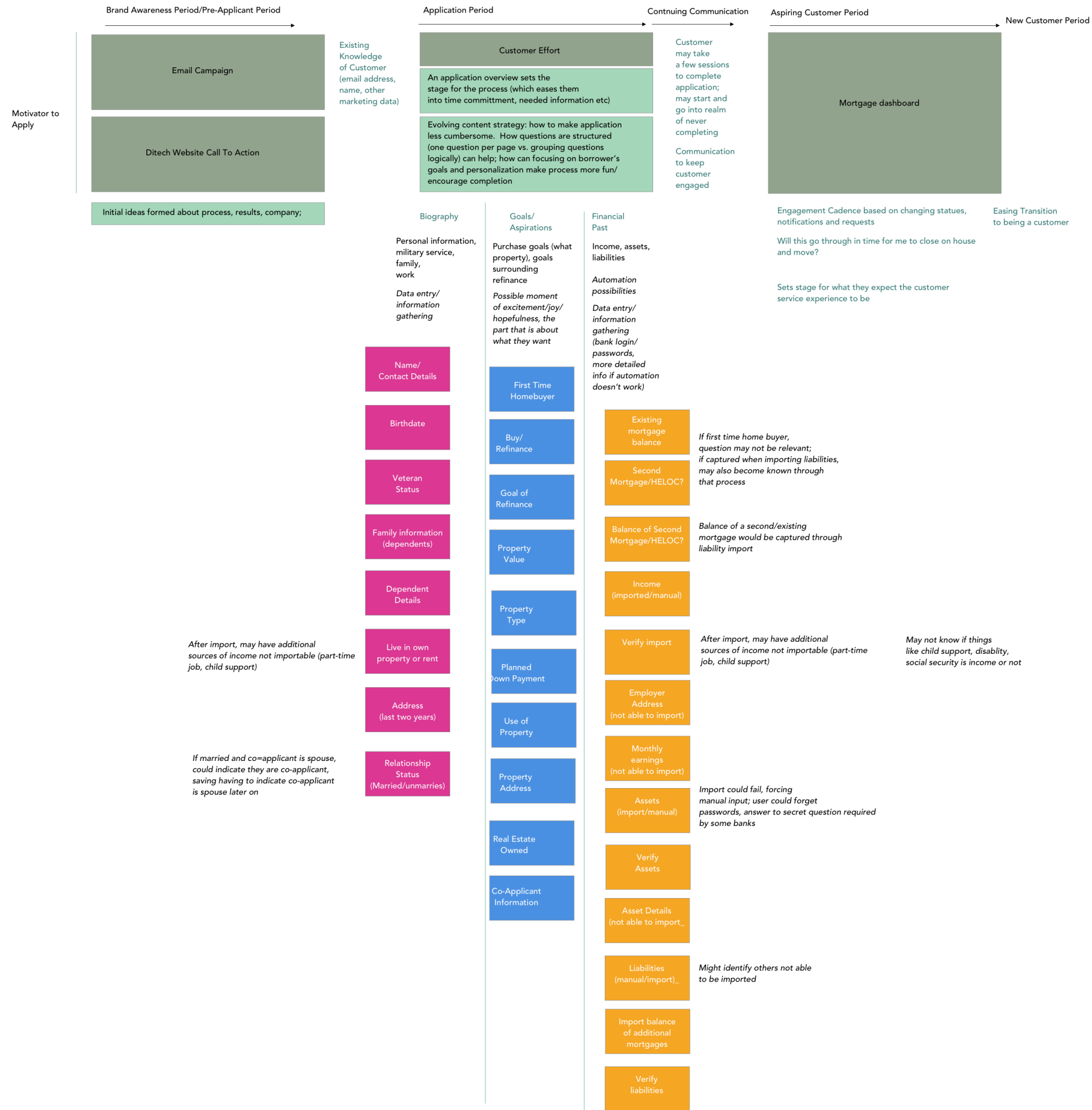
SPOC	Phase of Journey	Reviewing Work	Reviewing Individual Loan		
	Emotions at Touchpoint	Exploring Monitoring	Seeking answers to specific questions Seeking points needing intervention, actions needed to be taken to move loan to closing, prevent delays		
	Thoughts at Touchpoint	What is my workday going to be like today? Have any loans I am responsible for changed in status, or have any updates I need to be aware of?	I don't want to miss any loans that are about to miss deadlines and could use my assistance How is my team handling this loan? Do I need to intervene in any activities?	What are the characteristics of this loan? Are there any factors that would make this unique? Are there any problems that I need to address my manager about?	Are the activities resulting in the desired output? If I get a question about this loan, can I answer it easily and quickly?
		<p>What work do I need to do today, what are my loan activities?</p> <p>What mortgages are assigned to my team? What ones need review based on updates/ due dates? What is the status of mortgages I am keeping an eye on?</p> <p>Confirms when key due dates are happening</p> <p>What work is being currently worked on (not completed)?</p> <p>What activities have been completed at the loan's current stage?</p> <p>What activities remain to be done? Does any delay put important dates in jeopardy?</p> <p>Answers a question about what flood zone the loan is in</p> <p>Takes over activity and completes it</p> <p>Takes over activity to send additional communication to customer about needed document</p> <p>What was the last communication related to an activity? When was the last communication?</p> <p>Reviews output of an activity, confirms right document has been received</p> <p>Notifies one task is overdue, contacts DS to inform her it should be a priority</p> <p>Notifies rate lock date is expiring this week, implying specific tasks need to be done this week</p>			

Crafted personas based on user research for loan officers.

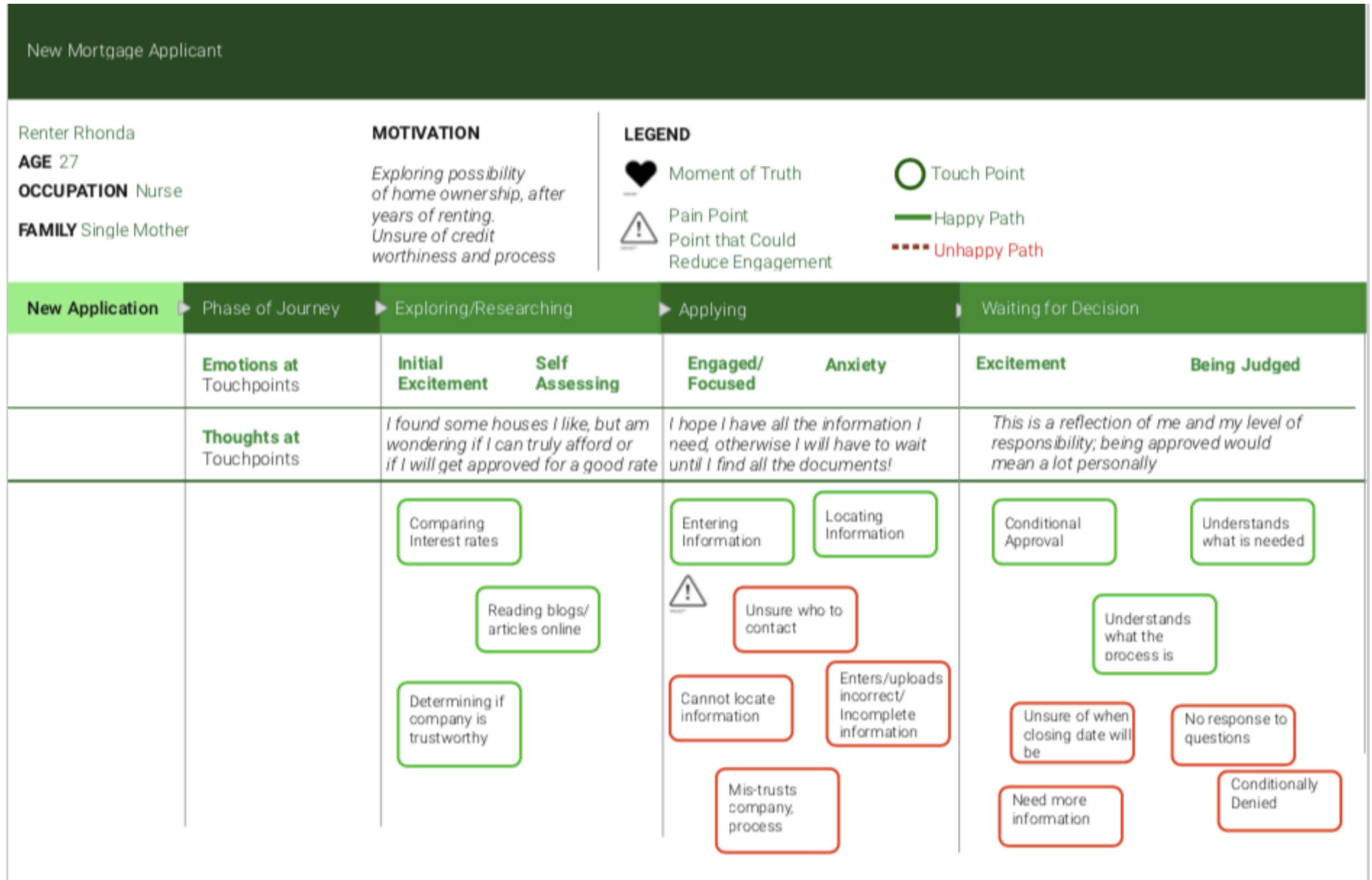
Understanding the Consumer Experience

What is the overall experience of a consumer as they apply and get approved for a loan?

To understand this, I did research that informed an overall user experience for consumers



User Research



Service Design

There was an overall goal to understand how the consumer and internal roles interacted throughout the process

Because there were multiple internal systems, defining the backend processes were also important

Service Design

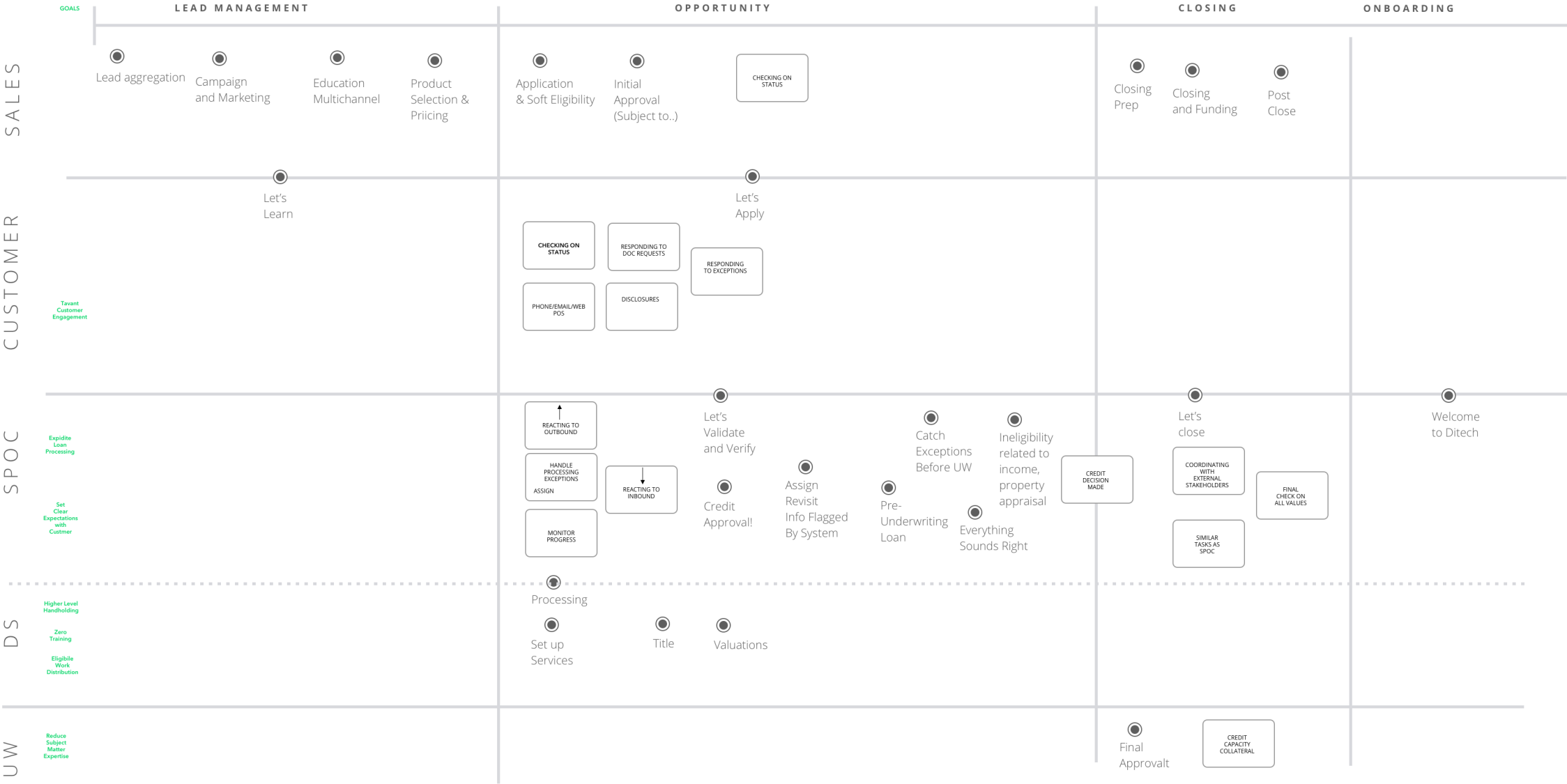
SERVICE BLUEPRINT
ROADMAP v 1.0

PEGA PROJECT

Date: 2018.04.24
Created by: Michael Cabus

ACTORS

- Relators
- Title & Closing Company
- Appraiser
- Closing Specialist
- Other Lender
- Property Manager
- Insurance Agents
- Local Tax Authority
- Borrower
- Sales



Design Patterns to Define Interactions

Design patterns were created and refined to ensure consistent design standards were established

Design Patterns

Buttons

Primary, secondary, disabled, active, buttons as text links

Strong

Default	Hover	Focus	Disabled
Strong	Strong	Strong	Strong

Change font to Proxima Nova (sync Adobe when wi-fi)

Standard

Default	Hover	Focus	Disabled
Standard	Strong	Standard	Standard

Change font to Proxima Nova (sync Adobe when wi-fi)

Light

Default	Hover	Focus	Disabled
Standard	Standard	Standard	Standard

Tables and Lists

Mobile Tables

List of Things +	
Thing.01	
Description	The longer text description
Date due	07/22/2017
Thing.02	
Description	The longer text description
Date due	07/22/2017

Case Headers

Mobile

Loan Application	
LOAN-1234	PENDING-REVIEW

Landing page header

Worklist


List Patterns



List of Things Search ON +	
43 results	
1 2 3 4 >	
Thing Name	Description
Thing.01	Description
Thing.02	Description
Thing.03	Description

Tiny Lists

--


Interfaces

 HOME LOAN SPECIALIST




MC


Your prioritized work

History 

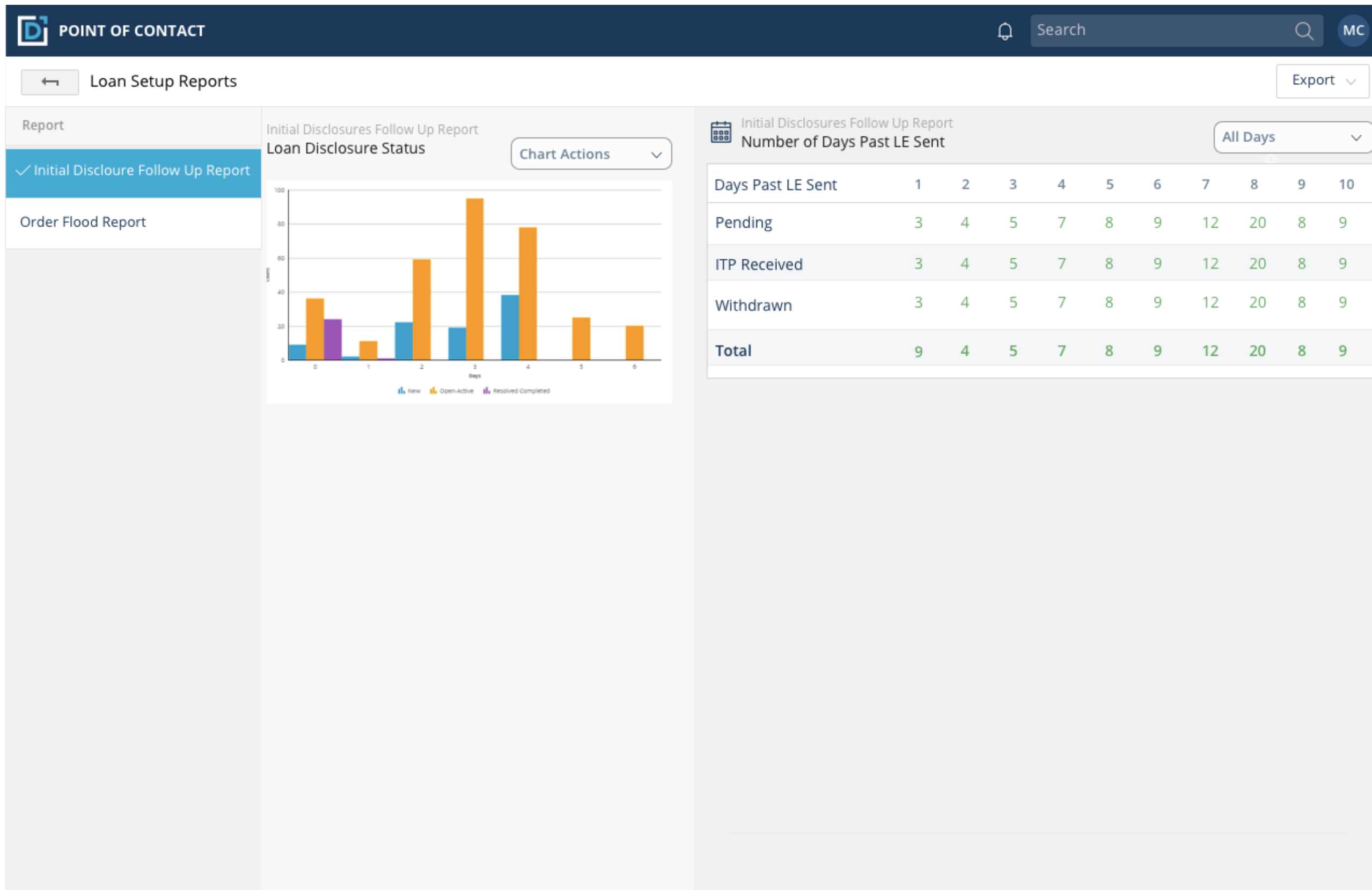
Send Initial Disclosure Follow-up	Sandy Graves (#123443)	Due 1/2	Start
Send Initial Disclosure Follow-up	John Smith (#324455)	Due 1/2	Start

Your Mortgages

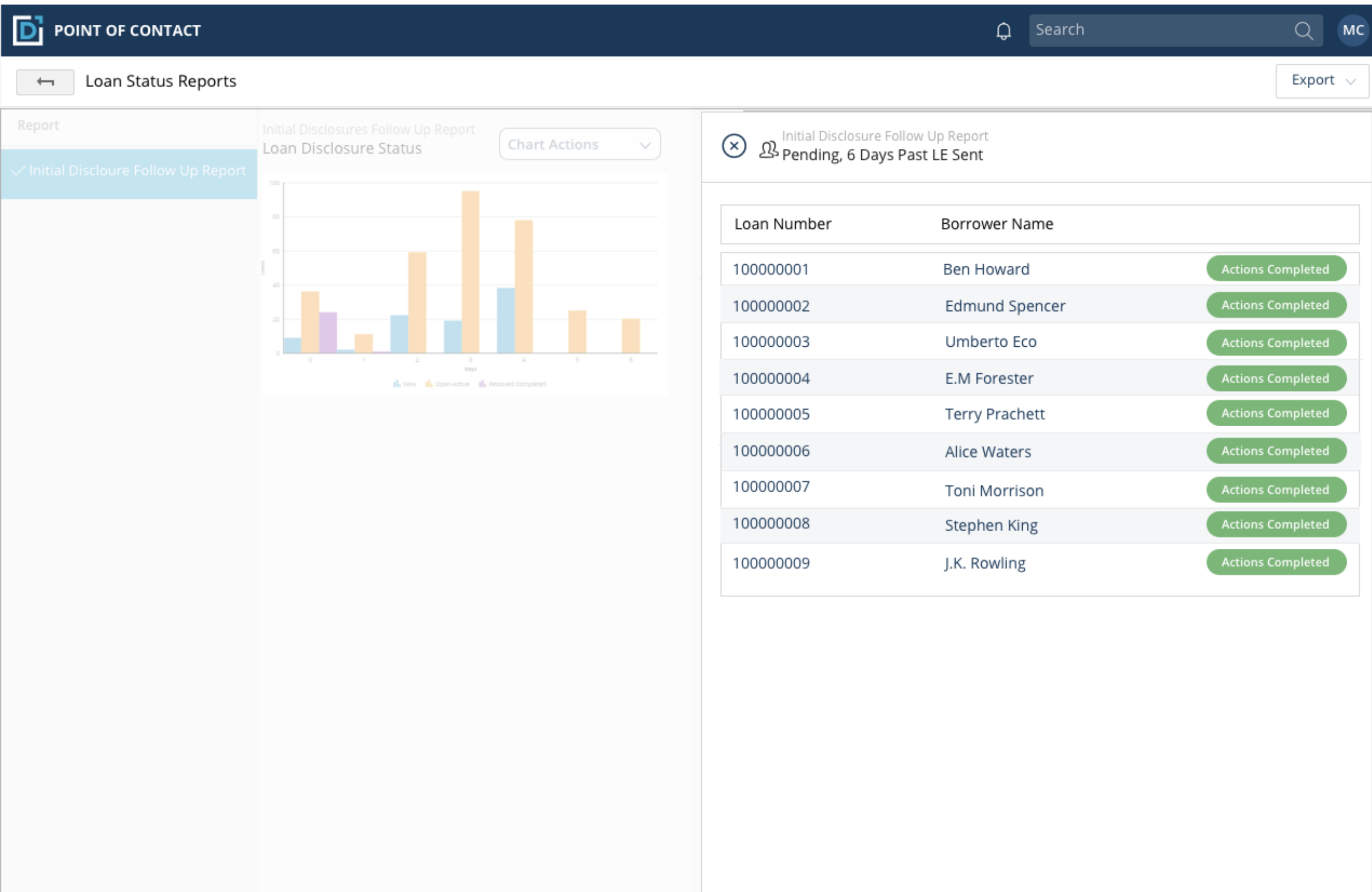
View Status Reports 

 Sandy Graves (#123443)	Closing 02/02	Processing
John Smith (#324455)	Closing 02/02	Underwriting
Margaret Caplan (#546745)	Closing 03/22	Underwriting

Interfaces



Interfaces





Interfaces

😊 35 Assignments Completed Today

[Get next assignment >](#)

Your Open Assignments

[History](#) 🕒

Order Flood Insurance	Overdue	Created 1/05/2018	Sandy Graves #123443 🗒	 Joan Callamezzo ▾	Continue
Flood Order Refresh	Due 1/23/2018	Created 1/07/2018	Alice Firstimer #123445 🗒	 Joan Callamezzo ▾	Continue
Troubleshoot Flood	Due 1/23/2018	Created 1/07/2018	Susan Sontag #123446 🗒	 Joan Callamezzo ▾	Continue
Get Escrow Details		Created 1/15/2018	Sandy Graves #123443 🗒	 Joan Callamezzo ▾	Continue
Setup Escrow Accounts		Created 1/10/2018	Sandy Graves #123443 🗒	 Joan Callamezzo ▾	Continue
Send Flood Notice		Created 1/05/2018	Sandy Graves #123443 🗒	 Joan Callamezzo ▾	Continue

Interfaces



Sandy Graves #2334553

Property Address

112 Gully Drive New Orleans, LA. 08775

Loan Amount

\$250,000

Loan Type

30 year fixed

Loan Purpose

Purchase

Loan Program

Conventional Fixed

Product Type

FHA



Point of Contact
Joan Callamezzo

Order Flood Information

[Need Instructions?](#)

[More Details](#) ↓

1 Enter the following Information into the LOS to Order Flood

Flood Certificate Order Information

Loan number

233455323

Order Type

New

Flood Product

Life of Loan

2 Once flood certificate is received, enter the following fields into the LOS from the Flood Certificate

Information Required from Flood Certificate

Flood Company Name

Cert #

Determination #

Flood Type Ordered

Cancel

Done

Interfaces



Sandy Graves #2334553

Property Address

112 Gully Drive New Orleans, LA. 08775

Loan Amount

\$250,000

Loan Type

30 year fixed

Loan Purpose

Purchase

Loan Program

Conventional Fixed

Product Type

FHA



Point of Contact
Joan Callamezzo

Get Escrow Details

Need Instructions?

More Details ↓

Obtaining Escrow Data from Customer Servicing Data

Below are data fields needed from the Customer Servicing Data PDF from the LOS; input these items from the PDF

1 Select Escrow Type to Enter

City Tax



County Tax

Earthquake Insurance

2 Flood Insurance

Hazzard Insurance

School Tax

Village Tax

Wind Storm Insurance

nt


Save

Continue

Cancel

Done


Interfaces

 WORKFLOW MANAGEMENT

JC

←

Sandy Graves #2334553

Property Address	Loan Amount	Loan Type	Loan Purpose	Loan Program	Product Type	Point of Contact
112 Gully Drive New Orleans, LA. 08775	\$250,000	30 year fixed	Purchase	Conventional Fixed	FHA	 Joan Callamezzo

Get Escrow Details

Need Instructions?

More Details ↓

Obtaining Escrow Data from Customer Servicing Data

Below are data fields needed from the Customer Servicing Data PDF from the LOS; input these items from the PDF

1 Select Escrow Type to Enter

Village Tax

▼

2 Enter Village Tax Escrow Data

Payee Name

Next Disbursement Date

Next Projected Disbursement Amount

Save

Add Additional Tax

Continue

Cancel

Done