

# Project Requirements

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## I. OVERVIEW

DFS has engaged MCD to enhance the online acquisition experience for DFS visitors who are interested in pre-qualifying in advance of purchasing a new home and registering for an online account (My Status) to be able to manage these processes by providing supporting documentation in a secure, online environment ("Project"). This Project will be the initial stage of work for the two features of pre-qualification and registration.

This document captures all requirements as seen from the client side of these web applications. Some requirements here maybe for the back-end, but are necessary to state because they affect the client side of the work.

## II. VERSION CONTROL

Version	Date	Description	Contact
1	Mon, 10/21/2013	Initial project requirements doc.	Arthur Sierzputowski <a href="mailto:arthur@mcdpartners.com">arthur@mcdpartners.com</a>   212.500.4572
2	Wed, 11/06/2013	Completed user use cases and user flows.	Oliver Lutz <a href="mailto:olutz@mcdpartners.com">olutz@mcdpartners.com</a>   212.500.4500
3	Mon, 11/25/2013	Updated use cases & user flows per client feedback.	Oliver Lutz <a href="mailto:olutz@mcdpartners.com">olutz@mcdpartners.com</a>   212.500.4500

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## IV. BUSINESS REQUIREMENTS - SUMMARY

This document outlines requirements for Discover Home Loans' Registration and Pre-Qualification. The following are initial, top level business requirements.

### Responsive Registration

- Online users must be able to self-register.
- Registration will leverage Bank's registration design. Bank's design is over 4 years old and is not responsive. MCD may employ a newer approach that works well in a responsive design.
- Registration will be built based on Bank security standards, to allow easy integration into a single sign-on in the future.
- Registration will use same user id and password standards as Bank.
- Registration will also leverage Bank's Login Assistance to help users login and reset passwords.
- Registration will use RSA security questions (same set of questions as Bank) to uniquely identify users, if necessary.
- Registration should integrate with Bank and/or Card data to match a user based on a unique data on Step 1 (DOB, SSN, Mother's Maiden Name). This identification will allow us to pull any relevant data on the user from those account(s). Ex: address, phone, etc.

### Responsive Pre-Qualification

- Registration will be designed and built to respond to window browser size. Three viewport targets will be desktops, tablets, and smartphones.
- MCD will work to define application concepts that include the following data features:
  - Introduction to help set user expectations.
  - Property Info
  - Borrower Info
  - Income
  - Assets
  - Credit Authorization
  - FAQs to help the user with specific features/needs.
- The form needs to integrate to the existing Home Loans site and Mortgage Finder sites, and Registration.
- The application needs to capture the user lead or, in the future, allow the user to register to manage the Pre-Qualification process online.

- The application needs to include rewards in the user process. The user should be aware of:
  - Real Estate rewards
  - Referral rewards
  - Rate or fee discounts

## V. PRE-QUALIFICATION – USE CASES

The following are the main use cases for Pre-Qualification.

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### ACTORS

User (Primary)

User (Non-Spousal Co-Borrower)

System (Desktop)

System (Mobile)

Auto Risk Underwriting Engine

**P1.0 - Pre-Qualification (Simple Success Case).**

Actors:	User (Primary), System (Desktop), Auto Risk Underwriting Engine
Pre-requisite:	User not logged-in. User on webpage or email linking to pre-qualification process.
Description:	A User is able to pre-qualify for a loan through an automated online process.
Superordinate:	
Subordinate:	P1.1, P1.2, P1.4, P2.0, P2.1, P2.2, R1.1
Open Issues	What are the minimum fields required for Pre-Qualification?

1. On Discover Home Loan webpages, User clicks 'Pre-Qualify'.
  - 1.a. In a campaign email, User clicks 'Pre-Qualify'.
2. System loads Pre-Qualify Intro. User expectations set through introduction, user provides full name, email address, transaction type: purchase, consent to terms of use, and clicks 'Save and Continue'.
  - 2.a. Variant: User saves progress to finish later, *[SEE P2.0 – Save Pre-Qualification In Progress]*
  - 2.b. Variant: User leaves process without completing, *[SEE P2.1 – Cancel Pre-Qualification]*
  - 2.c. Variant: User attempts to quit session through browser controls, *[SEE P2.2 – Leave Pre-Qualification (Browse-Away)]*
3. System loads Property Info, User provides required information, and clicks 'Save and Continue'.
4. System loads Borrower Info, User provides required information, and clicks 'Save and Continue'.
  - 4.a. Variant: User indicates Co-Borrower, System loads relationship of co-borrower to primary.
    - 4.a.1. IF User selects 'Not Married', System loads additional fields for co-borrower full name and email address (an automated email will be sent upon completion of primary process, inviting co-borrower to complete their share. *[SEE P1.3 – Co-Borrower Pre-Qualification]*
    - 4.a.2. IF User selects 'Married', System loads additional block of fields for Borrower Info and remaining steps in Pre-Qualification process.
5. System loads Financial Info, User provides required information, and clicks 'Save and Continue'.
6. System loads credit authorization and messaging explaining the difference between hard-pull verified pre-qualifications and soft-quals. User verifies information, provides Social Security Number and Credit Authorization, and clicks 'Submit'.
  - 6.a. Variant: User clicks 'Do it without checking my credit', *[SEE P1.2 - Soft Qualification]*
7. System prompts User with identity proofing questions pulled from credit bureau. User chooses answer and clicks 'Continue'.
  - 7.a. Variant: User provides incorrect ID proofing answer and clicks 'Continue', System shows error page with ReferenceID # and directs user to call customer service.
  - 7.b. Variant: User clicks 'Continue', System determines that credit reconciliation necessary, *[SEE P1.1 – Pre-Qualification Credit Reconciliation]*
8. IF 1 or more products are found to match request, System loads Select a Product step, User browses terms of products, selects a product, and clicks 'Complete'.
  - 8.a. Variant: IF no product matches are found, System loads Confirmation Page (Request Received) informing User request received and that MB will be in touch and through what channels.
    - 8.a.1. Variant: User clicks 'Create Log In', *[SEE R1.1 – New Lead Registration (Incubation)]*
  - 8.b. Variant: IF Co-borrower remains, System loads Confirmation Page (Co-Borrower Remains) informing User that an email invitation has been sent to Co-Borrower. User clicks 'Create Log In', *[SEE R1.1 – New Lead Registration (Incubation)]*

9. System loads Confirmation Page (PQ Letter Ready), User clicks 'Download Letter' to obtain copy of file
  - 9.a. Variant: User clicks 'Create Log In', *[SEE R1.1 – New Lead Registration (Incubation)]*

**P1.0m - Pre-Qualification (Simple Success Case; Mobile).**

Actors:	User (Primary), System (Mobile), Auto Risk Underwriting Engine
Pre-requisite:	User not logged-in. User on webpage or email linking to pre-qualification process.
Description:	A User is able to pre-qualify for a loan through an automated online process using a mobile platform.
Superordinate:	
Subordinate:	P1.1, P1.2, P1.4, P2.0, P2.1, P2.2, R1.1
Open Issues	What are the minimum fields required for Pre-Qualification?

1. On Discover Home Loan webpages, User clicks 'Pre-Qualify'.
  - 1.a. In a campaign email, User clicks 'Pre-Qualify'.
2. System loads Pre-Qualify Intro. User expectations set through introduction, user provides full name, email address, transaction type: purchase, consent to terms of use, and clicks 'Save and Continue'.
  - 2.a. Variant: User saves progress to return and finish later, [SEE P2.0 – Save Pre-Qualification In Progress]
  - 2.b. Variant: User leaves process without completing, [SEE P2.1 – Cancel Pre-Qualification]
  - 2.c. Variant: User attempts to quit session through browser controls, [SEE P2.2 – Leave Pre-Qualification (Browse-Away)]
3. System loads Property Info, User provides required information, and clicks 'Save and Continue'.
4. System loads Borrower Info, User provides required information, and clicks 'Save and Continue'.
  - 4.a. Variant: User indicates Co-Borrower, System loads relationship of co-borrower to primary.
    - 4.a.1. IF User selects 'Not Married', System loads additional fields for co-borrower full name and email address (an automated email will be sent upon completion of primary process, inviting co-borrower to complete their share. [SEE P1.3 – Co-Borrower Pre-Qualification])
    - 4.a.2. IF User selects 'Married', System loads additional block of fields for Borrower Info and remaining steps in Pre-Qualification process.
5. System loads Financial Info, User provides required information, and clicks 'Save and Continue'.
6. System loads credit authorization and messaging explaining the difference between hard-pull verified pre-qualifications and soft-quals. User verifies information, provides Social Security Number and Credit Authorization, and clicks 'Submit'.
  - 6.a. Variant: User clicks 'Do it without checking my credit', [SEE P1.2 - Soft Qualification]
7. System prompts User with identity proofing questions pulled from credit bureau. User chooses answer and clicks 'Continue'.
  - 7.a. Variant: User provides incorrect ID proofing answer and clicks 'Continue', System shows error page with ReferenceID # and directs user to call customer service. User Clicks-to-Call 800 Number.
  - 7.b. Variant: User clicks 'Continue', System determines that credit reconciliation necessary, [SEE P1.1 – Pre-Qualification Credit Reconciliation]
8. IF 1 or more products are found to match request, System loads Select a Product step, User browses terms of products, selects a product, and clicks 'Complete'.
  - 8.a. Variant: IF no product matches are found, System loads Confirmation Page (Request Received) informing User request received and that MB will be in touch and through what channels. User clicks 'Create Log In', [SEE R1.1 – New Lead Registration (Incubation)]
  - 8.b. Variant: IF Co-borrower remains, System loads Confirmation Page (Co-Borrower Remains) informing User that an email invitation has been sent to Co-Borrower.
    - 8.b.1. User clicks 'Create Log In', [SEE R1.1 – New Lead Registration (Incubation)]



9. System loads Confirmation Page (PQ Letter Ready), User clicks 'Download' to obtain copy of file
  - 9.a. Variant: User clicks 'Create Log In', *[SEE R1.1 – New Lead Registration (Incubation)]*

**P1.1 - Pre-Qualification Credit Reconciliation.**

Actors:	User (All), System
Pre-requisite:	User has submitted Credit Authorization, passed ID proofing, and resulting credit check yields mortgage liabilities on record.
Description:	Users that have mortgage liabilities on record must complete additional steps associated with a credit reconciliation process in order to complete the online pre-qualification process.
Superordinate:	P1.0, P1.3
Subordinate:	P1.0, P1.3, P2.0, P2.1, P2.2
Open Issues	What additional data must be collected during reconciliation - specific field names/types. Ex: do we need original mortgage amount or remaining mortgage balance?  Verify how reconciliation works between co-applicants?

1. System loads Credit Reconciliation process, informing User that credit liabilities have been found.
2. User completes and submits the following steps and clicks 'Save and Continue':
  - 2.1. For each mortgage found, User attributes:  
Address already on file OR Enters a new address
  - 2.2. For each property, User provides:  
Insurance info.  
Keeping/Selling Intention
    - 2.2.1. IF keeping, User provides RE Tax info.
3. System loads remaining Pre-Qualification process *[SEE P1.0 – Pre-qualification (Simple Success Case)]*
  - 3.a. Variant: IF User = Co-Borrower, System loads remaining Pre-Qualification process for Co-Borrower *[SEE P1.3 – Co-Borrower Pre-Qualification]*

**P1.2 - Soft-Qualification**

Actors:	User (Primary), System (Desktop), Auto Risk Underwriting Engine
Pre-requisite:	User has completed requested information up until credit authorization screen. User on the credit authorization step clicks 'Do it without checking my credit' button.
Description:	A User that does not want to perform a Hard Credit Pull has option to do a Soft-Qualification.
Superordinate:	P1.0
Subordinate:	P1.0, P2.0, P2.2
Open Issues	Verify that soft-qual requirements include co-borrowers. Verify whether self-reported info is run through Auto Risk Underwriting System to produce on-screen result.

1. System loads Soft-Qualification Page, informs User of process and how the resulting prequalification is different from a hard-pull verified prequalification. User provides self-reported credit score, any known mortgage liabilities, and clicks 'Submit'.
  - 1.a. Variant: User clicks 'Save and Finish Later' [SEE P2.0 – Save Pre-Qualification In Progress]
  - 1.b. Variant: User clicks 'Return to Pre-Qual' and returns to originating screen for credit authorization.
  - 1.c. Variant: User calls Customer Service (offline) to finish their Pre-Qualification offline.
2. If matching products are found, System loads Soft-Qualification Results Page. User clicks 'Now do a Hard-Credit Pull Pre-Qualification'.
  - 2.a. For requests that need further manual review, System loads Soft-Qualification Confirmation Page (Request Received). Informs User that MB will be in touch and through what channels.
3. System loads Credit Authorization (different from Credit Authorization in P1.0). User provides Social Security Number, Date of Birth, Credit Authorization Consent, and clicks 'Submit'. [SEE P1.0 – Pre-qualification (Simple Success Case)]

**P1.2 - Soft-Qualification (Mobile)**

Actors:	User (Primary), System (Mobile), Auto Risk Underwriting System
Pre-requisite:	User has completed requested information up until credit authorization screen. User on the credit authorization step clicks 'Do it without checking my credit' button.
Description:	A User that does not want to perform a Hard Credit Pull has option to do a Soft-Qualification.
Superordinate:	P1.0
Subordinate:	P1.0, P2.0, P2.2
Open Issues	Verify that soft-qual requirements include co-borrowers. Verify whether self-reported info is run through Auto Risk Underwriting System to produce on-screen result.

1. System loads Soft-Qualification Page, informs User of process and how the resulting prequalification is different from a hard-pull verified prequalification. User provides self-reported credit score, any known mortgage liabilities, and clicks 'Submit'.
  - 1.a. Variant: User clicks 'Save and Finish Later' [SEE P2.0 – Save Pre-Qualification In Progress]
  - 1.b. Variant: User clicks 'Return to Pre-Qual' and returns to originating screen for credit authorization.
  - 1.c. Variant: User Clicks-to-call Customer Service (offline) to finish their Pre-Qualification offline.
2. IF matching products are found, System loads Soft-Qualification Results Page. User clicks 'Now do a Hard-Credit Pull Pre-Qualification'.
  - 2.a. For requests that need further manual review, System loads Soft-Qualification Confirmation Page (Request Received). Informs User that MB will be in touch and through what channels.
3. System loads Credit Authorization (different from Credit Authorization in P1.0). User provides Social Security Number, Date of Birth, Credit Authorization Consent, and clicks 'Submit'. [SEE P1.0 – Pre-qualification (Simple Success Case)]

### P1.3 - Co-Borrower Pre-Qualification

Actors:	User (Non-spousal Co-borrower), System (Desktop), Auto Risk Underwriting Engine
Pre-requisite:	Primary User has completed initial Pre-Qualification processes.  User has received an automated email invitation to complete a pre-qualification request placed by the primary user. User clicks on link in email.
Description:	Non-spousal Co-Borrowers complete the required fields in a separate session from the primary User. The Co-borrower User receives an automated email invitation to complete the Pre-Qualification request placed by the primary user. Email also informs User of co-borrower's role and responsibilities in loan process. User clicks on link in email.
Superordinate:	
Subordinate:	P1.1, P2.0, P2.2
Open Issues	Verify that soft-qual requirements include co-borrowers - SEE BULLET 4a BELOW.

1. System loads Co-Borrower Pre-Qualify Intro. User informed of co-borrower's role and responsibilities in loan process. User provides full name, email address, transaction type: purchase, consent to terms of use, consent acknowledging role/responsibility, and clicks 'Save and Continue'.
  - 1.a. Variant: User saves progress to return and finish later, [SEE P2.0 – Save Pre-Qualification In Progress]
  - 1.b. Variant: User leaves process without completing, [SEE P2.1 – Cancel Pre-Qualification]
  - 1.c. Variant: User attempts to quit session through browser controls, [SEE P2.2 – Leave Pre-Qualification (Browse-Away)]
2. System loads Co-Borrower Info, User provides required information, and clicks 'Save and Continue'.
3. System loads Financial Info, User provides required information, and clicks 'Save and Continue'.
4. System loads Credit Authorization. User provides Social Security Number, Credit Authorization, and clicks 'Submit'.
  - 4.a. Variant: IF Primary has performed a 'Soft-Qual' System skips step and loads Co-Borrower Confirmation Page (primary will be notified) explaining that the Primary User will be notified that the Co-Borrower has completed their process.
5. System prompts User with identity proofing questions pulled from credit bureau. User chooses answer and clicks 'Continue'.
  - 5.a. Variant: User provides incorrect ID proofing answer and clicks 'Continue', System shows error page with ReferenceID # and directs user to call customer service.
  - 5.b. Variant: User clicks 'Continue', System determines that credit reconciliation necessary, [SEE P1.1 – Pre-Qualification Credit Reconciliation]
6. System loads Co-Borrower Confirmation Page (primary will be notified).

**P1.4 - Primary Completes Joint Pre-Qualification**

Actors:	User (Primary), System (Desktop)
Pre-requisite:	Co-Borrower has completed Pre-Qualification process [P1.3]. User has received an automated email informing that the Co-Borrower has completed process. User has clicked link to 'Resume Pre-Qualification'.
Description:	Primary Users with Non-Spousal Co-Borrowers will need to revisit the Pre-Qualification process to finalize the request. Primary Users will be notified via automated email that the Co-Borrower has completed their share of the process. User clicks a link in the email to 'Resume Pre-Qualification'.
Superordinate:	P1.0, P1.3
Subordinate:	
Open Issues	Should a Primary User with a Non-spousal Co-Borrower revisit PQ IF no product matches are found? (He will only be viewing a single page that states the request was received – this could just as well be conveyed in an email.

1. System loads User Verification as per *[SEE P3.0 – Return to Pre-Qualification]*  
User enters required information and clicks 'Continue'
  - 1.a. IF User has associated account, System loads Log In *[SEE R2.0 – Account Log In]*  
User enters required information and clicks 'Log In'
    - 1.a.1. System loads Account Center (Full or Incubation)
2. Upon success, System loads remaining step of Pre-Qualification *[SEE P1.0 – Pre-Qualification (Simple Success Case)]*  
IF 1 or more products are found to match request, System loads 'Select a Product' step, User browses terms of matching products, selects a product, and clicks 'Complete'.
  - 2.a. Variant: IF no product matches are found, System loads Confirmation Page (Request Received) informing User request received and that MB will be in touch and through what channels. User clicks 'Create Log In', *[SEE R1.1 – New Lead Registration (Incubation)]*
3. System loads Confirmation Page (PQ Letter Ready), User clicks 'Download' to obtain copy of file
  - 3.a. Variant: User clicks 'Create Log In', *[SEE R1.1 – New Lead Registration (Incubation)]*

**P2.0 - Save Pre-Qualification In Progress**

Actors:	User (All), System
Pre-requisite:	User is on any pre-qualification step.
Description:	Users that initiate the online pre-qualification process, but decide to finish it later are able to save the progress made so far and revisit the process later via email link. In order to save information for later access, the user will be required to provide Personally Identifiable Information (PII) including D.O.B., and Mother's Maiden Name.
Superordinate:	P1.0, P1.1, P1.2, P1.3, P2.1
Subordinate:	P3.0
Open Issues	

1. User clicks 'Save and Finish Later' button to exit Pre-Qualification process.
  - 1.a. Variant: User clicks 'Save and Finish Later' from Cancel Pre-Qualification process *[SEE P2.1 - Cancel Pre-Qualification]*
2. System loads Finish Later prompt informing User of save process, verifying email address, and requests User's D.O.B., and Mother's Maiden Name. User confirms/provides requested information and clicks 'Save and Come Back Later'.
  - 2.a. Variant: User clicks 'Return to Pre-Qualification', System closes prompt and returns User to origination page.
  - 2.b. Variant: IF occurs at the Credit Authorization Consent, THEN prompt includes introduction to the Soft-Qualification process. User clicks 'Do it without checking my credit' button, *[SEE P1.2 - Soft-Qualification]*
  - 2.c. Variant: User calls MB – phone script for incomplete prequalification requests?
3. System loads Confirmation Page informing User that she will receive an email containing a link to complete the process at a better time, thank you ...
4. User receives email containing direct link to continue filling-out the online pre-qualification process where left. *[SEE P3.0 – Return to Pre-Qualification]*.

## P2.1 - Cancel Pre-Qualification

Actors:	User (All), System
Pre-requisite:	User is on any pre-qualification step.
Description:	For users that initiate the online pre-qualification process, but decide to cancel before finishing, re-capture processes should be a positive experience. Users that elect to cancel, will be asked to verify intention, and given alternative option to 'Save and Finish Later', [P2.0 - Save Pre-Qualification In Progress].
Superordinate:	P1.0, P1.3,
Subordinate:	P3.0,
Open Issues	

1. User clicks 'Cancel' button to exit process.
2. System loads Cancel Verification Prompt to a) verify intention to quit process, b) inform User of option to complete process at later time via email address, c) inform of other channels (telephone). User clicks 'Save and Finish Later'.
  - 2.a. Variant: User clicks 'Exit', and System loads End of Session Confirmation page.  
IF user email address known, User will receive an email following-up.
  - 2.b. Variant: User clicks 'Return to Pre-Qualification', System closes prompt and returns User to origination page.
  - 2.c. Variant: IF occurs at the Credit Authorization Step, THEN prompt includes introduction to the Soft-Qualification process and link. User clicks 'Do it without checking my credit', [SEE P1.2 - Soft-Qualification].
3. System loads 'Save Pre-Qualification In Progress', [SEE P2.0 - Save Pre-Qualification In Progress].



**P2.2 - Leave Pre-Qualification (Browse-Away)**

Actors:	User (All), System
Pre-requisite:	User has is in the process of making an online pre-qualification request.
Description:	Users that attempt to browse away from a page using window close or url receive a scripted response to verify intention to Leave.
Superordinate:	P1.0, P1.1
Subordinate:	
Open Issues	

1. User clicks on browser window navigation elements to 'leave' session.
2. System loads scripted prompt to verify intention to leave page. User clicks on "Leave Page" or 'Stay on Page'.

**P3.0 - Return to Pre-Qualification**

Actors:	User (All), System
Pre-requisite:	User previously saved an incomplete online pre-qualification. User received email with link to complete the online pre-qualification process. User clicked on link provided in email to 'Resume Pre-Qualification'.
Description:	<p>Users that have previously saved an incomplete online pre-qualification are contacted via email to complete the process via provided link. The User will be required to verify identity using PII consistent with P2.0, P2.1 (DOB, Mother's Maiden Name) before returning to the last stored step they were working on.</p> <p>Variant: Primary Users will also 'Resume Pre-Qualification' upon receipt of an email following the completion of Co-Borrower process (P1.3 - Co-Borrower Pre-Qualification). Upon successful verification, System will load final step of Pre-Qualification process as per [P1.4 - Primary Completes Joint Pre-Qualification].</p>
Superordinate:	P2.0, P2.1, P1.0, P1.1, P1.3, P1.4
Subordinate:	
Open Issues	

1. User clicks on a link provided in email to 'Resume Pre-Qualification'.
  - 1.a. Variant: Registered user with incomplete pre-qualification request clicks 'Complete my Pre-Qualification' link via Account Center Dashboard.
2. User provides email address, D.O.B., and Mother's Maiden Name, and clicks 'Submit'.
3. System loads last stored pre-qualification page with messaging acknowledging user's return. *[SEE ORIGINATING CASE: P1.0 - Pre-Qualification (Simple Success Case), P1.1 - Pre-Qualification Credit Reconciliation, P1.2 - Soft-Qualification, P1.3 - Co-Borrower Pre-Qualification].*
  - 3.a. IF User is Primary resuming process after Co-Borrower has completed their portion of process, THEN System loads final step of Pre-Qualification as per *[SEE P1.4 - Primary Completes Joint Pre-Qualification]*.

## VI. PRE-QUALIFICATION – USER FLOW DIAGRAMS

User flow diagrams are provided in a separate document, to allow greater detail and legibility. See document:  
**BK054\_DHL\_PreQual\_Registration\_Flows\_v1.0\_20131106.pdf**

- P1.0 - Pre-Qualification (Simple Success Case)
- P1.1 - Pre-Qualification Credit Reconciliation
- P1.2 - Soft-Qualification
- P1.3 - Co-Borrower Pre-Qualification
- P1.4 - Primary Completes Joint Pre-Qualification
- P2.0 - Save Pre-Qualification In Progress
- P2.1 - Cancel Pre-Qualification
- P3.0 - Return to Pre-Qualification

VII. PRE-QUALIFICATION – SITE MAP

<insert site map diagram>

VIII. PRE-QUALIFICATION – FUNCTIONAL REQUIREMENTS

<Describe what happens on each page. Outline high level goal the page achieves. Then describe what major sections and input/output data is present on the page to accomplish the goal/function. Describe any needed validation logic.>

1. <page name> Find a Purchase/Refinance Loan (Get a Rate Quote)
- 1.1. <feature> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

1.2. <feature> Provide to fast track experience path (e.g., single-page form)

1.3. <feature> Display indication of process/duration (e.g., progress bar/steps)

1.4. <feature> Unique input fields for purchase loan (see Field Requirements section)

1.5. <feature> Unique input fields refinance loan (see Field Requirements section)

Page Name				
#	Field	Input / Output	Input Type	Description/Example
1				
2				
3				
4				
5				

## IX. PRE-QUALIFICATION – ADDITIONAL REQUIREMENTS

### 1. Emails from Registration

1.1. <description> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

### 2. Cartus (Real Estate Rewards) API Integration

2.1. <description> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

### 3. Home Loans – Site Integration

3.1. <description> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

### 4. Mortgage Finder – Site Integration

4.1. <description> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

## X. PRE-QUALIFICATION – BACK END REQUIREMENTS

<Describe what functions are needed on the back end to support the front end needs.>

## XI. REGISTRATION REQUIREMENTS - USE CASES

The following are the main use cases for Registration.

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### ACTORS

User (Applicant)

User (Lead)

System

**R1.0 - Account Registration (Full)**

Actors:	User (Applicant), System
Pre-requisite:	MB has 'flipped-the-switch' of the User, from 'Lead' to 'Applicant'. User has received an email from MB with link to access the Account Center. User clicks on link to access Account Center.
Description:	Following a conversation with an MB and subsequent change of status from "lead" to "applicant", Users receive an email invitation to register for full access to the Account Center. The subsequent process involves IDP and TFA to ensure higher security requirements of the Account Center (opposed to Incubation) are met.
Superordinate:	None
Subordinate:	None
Open Issues	

1. System loads Landing Page prompting User to Log In with existing User ID, or to 'Create Log In'. User clicks 'Create Log In'.
  - 1.a. User enters User ID, Password, and clicks 'Log In' [R2.0 – Account Log In]
  - 1.b. User clicks 'Forgot User ID/Password?' [R3.0 - Account Log In Assistance]
2. User enters User ID, Password, Email Address, and clicks 'Continue'.
  - 2.a. User clicks 'Cancel' and returns to Landing Page.
3. System loads IDP. User completes required fields, and clicks 'Continue'.
  - 3.a. IF IDP fails, System loads Failed IDP Page with Reference ID # and directs User to call Customer Service.
4. System loads TFA Setup. User completes required fields, and clicks 'Continue'.
5. System loads Full Dashboard. IF User wants to obtain copy of Pre-Qualification Letter, User clicks 'Download Letter.'
  - IF pre-qualification response is not yet available, show appropriate messaging (response is pending...). IF further information is needed, show appropriate messaging.
  - IF pre-qualification is not complete, show link to 'Resume Pre-Qualification'.

**R1.1 - New Lead Registration (Incubation)**

Actors:	User (Lead), System
Pre-requisite:	User has completed the Pre-Qualification process.
Description:	User is able to self-register in order to view or download prequalification letter from the incubation dashboard. User will access self-registration process by way of a link provided (a) on a Confirmation Page following a complete pre-qualification request, (b) on a Vast search web page, (c) in a Targeted Email following successful pre-qualification, (d) in a Targeted Email invite following phone conversation w MB, OR (e) on a DHL webpage.
Superordinate:	P1.0, P1.1, R3.0
Subordinate:	R2.0, R3.0
Open Issues	Verify entry points above.

1. On Pre-Qualification Confirmation Page, User clicks 'Create Log In'.
  - 1.a. Variant: Targeted Email, User clicks 'Get My Pre-Qualification/Adverse-Action Letter'. System loads Landing Page, User clicks "Register Now".
    - 1.a.1. Variant: User enters User ID, Password, Remember, and clicks "Log In" *[R2.0 – Account Log In]*
  - 1.b. Variant: Discover Home Loan webpage, User clicks 'Account Center'. System loads Landing Page, User clicks "Register Now".
    - 1.b.1. Variant: User enters User ID, Password, Remember, and clicks "Log In" *[R2.0 – Account Log In]*
  - 1.c. Variant: Vast search web, User clicks 'Save my search'. System loads Landing Page, User clicks "Register Now".
    - 1.c.1. Variant: User enters User ID, Password, Remember, and clicks "Log In" *[R2.0 – Account Log In]*
2. System loads Log In Info page. User enters User ID, Password, Email Address, and clicks 'Continue'.
  - 2.a. User clicks 'Cancel' and returns to Confirmation Page.
3. System loads Incubation Dashboard. IF User wants to obtain copy of Pre-Qualification Letter, User clicks 'Download Letter'.
  - IF pre-qualification response is not yet available, show appropriate messaging (response is pending...). IF further information is needed, show appropriate messaging.
  - IF pre-qualification is not complete, show link to 'Resume Pre-Qualification'.



**R2.0 - Account Log In**

Actors:	User (All), System
Pre-requisite:	User is a registered user.
Description:	Users are able to log in to the account center using User ID and Password on a Landing Page. Upon successful log in, the resulting page will depend on the Loan Status of the User, and whether the User has been Authenticated. For 'Lead' Users with Non-Active Loan Status, successful log in will lead to the Incubation Dashboard. For 'Applicant' Users with Active Loan Status, successful log in will lead to the Full Account Center Dashboard. IF an 'Applicant' User is not IDP/TFA Authenticated, THEN the System will require the User to complete IDP/TFA Authentication [SEE R1.0 - Account Registration (Full)].
Superordinate:	R1.0, R1.1, R3.0
Subordinate:	R3.0, R1.0
Open Issues	

1. User enters User ID, Password, Remember, and clicks 'Log In'.
  - 1.a. Variant: User clicks "Forgot User ID/Password", [See R3.0 - Account Log In Assistance]
  - 1.b. Variant: User enters Account Log In upon resetting password [SEE R3.0 - Account Log In Assistance].
2. IF 'Lead' User, System loads Incubation Dashboard
  - 2.a. IF 'Applicant' User has Active loan status, System loads Account Center Full Dashboard.
  - 2.b. IF 'Applicant' User has Active loan status, but is not Authenticated, System loads IDP/TFA process [SEE R1.0 - Account Registration (Full)]
  - 2.a. IF Log In information invalid 1 time, System loads Error 1<sup>st</sup> Attempt, User clicks 'Log In'
    - 2.a.1. IF invalid 2 times, System loads Error Final Attempt, User clicks 'Log In'
    - 2.a.2. IF invalid 3 times, System loads Lock Out message with prompt to call Customer Service.

**R3.0 - Account Log In Assistance**

Actors:	User (All), System
Pre-requisite:	User is a registered user.
Description:	For Users that have difficulty logging into the Account Center, a process
Superordinate:	R1.0, R2.0
Subordinate:	
Open Issues	

1. User clicks 'Forgot User ID/Password?'.
2. System loads Email Request page. User enters email address and clicks 'Continue'.
3. IF 'Applicant' User has Active loan status, System loads Enter Information. User provides SS, DOB, Mother's Maiden Name and clicks 'Continue'.
  - 3.a. IF 'Lead' User or 'Applicant' User with Inactive loan status, System loads Email Sent Confirmation page. (System sends email to User with temporary password and link.)
    - 3.a.1. User follows link in email. System loads Log In with Temp page.
    - 3.a.2. System loads Create New Password page. User enters required information and clicks Continue.
    - 3.a.3. System loads appropriate Dashboard [SEE R2.0 – Account Log In]
  - 3.b. IF no account associated with email address, provide form to try a different email and link to 'Register Now', [SEE R1.0 – Account Registration (Full)]
4. System loads Reset Password. User enters password twice, and clicks 'Continue'.
  - 4.a. IF previous Enter Information = invalid 1 time, System loads Error 1<sup>st</sup> Attempt, User clicks 'Log In'
    - 4.a.1. IF previous Enter Information = invalid 2 times, System loads Error Final Attempt, User clicks 'Log In'
    - 4.a.2. IF previous Enter Information = invalid 3 times, System loads Lock Out message with prompt to call Customer Service.
2. System loads appropriate Dashboard [SEE R2.0 – Account Log In]

## XII. REGISTRATION REQUIREMENTS - USER FLOW DIAGRAMS

User flow diagrams are provided in a separate document, to allow greater detail and legibility. See document:  
**BK054\_DHL\_PreQual\_Registration\_Flows\_v1.0\_20131106.pdf**

R1.0 – Account Registration (Full)

R1.1 – New Lead Registration (Incubation)

R2.0 – Account Log In

R3.0 – Account Log In Assistance

XIII.     **REGISTRATION REQUIREMENTS - SITE MAP**

<insert site map diagram>

XIV.     **REGISTRATION REQUIREMENTS - FUNCTIONAL REQUIREMENTS**

<Describe what happens on each page. Outline high level goal the page achieves. Then describe what major sections and input/output data is present on the page to accomplish the goal/function. Describe any needed validation logic.>

1.   <page name> **Find a Purchase/Refinance Loan (Get a Rate Quote)**
- 1.1. <feature> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)
- 1.2. <feature> Provide to fast track experience path (e.g., single-page form)
- 1.3. <feature> Display indication of process/duration (e.g., progress bar/steps)
- 1.4. <feature> Unique input fields for purchase loan (see Field Requirements section)
- 1.5. <feature> Unique input fields refinance loan (see Field Requirements section)

Page Name				
#	Field	Input / Output	Input Type	Description/Example
1				
2				
3				
4				
5				

## **XV. REGISTRATION REQUIREMENTS - ADDITIONAL REQUIREMENTS**

### **1. Emails from Registration**

1.1. <description> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

### **2. Home Loans – Site Integration**

2.1. <description> Provide a guided experience path (e.g., multi-step questionnaire of property, personal, and goal info)

## **XVI. REGISTRATION REQUIREMENTS – BACK END REQUIREMENTS**

<Describe what functions are needed on the back end to support the front end needs.>

## XVII. QUESTIONS

### Questions

1. What is the minimum amount of data (specifically, which fields) needed for Pre-Qualification?

Answer still in flux...

Personal: Name, DOB, SSN, 3 security questions for credit agencies.

Income: not sure we need this info. Need to check with MB team.

Assets: not sure we need this info. Need to check with MB team.

Any existing mortgages: what are payments, RE taxes, insurance, address. (look up CoreLogic to see data on address)

Home Address: need home address so physical mail can be sent if needed.

/// OL: For now, as a starting point we ought to reference information collected in pqplus process.

2. Which fields are specifically required for the credit check portion of Pre-Qualification?

Name, DOB, SSN. Want alt experience w/o credit check – ex: MF. But need to do identity proofing before we do credit check: admin 3 personal questions. IDP cannot be separated from credit check – it's part of API for credit.

3. Can a look-up using registration data (DOB/SS/MMN) be leveraged to pre-populate pre-qual fields? This approach could conceivably reduce the overall amount of field-entries necessary for a user to complete pre-qualification.

Yes. Information collected in the Reg process could be used in a Pre-Qual process.

4. Is the DHL Pre-Qualification credit check a "soft credit pull"? Does it adversely impact credit scores - I've noticed a distinction being made on some lender sites.

Needs a hard pull on all 3 credit agencies. /// OL: New scenario identified for user not inclined to provide SS, for whom a Soft-pull/check would be result in MB

5. What sort of documentation is required and through what process is it submitted in the case of adverse credit outcomes?

MBs get on call and talk. Might generate approval after talk, but NO DOCS are needed for pre-qual. /// OL: If case involves MB review and call, the remaining pre-qual process is handled offline.

6. Are there Pre-Qualification cases that could have completely automatic approval in the underwriting engine? If so, how long would it take (5-10 minutes)?

Instant yes approvals will be in 5-10 mins. /// OL:< 2 minutes.

Declined users will see decline right away, but the physical letter will come later.

Those who have multiple mortgages will need to reconcile the credit report to actual properties.

7. Approximately what sort of % of users can be processed automatically/without a person overseeing/reviewing information?  
99% of clients will get pre-qual: 20% yes, 20% no, 60% pending w phone call.
8. In what way will the rewards be included in the user process? How ought the user be made aware of Real Estate rewards, Referral rewards, Rate or fee discounts.  
Capture and store campaign ID for any rewards. Might be used later in process when pre-approval is entered by user. /// OL: Would more likely be used later in the loan process, when user is seeking pre-approval... Dan will touch-base with Nicole to see if there needs to be messaging within Pre-Qual.
9. REGISTRATION // What are the minimum fields required for registration? Current Bank Registration requires unique data on Step 1 (DOB, SSN, Mother's Maiden Name) in order to match a user to Bank and Card information (...this identification will allow us to pull any relevant data on the user from those account(s)). Ex: address, phone, etc.)... is this relevant for users accessing My Status?
10. Verify whether Discover Bank Account Number/information will be requested during Registration.
11. What data collected during Pre-Qualification will be used to match a registrant to his/her pre-qualification letter/application?  
Name, Address.  
A specific MB will be assigned to client and noted in PR letter, and will be noted that MB will call client about next steps.  
PQ approval lists all product types that client is approved for. Ex: Conventional ARM Loans.
12. At what point will data entered in Registration be cross-checked with existing customer data?
13. Is there any information being collected during PQ that is not used for PQ per se but instead used for 'lead' generation.
14. Does citizenship and permanent residence affect the PQ and/or Lead process?

Other:

- Will track incomplete transactions based on stored data from initial steps.
- Seems possible that transactions can be resumed if we store data, and we can resume with secure email link sent to user.