nurun

TD Canada Trust Mortgage Calculator – How Much Can I Afford? Reskin - Functional Requirements

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Table of contents

Document history

Description	Date	Version	Author(s)
Initial Version for Preliminary TD Dev review	November 23, 2010	0.3	Iain Lowe, Nurun

Overview

The following wireframe and functional specification illustrates the proposed changes to the TD Canada Trust "How Much Can I Afford" mortgage calculator available at
http://calc.tdcanadatrust.com/HMCIA/Input

For each screen in the application, this document provides:

- Summary/overview text
- A screenshot
- Element-level annotations
- Secondary descriptions of hidden elements or panels

1.0 Entry Form

Page Description

The entry form of the How Much Can I Afford calculator presents a somewhat streamlined interface from the existing calculator. It allows users to enter their own aggregate values for the requested inputs, reducing clutter, but also allows for users who want to work through a more itemized worksheet for their household debt payments to do so using a hidden inlay.

Major deviations from the current calculator:

1. Debt may be entered as an aggregate monthly payment or calculated using the worksheet.

2. Property taxes are specified as an annual expense - no select list for monthly or annual

3. Heating costs are specified as monthly - no select list for monthly or annual

4. Condo fees are specified as montlhly - no select list for monthly or annual

The rationale is based on a survey of MLS listings that display taxes as an annual fee and other costs as monthly. If possible, the monthly vs. annual functionality should be left in the application but hidden in case user testing shows a need for users to specify one or the other.

Wireframe

How much can I afford?

Gross annual household income [1] $ [2]

Down Payment [8] $ [4]

Minimum of 5% of the property purchase price is required for your down payment for credit approval purposes. [3]

Household debt (monthly payments) [21] $ [6] [5]

Amortization Period [9]   25 [7]

Interest Rate
TD Canada Trust Mortgage Interest Rate Over Term

select a rate [16]

Estimated annual property taxes [10] $ [18] [17]

Estimated monthly heating costs [11] $ [19]

Estimated monthly condo fees [12] $ [20]

Calculate [14]   Reset [22]

Simply enter your financial details in the fields below and we can show you: [15]

* how much of a home you can afford
* the amount of mortgage you may qualify for
* what mortgage payments to expect
* some strategies on how to save money over the life of the mortgage

It's as simple as entering your details and hitting calculate! You will be able to print your results and explore multiple scenarios to help you take a comfortable first step toward home ownership.

[13]

Screen Elements

#	Element Label	Element Description	Element Behaviour	Help Text
1	Label - Gross household income		On click: Display overlay tooltip of definition/help text	Gross household income is the total salary, wages, commissions and other assured income, before deductions, by all household members who are co-applicants for the mortgage.

#	Element Label	Element Description	Element Behaviour	Help Text
3	Down payment help text	Exposed help text for down payment amount. This could be moved to a tool tip to maximize real-estate but the current application has this exposed.		
5	Worksheet icon	Icon to trigger the worksheet for calculating debt payments	Opens an inlay containing the fields that aggregate into the displayed total.	
8	Label - Down Payment			
9	Label - Amortization Period			The time over which all regular payments would pay off the mortgage. This is usually 25 years for a new mortgage, however can be greater, up to a maximum of 35 years.
10	Label - Estimated annual property taxes		Clicking the label reveals tooltip help	Property taxes vary for each property and are dependant on factors such as the city's property tax rate and the assessed property value. To get an estimate, you may want to consult your real-estate agent, builder, or local municipality.
11	Label - Estimated Monthly Heating		Clicking the label reveals tooltip help	Heating expenses vary depending on factors such as your property size and the type of heating you have (electric, oil, gas). To get an estimate, you may want to consult your real-estate agent, builder or local heating companies.

#	Element Label	Element Description	Element Behaviour	Help Text
12	Label - Estimated Condo Fees		Clicking the label displays a tooltip	Condominium fees vary depending on factors such as your property size and condominium maintenance requirements. To get an estimate, you may want to consult the property manager for the condominium you are looking to purchase, your real-estate agent, or builder.
13	Tooltip overlay	Displays content as compact tooltip on a click event.	Displays based on a click trigger. Hidden by clicking the close button inside the tootlip container box.	
15	Introductory copy	Copy to describe the tool		
17		Help trigger for field level help. This is a stronger visual cue than the hypertext on the label and should perhaps be used in addition to, or instead of the hypertext. The help will be displayed in the same tooltip format described.		
21	Label - Household Debt			

Form Elements

#	Field Name	Field Description	Field Behaviour	Required Field	Data Format	Format Error	CurFieldID
1				Yes			

#	Field Name	Field Description	Field Behaviour	Required Field	Data Format	Format Error	CurFieldID
2	Txt - Gross household income	Gross household income text field	Client side script should prevent entry of non-valid characters and/or strip out any trailing decimal values or non-numeric characters on lost focus and on submit.	Yes	Numeric. Strip decimals.	If the value is less than n, prompt for an annual amount.	
4	Txt - Down Payment	Down payment amount	Client side script should prevent entry of non-valid characters and/or strip out any trailing decimal values or non-numeric characters on lost focus and on submit.	Yes	Numeric, trim decimals		

#	Field Name	Field Description	Field Behaviour	Required Field	Data Format	Format Error	CurFieldID
6	Txt - Household Debt	This field will either display a user-entered value or the calculated results of the worksheet.	If the value displayed here is the result of the worksheet calculation and the user attempts to override the value, the applciation should display an alert message stating that they will delete their worksheet values. If the user confirms that they want to override the contents, the application will delete any stored worksheet values.				
7	Txt - Amortization	Amortization in years. The default is 25.		Yes	Numeric (integer). Minimum and maximum based on current business rules in the application		
8				Yes			
14	Button - Calculate	Submits the form to the server for result calculation. Triggers client-side validation of business rules.					

#	Field Name	Field Description	Field Behaviour	Required Field	Data Format	Format Error	CurFieldID
16	Select - Current Rates/Products	This select list will behave in the same fashion as the current mortgage tool, including allowing the user to specify their own term and rate.					
18	Txt - Estimated Taxes						PropertyTaxes
19	Txt - Heating Costs	Entry for monthly heating costs					HeatingCosts
20	Text - Condo Fees	Montly condo fee inputs					CondoFees
22	Link - Reset Form	Resets all the values in the form to their defaults, including the worksheet.					

Generic Tooltip

Default State

Wireframe

Screen Elements

#	Element Description
1	Close button hides the tooltip overlay.

1.1 Entry Form Expanded Worksheet

Page Description

When the user clicks the worksheet icon/button in the main form, an modal overlay subform is displayed. The subform contains all of the current application's fields and functionality, including the ability to add and remove additional rows.

The overall behaviour of the worksheet as it relates to the aggregate field is still being finalized, however, it should be assumed that the following rules will apply:

1. If a user has entered data in the worksheet, that data should be available to them through the duration of their session (stored in a cookie or in the session) and perhaps longer, if cookies are permitted for this implementation

2. One of the following two behaviours should be enabled:

Option 1: The values entered in the numeric fields are validated and calculated onBlur and updated in real-time in the main form field. This is perhaps the most elegant option but will require that all of the current server side functionality be ported to the client side or adjusted to manage AJAX calls.

Option 2: The values are entered and the user clicks the "Save & Close" button to commit the changes to the aggregator field. This might require less effort to port calculation logic but will require more virtual window management code.

Wireframe

How much can I afford?

Gross household income $ [   ]

Down Payment $ [   ]

Minimum of 5% of the property purchase price is required
for your down payment for credit approval purposes.

Household debt
(monthly payments) $ [   ] ▦

Amortization [25]

Interest Rate
TD Canada Trust Mortgage Interest Rate Over

[select a rate]

*Estimated annual
property taxes* $ [   ]

Estimated monthly
heating costs $ [   ] ❓

Estimated monthly
condo fees $ [   ] ❓

[Calculate]   Reset

Monthly loan payment amounts

[loan name] $ [   ]
                        Monthly payment

Credit Cards & Lines of Credit

[card/loc name] $ [   ]
                        Credit Limit

Monthly Lease Payments

[lease name] $ [   ]
                        Monthly payment

[lease name] $ [   ]
                        Monthly payment

[Save & Close] Clear

Screen Elements

#	Element Label	Element Description	Element Behaviour	Help Text

#	Element Label	Element Description	Element Behaviour	Help Text
1		An overlay that contains the individual fields in the current calculator, allowing people who want to itemize their debts to do so and then populated the main field in the form.		
2		Closes the overlay	If there is unsaved data in the input fields, a warning tooltip should appear asking if the user wants to apply changes. If the user says 'no', the data in the overlay form is cleared and the overlay closes. If the user chooses 'yes', the data in the overlay form is applied to the aggregate field in the main form.	
3				loan name
5	Icon/Button - Add Loan	Trigger to add an additional loan as a new row.	Inserts a new blank loan field set below the current one.	Add another loan
8	Icon/Button - Add Credit	Trigger to add an additional credit card or line of credit as a new row.	Inserts a new blank credit field set below the current one.	Add another loan

#	Element Label	Element Description	Element Behaviour	Help Text
9		Help link	Triggers a tooltip containing the information about how the credit limit is used to calculate debt load.	We calculate your debt load based on credit available to you. It is assumed that you pay 3% of the credit limit monthly.
1 2	Icon/Butt on - Add Lease	Trigger to add an additional lease as a new row.	Inserts a new blank credit field set below the current one.	Add another loan
1 3		Deletes an item that the user has added to the list	Ideally, the interaction uses the "self-healing transition" (http://developer.yahoo.com/ypatterns/richinteraction/transition/selfhealing.html)	

Form Elements

#	Field Name	Field Description	Field Behaviour	Data Format
3	Text Field - Loan Name	Text field for the loan name. Contains inline label affordance.	When the field has focus the help text is highlighted as replaceable. As the user types, the text will be replaced. If the user removes focus without typing, the help text is redisplayed	
4		Loan payment amount	Client side scripting should prevent entry of invalid characters. OnBlur should strip decimal places and round up.	Numeric
6	Txt - Card or Line of credit name	Optional identifier for credit card	When the field has focus the help text is highlighted as replaceable. As the user types, the text will be replaced. If the user removes focus without typing, the help text is redisplayed	
7	Txt - Credit Limit	Credit limit of card/loc	Client side scripting should prevent entry of invalid characters. OnBlur should strip decimal places and round up.	
10		Optional identifier for lease	When the field has focus the help text is highlighted as replaceable. As the user types, the text will be replaced. If the user removes focus without typing, the help text is redisplayed	

#	Field Name	Field Description	Field Behaviour	Data Format
11		Entry field for lease payment amounts	Client side scripting should prevent entry of invalid characters. OnBlur should strip decimal places and round up.	
14		Applies the changes in the overlay to the application. The calculated value is displayed in the aggregate field on the main form and the worksheet closes. This form button may not be necessary. See Page Description notes.		
15		Link trigger to clear form data.	Clicking this will clear all the values in the worksheet fields	

2.0 Result

Page Description

The initial result display is essentially a 90 degree pivot of the existing result. Instead of an accordion style interface, the initial result calculation is displayed on the left while two of the exploratory scenarios are presented with default values (10% debt reduction, 25% down payment increase.

Clicking Explore on either of the scenarios will swap out the right-hand content panel with a tabbed interface to toggle between the two scenarios.

The exploration of the accelerated payment options has been subordinated to a call to action button that reveals a table illustrating all four payment scenarios as a comparative table (see 2.3 Explore Payment Frequency).

Wireframe

How much can I afford?

☑ Email this result **[1]**

Based on the information provided, you may be able to afford a house with a purchase price of

$404,124

What you told us: **[2]**   ✏ change **[3]**

Gross Household Income: $110,000.00 annually
Down Payment: $35,000.00
Property Expenses: $12,000 annually
Interest Rate Over Term: 4.00%
Monthly Debt Expense: $975.00

	Original Result **[4]**
Purchase Price of Property	$404,124
Mortgage Amount	$369,124
Interest Rate Over Term	4.0%
Down Payment	$35,000
Monthly Mortgage Payment Over Term	$1,942

Recommendation: Decrease your debt **[5]**

If you **decreased** your monthly debt obligation by **10%** your maximum purchase price would be: **[7]**

$422,660 **[9]**

Explore Debt Reduction **[11]**

Recommendation: Increase your down payment **[6]**

If you were to **increase** your down payment to **$43,750** you may now be able to purchase a home for **[8]**

$412,874 **[10]**

Explore Increased Down Payment **[12]**

Pay Off Your Mortgage Faster
Learn how >> **[13]**

Find Your Branch **[14]**   Talk To Us Now **[15]**

Screen Elements

#	Element Description	Element Behaviour
1	Enables the user to send their result via email. The specific format of the email is TBD. Assumes that TDCT has a current design pattern for an email form. The form should be presented as a modal overlay.	
2	Displays the values input by the user, much the same way the current application does in the result output.	
3	A control to enable the user to go back to the input screen to change the values they entered and recalculate.	

#	Element Description	Element Behaviour
4	The original result column displays the base calculations from the input provided.	
5	Unlike the current application, we pre-calculate a scenario based on a default 10% debt reduction to draw the user into the exploration	
6	Unlike the current application, we pre-calculate a scenario based on a default 25% increase in down payment to draw the user into the exploration	
7	Static text	
8	Dynamic text including a calculation of a 25% greater down payment than the user input.	
9	Dynamically displays the maximum amount based on the default 10% debt reduction	
10	Dynamically displays the maximum amount based on the 25% increase in down payment	
13	Call to action to display payment option tables.	Clicking this reveals the payment options table below. See 2.3 Explore Payment Frequency.
14	Launches the branch locator according to current TDCT conventions	
15	Launches the "Talk to us Now" application based on current TDCT conventions.	

Form Elements

#	Field Description	Field Behaviour
11	Opens debt reduction explorer	Swaps the content area to display the tabbed interface displaying the debt reduction tools (see 2.1 Explore Debt Reduction)
12	Opens increased payment explorer	Swaps the content area to display the tabbed interface displaying the debt reduction tools (see 2.2 Explore Increased Down Payment)

2.1 Explore Debt Reduction

Page Description

When the user chooses to explore reducing their monthly debt obligations, the content area to the right of the original result reloads to include a side-by-side table of the default option.

The user can then use the select list to decrease their debt in the same increments as are available in the current application.

Changes to the values should ideally be calculated without a full-page reload.

Wireframe

How much can I afford?   ☐ Email this result

Based on the information provided, you may be   What you told us: ✎ change
able to afford a house with a purchase price of   Gross Household Income: $110,000.00 annually
                                                       Down Payment: $35,000.00
$404,124   Property Expenses: $12,000 annually
                                                       Interest Rate Over Term: 4.00%
                                                       Monthly Debt Expense: $975.00

	Original Result	Explore Decreased Debt	Explore Increased Down Payment
Purchase Price of Property	**$404,124**	**$422,660**	Decrease monthly debt by: [10% ▼] [1] [Refresh] [2]
Mortgage Amount	$369,124	$387,660	The amount of your existing monthly loan and [3] lease payments plus the credit limits of your credit cards and lines of credit may have an impact on the amount of mortgage you may qualify for. If you were to reduce your debt by **10%** or **$97** monthly, you could now afford a property worth **$422,660**.
Interest Rate Over Term	4.0%	4.0%	
Down Payment	$35,000	$35,000	To reduce your monthly debt expense you may want to consider:
Monthly Mortgage Payment Over Term	$1,908	$2,013	- paying off your outstanding loans and leases - reducing your credit limits on your credit cards and lines of credit

[**Pay Off Your Mortgage Faster** Learn how >>]

[**Find Your Branch** [4]] [**Talk To Us Now** [5]]

Screen Elements

#	Element Description
3	Dynamic content similar to the existing application.
4	Launches the branch locator according to current TDCT conventions
5	Launches the "Talk to us Now" application based on current TDCT conventions.

Form Elements

#	Field Name	Field Description
1		Select list to allow users to explore different amounts of debt. Values are in 10% increments from 10-100%.
2	Button-Refresh	Refreshes the table using the value in the select list. Ideally, this is an Ajax call or client side calculation rather than a full screen reload.

2.2 Explore Increased Down Payment

Page Description

When the user chooses to explore increasing their down payment, the content area to the right of the original result reloads to include a side-by-side table of the default option.

The user can then enter a different value in the down payment field. Clicking Refresh will reload the table with the newly calculated values.

Changes to the values should ideally be calculated without a full-page reload.

Wireframe

How much can I afford?   ✉ Email this result

Based on the information provided, you may be   What you told us: ✏ change
able to afford a house with a purchase price of   Gross Household Income: $110,000.00 annually
                                                        Down Payment: $35,000.00
$404,124   Property Expenses: $12,000 annually
                                                        Interest Rate Over Term: 4.00%
                                                        Monthly Debt Expense: $975.00

	Original Result	Explore Decreased Debt	Explore Increased Down Payment
Purchase Price of Property	$404,124	$412,874	Increase your down payment to:
Mortgage Amount	$369,124	$369,124	$ 43,750 [Refresh]
Interest Rate Over Term	4.0%	4.0%	Your down payment has a direct impact on the price of the home you can afford. If you were to change your down payment to $43,750, you may now be able to purchase a home for **$412,874**.
Down Payment	$35,000	$43,750	TD Canada Trust offers services which can help you achieve your goal:
Monthly Mortgage Payment Over Term	$1,908	$2,013	More information about how you can use your RSPs for your down payment
			More information about down payments and the differences between a Conventional and a High Ratio mortgage

Pay Off Your Mortgage Faster
Learn how >>

[Find Your Branch]   [Talk To Us Now]

Screen Elements

#	Element Label	Element Description
1		Launches the branch locator according to current TDCT conventions
2		Launches the "Talk to us Now" application based on current TDCT conventions.
5	Dynamic content	The content displayed will be the same as is used in the current application

Form Elements

#	Field Name	Field Description	Field Behaviour	Required Field	Data Format
3	Button - Refresh	Refreshes the table using the value in the select list. Ideally, this is an Ajax call or client side calculation rather than a full screen reload.			
4	Txt - Down payment amount	Text field for down payment amount. The default is 25% more than the user-input value. The user can change this value.	Client side scripting should be used to scrub the field onBlur. If the field is empty or invalid when the user clicks 'refresh', an inline error message should appear.	Yes	Numeric

2.3 Explore Payment Frequency

Page Description

If the user is interested in exploring how to pay off their mortgage faster and clicks on the button, the page will expand to display a table of payment frequencies based on the original caculated amount. This removes the current select list functionality for simplicity.

The table may display some of the data in the current application for clarity, but this is still TBD - we are trying to reduce visual clutter and keep the information display relevant.

Wireframe

How much can I afford?

✉ Email this result

Based on the information provided, you may be able to afford a house with a purchase price of

$404,124

What you told us: 📝 change
Gross Household Income: $110,000.00 annually
Down Payment: $35,000.00
Property Expenses: $12,000 annually
Interest Rate Over Term: 4.00%
Monthly Debt Expense: $975.00

	Original Result	Explore Decreased Debt	Explore Increased Down Payment
Purchase Price of Property	$404,124	$417,748	Decrease monthly debt by:
Mortgage Amount	$369,124	$382,748	10% ▼ Refresh
Interest Rate Over Term	4.0%	4.0%	The amount of your existing monthly loan and lease payments plus the credit limits of your credit cards and lines of credit may have an impact on the amount of mortgage you may qualify for.
Down Payment	$35,000	$35,000	To reduce your monthly debt expense you may want to consider:
Monthly Mortgage Payment Over Term	$1,908	$2,013	- paying off your outstanding loans and leases - reducing your credit limits on your credit cards and lines of credit

Pay Off Your Mortgage Faster

[7]

Increase the frequency of your payments to save money and pay off your mortgage faster.

Payment frequency:	Monthly [5]	Semi-Monlhy [3]	Bi-Weekly [4]	Weekly [6]
Amortization Period	25 years	25 years	22 years	22 years
Payment Amount	$1,942	$970	$971	$486
Interest Paid Over Amortization Period	$213,376	$212,895	$183,117	$182,783
Interest Savings (compared to monthly)		$481	$30,259	$30,593

TD Canada Trust offers services which can help you achieve your goal.

^Hide [8]

Find Your Branch [1]   Talk To Us Now [2]

Screen Elements

#	Element Label	Element Description
1	Find your Branch	Launches the branch locator according to current TDCT conventions
2	Talk to us now	Launches the "Talk to us Now" application based on current TDCT conventions.
3	Semi-montly payment column	Displays the values if the user paid semi-monthly
4	Bi-weekly payment column	Displays the values if the user paid bi-weekly
5	Monthly results column	Displays the default monthly payment information
6	Weekly payment column	Displays the values if the user pays weekly
7	Expanded content area	Displays the amortization tables for each payment type based on the input.
8	Hide content trigger	Collapse the content back up.