

University of Calgary

CPSC 481: Assignment 2

Bond Estate

Team: Group 2
Date: April 15, 2022

Derek Braun

derek.braun@ucalgary.ca

Albert Choi

albert.choi1@ucalgary.ca

Azeem Choudhry

azeem.choudhry@ucalgary.ca

Navroop Chahal

navroop.chahal@ucalgary.ca

Sarthak Sharan

sarthak.sharan@ucalgary.ca

1 Heuristic Evaluation Results	3
1.1 Unified Heuristic Evaluation List	3
1.2 Most Import Violations to be Addressed	6
1.3 Summary of Main Findings	6
2 Redesign Rationale and Design Strengths	7
2.1 Overview	7
2.2 Supporting Browsing and Non-Specific Searching	7
2.3 Comparison and Selection Support	8
2.4 System Flow and Cohesion	8
2.5 General Usability Improvements	9
3 Final Design Critique and Weaknesses	9
3.1 Primary Design Weaknesses	9
3.2 Process Critique and Future Changes	10
4 Final Takeaways	10
Appendix	10
A.1 Individual Heuristic Evaluations	10

1 Heuristic Evaluation Results

1.1 Unified Heuristic Evaluation List

Individual Heuristic Evaluations are listed in *Appendix A.1*

List is ordered in ascending index of Jakob Nielsen's Ten Design Heuristics

Ratings are the result of aggregating the ratings from the initial list and discussing any outliers

Heuristic Violated	Description	Suggested Fix	Rating
General Navigation			
2. Match between system and the real world	The label “Add a Testimonial” in the user menu is very confusing unless the user has already accessed the detailed listing views. The wording assumes knowledge about the workings of the system.	Make the language more plain and clear, such as: “Add a neighbourhood review”	2
3. User control and freedom	Accessing the favourites view must be done through the dropdown menu even though interactions across the application affect its contents.	Include a go-to favourites option after adding a listing as a favourite.	3
4. Consistency and standards	The same chat icon appears in a number of places, but serves slightly different purposes. When selected from a listing view, the chat takes the user to message with the listing owner, however when selected from the navbar, the user is taken to their default chat view.	Include some text or image to supplement the chat icon in places where a directed chat will be engaged.	2
6. Recognition rather than recall	Many navigation steps for some pages that may be challenging for new users to navigate.	Reduce the steps needed to navigate to common pages by adding shortcuts to ones that currently take too many steps.	2
7. Flexibility and efficiency of use	We do not have keyboard shortcuts for navigating our application.	Add keyboard shortcuts that the user is aware of.	2

10. Help and documentation	The system makes the assumption that users will exploratively find out how to use all aspects of the system, which works well from an open-ended perspective, but is daunting to new users. Also some icons are not apparent as to their purpose immediately.	Provide a sequence of pop up tooltips for newly registered users to acquaint them with all the features of the user interface.	2
----------------------------	---	--	---

Listing Details

4. Consistency and standards	The external link buttons in the listing details page give no indication that they connect to external services, as opposed to just opening a pop-up or directing to a new page.	Included well recognized symbols in addition to the text on the buttons, such as an outward curving arrow for external link, downward arrow icon for the download button.	1
9. Help users recognize, diagnose, and recover from errors	There is no way for a user to remove or edit a neighbourhood testimonial.	Include a page accessible from the user menu to view/remove/edit past testimonials.	3

Favourites

2. Match between system and the real world	The red and green colours imply that a value is better or worse, but it's not immediately obvious if the compared value is the one that is better or worse.	Include a legend on the view with indication of what the red, green, black colour coding means.	1
4. Consistency and standards	The owned listings view looks very similar to the favourites view, except that it does not include the sorting options present for the favourites view. This seemed unnecessary for most users, but could lead to confusion.	Create a more clear visual distinction between the favourites view and “my listings” view, so that the absence of sorting is not as jarring in the “my listings” view.	1
5. Error prevention	Unlike the un-list option for owned listings, the remove from favourites button does not confirm the action.	Provide a confirmation pop-up like the un-list option. Or add a banner once the action has been performed with a button to undo.	3
7. Flexibility and efficiency of use	The system makes assumptions about what users will find preferable when comparing	Provide a form to select ideal values and metrics, for prospective houses.	2

	prospective houses, (ie. colouring more bedrooms green to indicate better)		
Account Creation / Edit			
3. User control and freedom	No option to go back while creating realtor's account in steps	Add a back option to go back to the previous page	3
4. Consistency and standards	Password strength is not measured, nor the password requirements are specified	Have a dynamic password measuring strength, and specify the password requirements	2
5. Error prevention	Choose file does not provide the extension of file to be chosen	Specify the type of file that can be selected	3
10. Help and documentation	The format of "personal summary" is not specified, not clear what the user should enter there	As a placeholder, add the details of what is expected to be in the personal summary.	3
Listing Progress			
3. User control and freedom	For the current progress view, there should be custom fields as well as houses that have different steps involved.	Add the option to custom create the current progress bar with a default option	2
Similar Listings			
1. Visibility of system status	In the similar listings view, there's no indication what selected listing was chosen that we are comparing against as a baseline.	Show a thumbnail of the listing at the top of the view.	3
Listing Creation / Edit			
5. Error prevention	Upon listing creation/editing, there are no checks for completeness or authenticity of the fields inputted.	When a user or realtor is creating a listing, there should be a check on whether the fields they have inputted follow the correct format and input types.	3
8. Aesthetic and minimalist design	The create a listing view has a very different design and feel compared to the other pages,	Separate the form into more pages with more distinct labels and descriptions for the	2

	and looks rather cluttered.	relevant fields.	
--	-----------------------------	------------------	--

1.2 Most Import Violations to be Addressed

To identify the most important violations that should be addressed in our system, we looked at 3 criteria that would likely indicate major issues:

- More than one member of the group identified the heuristic violation.
- The rating is high (at least 3)
- The violation is likely to be on the path of most user's interactions

From these criteria, we identified these 4 violations as the top priorities to be addressed:

1. Heuristic (5, 9) - Unfavoriting a listing is not obvious (can occur accidentally) and cannot be undone without searching for and finding the listing, adding to favourites, and then manually incrementing its relative rating.
2. Heuristic (1) - The similar listings view gives no indication which listing was selected from to base the comparisons off of.
3. Heuristic (10) - It is difficult to navigate the system as a brand new user without knowing what functionalities are available and where to find them.
4. Heuristic (3) - Accessing views from different locations then they are affected is confusing. For example adding a listing to your favourites should provide an option to go directly to the favourites list, instead of having to navigate to the signed-in user menu.

1.3 Summary of Main Findings

From the heuristic evaluation it is clear that there are still a number of small changes that could be made to our prototype to better suit all of our prospective users. The fact that there were significantly more unique violations discovered than overlapping ones, suggests that the number of issues is not contained to a single changeable aspect of the system. However; a system that has as much breadth as ours is bound to have issues associated with navigation, and cohesion.

Interestingly the two most common violation types had to do with preventing errors, and maintaining clarity (5, 9, 10). In retrospect, analysing these violations makes it very clear that during our design, we were prioritising theoretically ideal users of our system. For such users who don't make mistakes and are familiar with the functionalities that our system provides, the interactions are efficient and intuitive. However, as all of us became hands on with the system in the process of developing it, stress testing it, and made mistakes with it, these issues became far more visible

2 Redesign Rationale and Design Strengths

2.1 Overview

After reviewing and analysing the strengths and weaknesses of our horizontal prototype, there were three primary areas that we intended to address with the vertical prototype. Firstly, we wanted to provide functionality directed towards users intending to purchase a house, but might not know exactly what they are looking for. Secondly we wanted to provide a better UI-tools driven solution for allowing users to narrow down their top contenders for prospective house purchases to a more manageable and itemised list. Lastly, we wanted to ensure that the flow of the system made more logical and cohesive sense to all prospective users.

From a completeness perspective, particularly around the administrative aspect of our horizontal prototype (creating/editing accounts and listings, and providing proper channels of communication), we were relatively satisfied with our existing design. For this reason, much of the general structure has remained largely the same in the process of converting to a vertical prototype.

2.2 Supporting Browsing and Non-Specific Searching

A significant issue identified from the horizontal prototype stage was that our system was unintentionally very catered towards people who knew exactly what they wanted from a prospective house. The realisation that we came to was that although we still wanted to incentivize our users to have a good idea of what they want; the fact of the matter is that a large portion of our prospective users will likely have a few key search requirements, but otherwise be interested in exploring the housing market.

Our approach to addressing this issue was to retain the user-defined filtering we had created in the horizontal prototype, however simultaneously extend opportunities to view relevant listings without being dependent on the specific filtered results.

In the horizontal prototype, if users wanted to view listings, they had to manually click through each one on the map. This process was slow and repetitive and required that the user remember which listings they had already visited without any visual clues. Because of this, the user was incentivized to apply filters (which they may not care about) to artificially reduce the number of choices. This issue was addressed by having the expanded side panel display a list of all houses matching the filtered results in the zoomed area. This approach was inspired by Reddit-style scroll browsing to find possible candidate houses. Doing this serves the double purpose of helping indecisive users identify qualities that they are interested in, while also ensuring a more natural process of parsing through large quantities of listings.

In the vertical prototype redesign, we also decided to include a dedicated tool for finding recommended listings. We added a button to the detailed design view labelled “View More Listings Like This”, which takes the user to a list view of houses and their details. This page contains a unique method of filtering and searching through prospective listings. The user can specify the aspects that drew their attention to the selected house, and then weight them with relative importance sliders. Using non-numeric sliders attempt to give the filtering a more qualitative feel that plays into the idea of aiding users who are interested in taking time to browse and view a variety of options without being constrained by quantitative restrictions and details.

2.3 Comparison and Selection Support

From early on in the design process, we decided to include a favorites system. Users could mark an interesting listing as a “favourite” and then come back to their list of favourites in the future to make a decision. The issue with our approach up to the horizontal prototype, is that our system put all the responsibility on the user to be able to selectively narrow down their list to a final choice. This was a significant foresight from a design perspective as we were not providing any tools that a user couldn’t otherwise perform as easily with pen and paper.

Our vertical prototype attempts to address this issue with a combined comparison and ranking system. Each listing can be bumped up or down in the ranking hierarchy through relative comparisons with the other favorited listings. Additionally, one to one comparisons are now supported. One listing can be selected and viewed side by side with all other favorited listings, which highlight in red, and green the quantitatively better and worse features (ie. lower price is preferable).

This system intends to provide an iterative decision process that can happen over time and allow candidates to bubble up or down depending on what features are important to the specific user.

2.4 System Flow and Cohesion

From our design perspective, an important aspect of this solution is that it is non-linear. By that form, it should reflect the fact that the process of buying a house is not a simple sequence. Typically there are a number of steps involved to settle on a final decision. We wanted to emulate this in our solution, but noticed that in the horizontal prototype, there were a few paths that required navigating specific sequences of pages to reach important features. For example viewing the details of a listing previously required navigating back to the map view, searching for the listing and pulling up the “more details” page for it. This information should be readily available at all stages of the process, so for the vertical prototype, we made it so that any instance where the listing is shown, all attributes can be directly accessed from that point (detailed view, favourite status, progress, etc.). These tweaks made the system feel much more connected, while also retaining the sandbox feel we hoped to capture initially.

2.5 General Usability Improvements

A minor feature which was included in a few places in our horizontal prototype was a dedicated back arrow button on certain views. At the time, including it made sense from a conceptual standpoint of navigating back to the main views from the dialog-oriented views. In practice, after implementing it in the vertical prototype, the justification for which views had a back button was unclear. Additionally, because of the natural tendency to use the browser back arrow, it made the dedicated back buttons obsolete, so we removed them for the final version.

Another removed element for the purpose of maintaining conciseness was the search bar in the favourites list view. We could not think of reasonable uses for the search bar beyond the niche case of the user memorising the address of a particular listing they had favorited, but which had not been rated highly in their set. From a design perspective it seemed that the search bar would only confuse users who would not know what to do with it, and disincentive using our favourite ranking system. We therefore made the choice to exclude it from the final version.

3 Final Design Critique and Weaknesses

3.1 Primary Design Weaknesses

Given the results of the heuristic evaluation in addition to analysis we did while developing the system, there are two main widespread weaknesses. First, is that we have a noticeable lack of support for allowing users to undo choices, or test operations and then revert to the original if the result was unsatisfactory. Looking back at the design we made several choices that assume that the users will make the right choices for their specific tasks on the first try for every action needed. Naturally this is an unrealistic assumption to make for real people, who are prone to mistakes, and often may test out features that they never intend to actually use.

Some of the features that we implemented that don't support reverting to a previous state are more obvious and intrusive, such as the case of accidentally removing a favourite listing and then not being able to get it back without manually going through the process again. Other instances of these types of features with lack of "real" user support are less obvious, but became noticeable during development. For example; a likely use case of our similar listings feature is that a user may wish to see similar listings for a property which leads to another new property that he wishes to see similar listings for, and so on and so forth. At some point in the chain he may realise that some steps back he had come across an excellent candidate. We provide no way to return backwards to that state, but worse yet, repeating the actions needed to get to that state again in the first place may be nearly impossible to reproduce. In a way, our unique approach to implicit rating systems helps users explore with less definitive filtering, but as a result, the process becomes much less deterministic.

The second aforementioned widespread weakness of our system has to do with the tacit knowledge we binded to many of the features. Take for instance the case of comparing favourite listing options. This is a good feature, but new users would have no reason to know it exists. The only information on how to perform this operation comes from navigating to the favourites view and then clicking on one of the list entries. It's certainly a likely occurrence, but not guaranteed, as it should be for such an essential feature of our system.

3.2 Process Critique and Future Changes

The main changes that we would make moving forward with similar projects would be to address the mistakes and pitfalls that led to the weaker aspects of our system. From the outset, back to the task-oriented system design, we would likely place a higher emphasis on generating tasks that are less clean cut. Additionally, imagining the human error intrinsic in performing these tasks can help to prevent poor user experience possibilities before they occur.

4 Final Takeaways

Building this system throughout the entire design process led to a number of positive user-oriented insights. There were a number of aspects that went very well with this project, and also many areas that we learned could be improved in the future.

Appendix

A.1 Individual Heuristic Evaluations

Name	Heuristic Violated	Description	Suggested Fix	Rating
Derek	3. User control and freedom	Accessing the favourites view must be done through the dropdown menu even though interactions across the application affect its contents.	Include a go-to favourites option after adding a listing as a favourite.	3
Derek	4. Consistency and standards	The same chat icon appears in a number of places, but serves slightly different purposes. When selected from a listing view, the chat takes the user to message with the listing owner, however when selected from the	Include some text or image to supplement the chat icon in places where a directed chat will be engaged.	2

		navbar, the user is taken to their default chat view.		
Derek	9. Help users recognize, diagnose, and recover from errors	There is no way for a user to remove or edit a neighbourhood testimonial.	Include a page accessible from the user menu to view/remove/edit past testimonials.	3
Derek	4. Consistency and standards	The external link buttons in the listing details page give no indication that they connect to external services, as opposed to just opening a pop-up or directing to a new page.	Included well recognized symbols in addition to the text on the buttons, such as an outward curving arrow for external link, downward arrow icon for the download button.	1
Derek	5. Error prevention	Unlike the un-list option for owned listings, the remove from favourites button does not confirm the action.	Provide a confirmation pop-up like the un-list option.	2
Derek	4. Consistency and standards	The owned listings view looks very similar to the favourites view, except that it does not include the sorting options present for the favourites view. This seemed unnecessary for most users, but could lead to confusion.	Create a more clear visual distinction between the favourites view and “my listings” view, so that the absence of sorting is not as jarring in the “my listings” view.	1
Derek	2. Match between system and the real world	The label “Add a Testimonial” in the user menu is very confusing unless the user has already accessed the detailed listing views. The wording assumes knowledge about the workings of the system.	Make the language more plain and clear, such as: “Add a neighbourhood review”	2
Derek	7. Flexibility and efficiency of use	The system makes assumptions about what users will find preferable when comparing prospective houses, (ie. colouring more bedrooms green to	Provide a form to select ideal values and metrics, for prospective houses.	2

		indicate better)		
Derek	8. Aesthetic and minimalist design	The create a listing view has a very different design and feel compared to the other pages, and looks rather cluttered.	Separate the form into more pages with more distinct labels and descriptions for the relevant fields.	2
Derek	10. Help and documentation	The system makes the assumption that users will exploratively find out how to use all aspects of the system, which works well from an open-ended perspective, but is daunting to new users.	Provide a sequence of pop up tooltips for newly registered users to acquaint them with all the features of the user interface.	2

Name	Heuristic Violated	Description	Suggested Fix	Rating
Azeem	9.Help users recognize, diagnose, and recover from errors	When applying filters, adding/removing favourites, editing a user's profile, there is no option to undo or redo single specific actions.	Add a simple undo button which is visible upon applying a filter, and which undoes the single previous action, and a simple redo button which redoes the single previous action.	2
Azeem	10. Help and Documentation	Although the application is simple to use, there isn't documentation to inform a user exactly which actions will have what effect, and may appear to be confusing for an inexperienced user.	Add information icons which a user would be able to hover over, indicating the result of the actions they are able to take on a specific page.	1
Azeem	5. Error prevention	Upon listing creation/editing, there are no checks for completeness or authenticity of the fields inputted.	When a user or realtor is creating a listing, there should be a check on whether the fields they have inputted follow the correct format and input types.	3

Azeem	5. Error prevention	Accidentally un-favoriting a listing gives no indication that it has happened.	Add a pop-up banner indicating a listing has just been unfavorited	3
-------	---------------------	--	--	---

Name	Heuristic Violated	Description	Suggested Fix	Rating
Navroop	9. Help users recognize, diagnose, and recover from errors	Cannot undo removing a listing from favourites. Re-adding the favourite puts the ranking back at the bottom of the list.	Add a brief pop-up that can be cleared or select undo.	2
Navroop	1. Visibility of system status	In the similar listings view, there's no indication what selected listing was that we are comparing against as a baseline.	Show a thumbnail of the listing at the top of the view.	3
Navroop	10. Help and Documentation	There isn't an obvious indication of how to reach the favourites page for a first time user.	Provide a pop-up option to view the favourites page when adding or removing a listing from favourites.	2
Navroop	2. Match between system and the real world	The red and green colours imply that a value is better or worse, but it's not immediately obvious if the compared value is the one that is better or worse.	Include a legend on the view with indication of what the red, green, black colour coding means.	1

Name	Heuristic Violated	Description	Suggested Fix	Rating
Sarthak	5. Error prevention	Choose file does not provide the extension of file to be chosen	Specify the type of file that can be selected	3
Sarthak	4. Consistency and	Password strength is	Have a dynamic password	3

	standards	not measured, nor the password requirements are specified	measuring strength, and specify the password requirements	
Sarthak	10. Help and documentation	The format of “personal summary” is not specified, not clear what the user should enter there	As a placeholder, add the details of what is expected to be in the personal summary.	3
Sarthak	3. User control and freedom	No option to go back while creating realtor’s account in steps	Add a back option to go back to the previous page	3
Sarthak	3. User control and freedom	For the current progress view, there should be custom fields as well as houses that have different steps involved.	Add the option to custom create the current progress bar with a default option	2

Name	Heuristic Violated	Description	Suggested Fix	Rating
Albert	10. Help and Documentation	There is no walkthrough for new users who may not be familiar with this type of interface.	Add a walk through for new users.	2
Albert	7. Flexibility and efficiency of use	We do not have keyboard shortcuts for navigating our application.	Add keyboard shortcuts that the user is aware of.	2
Albert	2. Match between system and the real world	The chat icon may be unclear to some users.	Walk through users of various buttons when they first create an account.	0
Albert	6. Recognition rather than recall	Many navigation steps for some pages that may be challenging for new users to navigate.	Reduce the steps needed to navigate to common pages by adding shortcuts to ones that currently take too many steps.	2

A1: Default Landing Page View (With Featured Listings)

BOND ESTATE
Real Estate Since 1982

Search City or Postal Code Search

Map Find Realtor Create Listing

Price Bed Bath Type Community

Clear All Filter

University of Calgary Olympic Oval Alberta Childrens Hospital

UNIVERSITY HEIGHTS McMahon Stadium Foothills Medical Centre

SAINT ANDREWS HEIGHTS PARKDALE

PARKDALE Lazy Loaf & Kettle

SPRUCE CLIFF Shaganappi Point Golf Course

BANFF TRAIL HOUNSFIELD HEIGHTS/ BRIAR HILL WEST HILLHURST UPPER HILLHURST HILLHURST WESTMOUNT WEST VILLAGE

West Confederation Park Park West Course Confederation Park

Capitol Hill North Hill Centre Southern Alberta Institute of Technology Riley Park Peace Arch Park Shaw Millennium Park

Memorial Dr NW 11 Ave SW 9 Ave SW 5 Ave SW 3 Ave SW 1 Ave SW 100 St NW 10 Ave NW 12 Ave NW 14 Ave NW 16 Ave NW 18 Ave NW 20 Ave NW 22 Ave NW 24 Ave NW 26 Ave NW 28 Ave NW 30 Ave NW 32 Ave NW 34 Ave NW 36 Ave NW 38 Ave NW 40 Ave NW 42 Ave NW 44 Ave NW 46 Ave NW 48 Ave NW 50 Ave NW 52 Ave NW 54 Ave NW 56 Ave NW 58 Ave NW 60 Ave NW 62 Ave NW 64 Ave NW 66 Ave NW 68 Ave NW 70 Ave NW 72 Ave NW 74 Ave NW 76 Ave NW 78 Ave NW 80 Ave NW 82 Ave NW 84 Ave NW 86 Ave NW 88 Ave NW 90 Ave NW 92 Ave NW 94 Ave NW 96 Ave NW 98 Ave NW 100 Ave NW 102 Ave NW 104 Ave NW 106 Ave NW 108 Ave NW 110 Ave NW 112 Ave NW 114 Ave NW 116 Ave NW 118 Ave NW 120 Ave NW 122 Ave NW 124 Ave NW 126 Ave NW 128 Ave NW 130 Ave NW 132 Ave NW 134 Ave NW 136 Ave NW 138 Ave NW 140 Ave NW 142 Ave NW 144 Ave NW 146 Ave NW 148 Ave NW 150 Ave NW 152 Ave NW 154 Ave NW 156 Ave NW 158 Ave NW 160 Ave NW 162 Ave NW 164 Ave NW 166 Ave NW 168 Ave NW 170 Ave NW 172 Ave NW 174 Ave NW 176 Ave NW 178 Ave NW 180 Ave NW 182 Ave NW 184 Ave NW 186 Ave NW 188 Ave NW 190 Ave NW 192 Ave NW 194 Ave NW 196 Ave NW 198 Ave NW 200 Ave NW 202 Ave NW 204 Ave NW 206 Ave NW 208 Ave NW 210 Ave NW 212 Ave NW 214 Ave NW 216 Ave NW 218 Ave NW 220 Ave NW 222 Ave NW 224 Ave NW 226 Ave NW 228 Ave NW 230 Ave NW 232 Ave NW 234 Ave NW 236 Ave NW 238 Ave NW 240 Ave NW 242 Ave NW 244 Ave NW 246 Ave NW 248 Ave NW 250 Ave NW 252 Ave NW 254 Ave NW 256 Ave NW 258 Ave NW 260 Ave NW 262 Ave NW 264 Ave NW 266 Ave NW 268 Ave NW 270 Ave NW 272 Ave NW 274 Ave NW 276 Ave NW 278 Ave NW 280 Ave NW 282 Ave NW 284 Ave NW 286 Ave NW 288 Ave NW 290 Ave NW 292 Ave NW 294 Ave NW 296 Ave NW 298 Ave NW 300 Ave NW 302 Ave NW 304 Ave NW 306 Ave NW 308 Ave NW 310 Ave NW 312 Ave NW 314 Ave NW 316 Ave NW 318 Ave NW 320 Ave NW 322 Ave NW 324 Ave NW 326 Ave NW 328 Ave NW 330 Ave NW 332 Ave NW 334 Ave NW 336 Ave NW 338 Ave NW 340 Ave NW 342 Ave NW 344 Ave NW 346 Ave NW 348 Ave NW 350 Ave NW 352 Ave NW 354 Ave NW 356 Ave NW 358 Ave NW 360 Ave NW 362 Ave NW 364 Ave NW 366 Ave NW 368 Ave NW 370 Ave NW 372 Ave NW 374 Ave NW 376 Ave NW 378 Ave NW 380 Ave NW 382 Ave NW 384 Ave NW 386 Ave NW 388 Ave NW 390 Ave NW 392 Ave NW 394 Ave NW 396 Ave NW 398 Ave NW 400 Ave NW 402 Ave NW 404 Ave NW 406 Ave NW 408 Ave NW 410 Ave NW 412 Ave NW 414 Ave NW 416 Ave NW 418 Ave NW 420 Ave NW 422 Ave NW 424 Ave NW 426 Ave NW 428 Ave NW 430 Ave NW 432 Ave NW 434 Ave NW 436 Ave NW 438 Ave NW 440 Ave NW 442 Ave NW 444 Ave NW 446 Ave NW 448 Ave NW 450 Ave NW 452 Ave NW 454 Ave NW 456 Ave NW 458 Ave NW 460 Ave NW 462 Ave NW 464 Ave NW 466 Ave NW 468 Ave NW 470 Ave NW 472 Ave NW 474 Ave NW 476 Ave NW 478 Ave NW 480 Ave NW 482 Ave NW 484 Ave NW 486 Ave NW 488 Ave NW 490 Ave NW 492 Ave NW 494 Ave NW 496 Ave NW 498 Ave NW 500 Ave NW 502 Ave NW 504 Ave NW 506 Ave NW 508 Ave NW 510 Ave NW 512 Ave NW 514 Ave NW 516 Ave NW 518 Ave NW 520 Ave NW 522 Ave NW 524 Ave NW 526 Ave NW 528 Ave NW 530 Ave NW 532 Ave NW 534 Ave NW 536 Ave NW 538 Ave NW 540 Ave NW 542 Ave NW 544 Ave NW 546 Ave NW 548 Ave NW 550 Ave NW 552 Ave NW 554 Ave NW 556 Ave NW 558 Ave NW 560 Ave NW 562 Ave NW 564 Ave NW 566 Ave NW 568 Ave NW 570 Ave NW 572 Ave NW 574 Ave NW 576 Ave NW 578 Ave NW 580 Ave NW 582 Ave NW 584 Ave NW 586 Ave NW 588 Ave NW 590 Ave NW 592 Ave NW 594 Ave NW 596 Ave NW 598 Ave NW 600 Ave NW 602 Ave NW 604 Ave NW 606 Ave NW 608 Ave NW 610 Ave NW 612 Ave NW 614 Ave NW 616 Ave NW 618 Ave NW 620 Ave NW 622 Ave NW 624 Ave NW 626 Ave NW 628 Ave NW 630 Ave NW 632 Ave NW 634 Ave NW 636 Ave NW 638 Ave NW 640 Ave NW 642 Ave NW 644 Ave NW 646 Ave NW 648 Ave NW 650 Ave NW 652 Ave NW 654 Ave NW 656 Ave NW 658 Ave NW 660 Ave NW 662 Ave NW 664 Ave NW 666 Ave NW 668 Ave NW 670 Ave NW 672 Ave NW 674 Ave NW 676 Ave NW 678 Ave NW 680 Ave NW 682 Ave NW 684 Ave NW 686 Ave NW 688 Ave NW 690 Ave NW 692 Ave NW 694 Ave NW 696 Ave NW 698 Ave NW 700 Ave NW 702 Ave NW 704 Ave NW 706 Ave NW 708 Ave NW 710 Ave NW 712 Ave NW 714 Ave NW 716 Ave NW 718 Ave NW 720 Ave NW 722 Ave NW 724 Ave NW 726 Ave NW 728 Ave NW 730 Ave NW 732 Ave NW 734 Ave NW 736 Ave NW 738 Ave NW 740 Ave NW 742 Ave NW 744 Ave NW 746 Ave NW 748 Ave NW 750 Ave NW 752 Ave NW 754 Ave NW 756 Ave NW 758 Ave NW 760 Ave NW 762 Ave NW 764 Ave NW 766 Ave NW 768 Ave NW 770 Ave NW 772 Ave NW 774 Ave NW 776 Ave NW 778 Ave NW 780 Ave NW 782 Ave NW 784 Ave NW 786 Ave NW 788 Ave NW 790 Ave NW 792 Ave NW 794 Ave NW 796 Ave NW 798 Ave NW 800 Ave NW 802 Ave NW 804 Ave NW 806 Ave NW 808 Ave NW 810 Ave NW 812 Ave NW 814 Ave NW 816 Ave NW 818 Ave NW 820 Ave NW 822 Ave NW 824 Ave NW 826 Ave NW 828 Ave NW 830 Ave NW 832 Ave NW 834 Ave NW 836 Ave NW 838 Ave NW 840 Ave NW 842 Ave NW 844 Ave NW 846 Ave NW 848 Ave NW 850 Ave NW 852 Ave NW 854 Ave NW 856 Ave NW 858 Ave NW 860 Ave NW 862 Ave NW 864 Ave NW 866 Ave NW 868 Ave NW 870 Ave NW 872 Ave NW 874 Ave NW 876 Ave NW 878 Ave NW 880 Ave NW 882 Ave NW 884 Ave NW 886 Ave NW 888 Ave NW 890 Ave NW 892 Ave NW 894 Ave NW 896 Ave NW 898 Ave NW 900 Ave NW 902 Ave NW 904 Ave NW 906 Ave NW 908 Ave NW 910 Ave NW 912 Ave NW 914 Ave NW 916 Ave NW 918 Ave NW 920 Ave NW 922 Ave NW 924 Ave NW 926 Ave NW 928 Ave NW 930 Ave NW 932 Ave NW 934 Ave NW 936 Ave NW 938 Ave NW 940 Ave NW 942 Ave NW 944 Ave NW 946 Ave NW 948 Ave NW 950 Ave NW 952 Ave NW 954 Ave NW 956 Ave NW 958 Ave NW 960 Ave NW 962 Ave NW 964 Ave NW 966 Ave NW 968 Ave NW 970 Ave NW 972 Ave NW 974 Ave NW 976 Ave NW 978 Ave NW 980 Ave NW 982 Ave NW 984 Ave NW 986 Ave NW 988 Ave NW 990 Ave NW 992 Ave NW 994 Ave NW 996 Ave NW 998 Ave NW 999 Ave NW

\$1,000,000
4 Bedrooms, 2 Bath, 1500 sqft
100 Street Ave. NW

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

More Details

A2: Default Landing Page View (With Featured Listings, price filter selected)

The screenshot shows a real estate website's default landing page. At the top, there is a navigation bar with a logo, a search bar, and buttons for "Map", "Find Realtor", "Create Listing", and user account information. Below the navigation is a map of the University area of Calgary, highlighting various neighborhoods with red circles containing price tags. To the right of the map is a sidebar with a "Price" filter section and a grid of three featured house listings.

Neighborhood	Price (Approx.)
University Heights	\$1M
Saint Andrews Heights	\$100K
Parkdale	\$200K
West Hillhurst	\$900K
Upper Hillhurst	\$230K
Hillhurst	\$450K
West Village	\$1.1M
Spruce Cliff	\$700K
Shaganappi Point	\$240K

Price Filter:

- Min: _____ to _____ Max: _____
-

Featured Listings:

- \$1,000,000**
4 Bedrooms, 2 Bath, 1500 sqft
100 Street Ave. NW
Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!
-
-
-

A3: Default Landing Page View (With Featured Listings and type filter selected)

Search City or Postal Code

Map Find Realtor Create Listing

Type

Community

House
 Condo
 Townhouse
 Duplex

Save Clear

\$1,000,000
4 Bedrooms, 2 Bath, 1500 sqft
100 Street Ave. NW

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

More Details

A4: Default Landing Page View (With Featured Listings and filter options filled out)

Search City or Postal Code

Map Find Realtor Create Listing

Type

Community

House
 Condo
 Townhouse
 Duplex

Clear All Filter

\$1,000,000
4 Bedrooms, 2 Bath, 1500 sqft
100 Street Ave. NW

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

More Details

A5: Detailed Listing View

The screenshot shows a detailed listing for a modern house at 100 Street Ave. NW, listed for \$1,000,000. The listing includes a large image of the house, a summary of the property (4 bedrooms, 2 bath, 1500 SQFT, Backyard, Porch), and a description of its features and renovations. To the right, there's a map showing the neighborhood's amenities like parks, schools, and shopping malls. A sidebar on the right contains neighborhood testimonials from Thomas Anderson, Derek Braun, and Bruce Banner.

100 Street Ave. NW **\$1,000,000**

4 Bedrooms, 2 Bath, 1500 SQFT, Backyard, Porch

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

Nearby Amenities

- Parks
- Schools
- Gyms
- Shopping Malls
- Hospitals

Neighbourhood Testimonials

Thomas Anderson
This neighbourhood is wonderful. I would recommend this area to any young family.

Derek Braun
Very family friendly, not much of an older generation.

Bruce Banner

[Add a testimonial](#)

A6: Create a Testimonial view

The screenshot shows the 'Create a Testimonial' modal open over the listing view. The modal has fields for 'Your Community' (Neighbourhood Select dropdown) and 'Your Testimonial' (a text area). Below the modal, the listing details and neighborhood map are visible.

100 Street Ave. NW

4 Bedrooms, 2 Bath, 1500 SQFT, Backyard, Porch

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

Nearby Amenities

- Parks
- Schools
- Gyms
- Shopping Malls

Neighbourhood Testimonials

Thomas Anderson
This neighbourhood is wonderful. I would recommend this area to any young family.

Derek Braun
Very family friendly, not much of an older generation.

Bruce Banner

[Add a testimonial](#)

A7: View Similar Listings View

Similar Qualities: Price Sq Footage # of Rooms Nearby Amenities

Relative Importance:

Refresh List Found 6 Similar Listings

	100 Street Ave. NW \$1,000,000 Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!		More Details
	90 Street Ave. SW \$900,000 Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!		More Details
	80 Street Ave. NE \$800,000 Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!		More Details
	70 Street Ave. SE \$700,000		

A8 Detailed Listing View with Amenities selected

BOND ESTATE

100 Street Ave. NW **\$1,000,000**

4 Bedrooms, 2 Bath, 1500 SQFT, Backyard, Porch

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

Nearby Amenities

- Parks
- Schools
- Gyms
- Shopping Malls
- Hospitals

Explore a 3D Tour **Download Floorplan** **Share Listing**

Neighbourhood Testimonials

Thomas Anderson This neighbourhood is wonderful. I would recommend this area to any young family.

Derek Braun Very family friendly, not much of an older generation.

Bruce Banner

Add a testimonial

A9: Favorite Listings view

Rank	Address	Price	Description
1	100 Street Ave. NW	\$1,000,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!
2	90 Street Ave. SW	\$900,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!
3	80 Street Ave. NE	\$800,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools,

A10: Favourite Listings view with modified ranking order

Rank	Address	Price	Description
1	90 Street Ave. SW	\$900,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!
2	100 Street Ave. NW	\$1,000,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!
3	80 Street Ave. NE	\$800,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features

A11: Favourite Listings view with Selected Listing

Rank and Sort Your Favorites: Sort By: from Low to High High to Low

Rank	Address	Price	Description	Actions
1	100 Street Ave. NW	\$1,000,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!	
2	90 Street Ave. SW	\$900,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!	
3	80 Street Ave. NE	\$800,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!	

Current Ranking: 1
 Address: 100 Street Ave. NW
 Price: \$1,000,000
 4 Bedrooms, 2 Bath, 1500 SQFT, Backyard, Porch

Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!

Progress **More Details**

A12: My Posted Listings View

Manage and Edit Your Listings

	100 Street Ave. NW \$1,000,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!	Unlist Edit
	90 Street Ave. SW \$900,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!	Unlist Edit
	80 Street Ave. NE \$800,000	Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!	Unlist Edit
	70 Street Ave. SE \$700,000		

A13: My Posted Listings View with Unlist Confirmation

The screenshot shows a web interface for managing real estate listings. At the top, there's a navigation bar with icons for Map, Find Realtor, Create Listing, and user profile. Below the header, a title 'Manage and Edit Your Listings' is displayed. Three property cards are listed:

- 100 Street Ave. NW**
\$1,000,000
Fully developed and immaculately maintained home, is situated neutral paint throughout, beautiful hardwood flooring. Close Landmark movie theatre and more!
- 90 Street Ave. SW**
\$900,000
Fully developed and immaculately maintained home, is situated neutral paint throughout, beautiful hardwood flooring. Close to all amenities including schools, playgrounds, VIVO, extensive shopping, Landmark movie theatre and more!
- 80 Street Ave. NE**
\$800,000
Fully developed and immaculately maintained home, is situated on a quiet street close to all amenities. The open concept main floor features VIVO, extensive shopping, Landmark movie theatre and more!

A modal dialog box is overlaid on the second listing, titled 'Confirm Action'. It contains the message 'Are you sure you want to unlist: 90 Street Ave. SW' and 'This action cannot be undone.' with two buttons: 'Yes, Unlist' (highlighted in red) and 'Cancel'.

A14: Create Account View

The screenshot shows a landing page for creating an account. The background is a scenic city skyline at sunset. In the center, a large button with the text 'CREATE ACCOUNT' is visible. Below the button, there are two blue buttons with white text: 'I am a Regular User' on the left and 'I am a Realtor' on the right. The top of the page has a navigation bar with icons for Map, Find Realtor, Create Listing, and user profile.

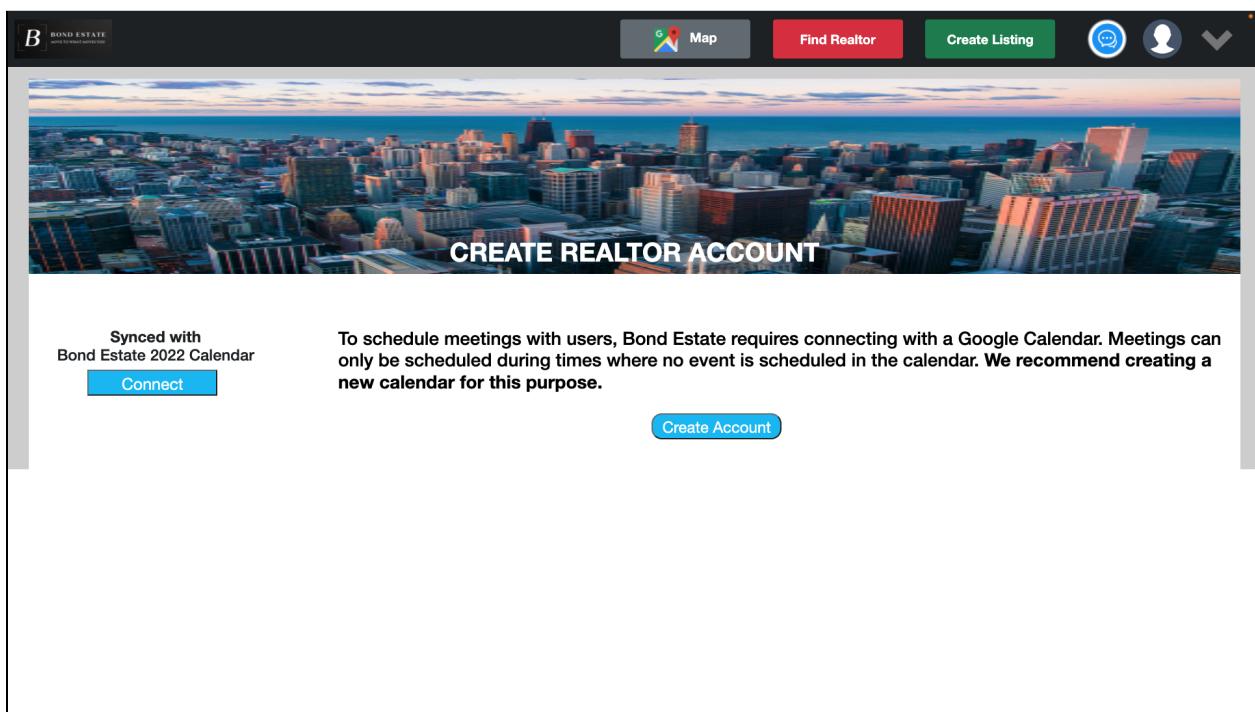
A15: Sign up View Regular User

The screenshot shows a web page titled "CREATE ACCOUNT" set against a background of a city skyline at sunset. At the top, there is a navigation bar with icons for "Map", "Find Realtor", "Create Listing", and user profile. Below the title, there are two columns of input fields. The left column contains "First Name" (placeholder "Enter Username"), "Email" (placeholder "Enter Username"), and a "Profile Image" section with a "Choose File" button and a message "No file chosen". The right column contains "Last Name" (placeholder "Enter Username"), "Password" (placeholder "Enter Password"), and "Confirm Password" (placeholder "Enter Password"). A large blue "Create Account" button is located at the bottom right of the form area.

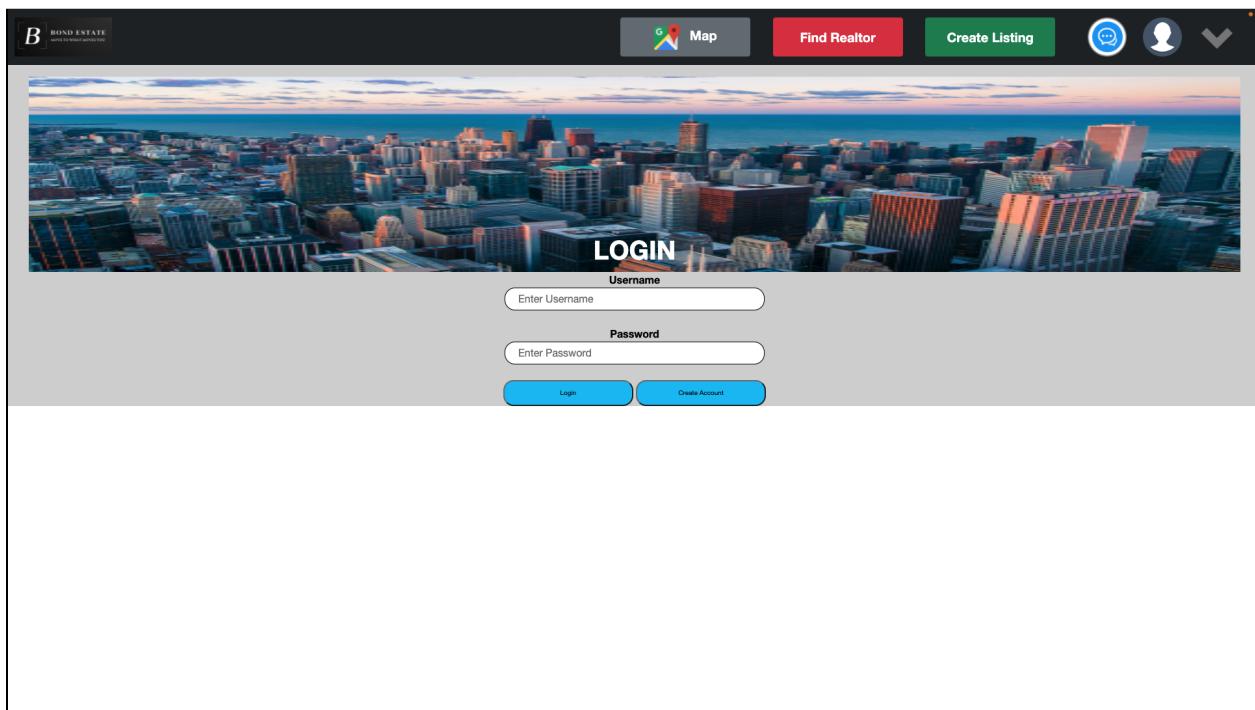
A16: Create Account Realtor View

The screenshot shows a web page titled "CREATE REALTOR ACCOUNT" set against a background of a city skyline at sunset. The layout is identical to A15, with a navigation bar at the top and a "CREATE REALTOR ACCOUNT" title. It features two columns of input fields: "First Name" (placeholder "Enter Username"), "Email" (placeholder "Enter Username"), "Profile Image" (with "Choose File" button and "No file chosen" message), "Last Name" (placeholder "Enter Username"), "Password" (placeholder "Enter Password"), and "Confirm Password" (placeholder "Enter Password"). A blue "Next step" button is located at the bottom right of the form area.

A17: Create Account Realtor View 3



A18: Login View



A19 (Realtor Search View)

The screenshot shows a mobile application interface for real estate. At the top, there is a navigation bar with a search bar, a 'Go' button, and several action buttons: 'Map', 'Find Realtor', 'Create Listing', a message icon, a profile icon, and a dropdown arrow. On the left side, there is a sidebar containing a search bar and a list of four realtors with their names, titles, and small profile icons:

- Lisa Anderson, Realtor
- Alyssa Schmidt, Realtor
- John Rittler, Realtor
- Steph Holming, Realtor

The main content area on the right features a large profile picture of Lisa Anderson, a brief bio, spoken languages information, and two call-to-action buttons.

Lisa Anderson
From Calgary, Canada

10 years of experience, multiple happy clients. I have a passion for working in real estate and hope to find you your dream home!

Spoken Languages: English, French

Chat with me! Book a meeting!

A20: Chat View With Realtor

The screenshot shows a mobile application interface for real estate, similar to A19 but focused on a specific chat session. The top navigation bar is identical. The left sidebar shows a search bar and a list of contacts:

- Mark Hall, Realtor
- Ellen Ripley, Homeowner (99 Nostra Ave. NW)

The main content area on the right shows a conversation with Mark Hall. It includes a profile picture, his name, a 'Book a meeting!' button, a message bubble from him, and a response bubble from the user.

How can I help?

I'm looking to see about purchasing 99 Nostra Ave. NW

Let's set up a meeting when you are available.

A21: Edit Profile View User Account

The screenshot shows the 'Edit Profile' page for a user account. At the top, there is a header bar with the 'BOND ESTATE' logo, a 'Map' button, a 'Find Realtor' button, a 'Create Listing' button, and a user icon. Below the header, the title 'Edit Profile' is centered above a large circular placeholder for a profile picture. On the left side, there are two input fields: 'First Name' containing 'Julien' and 'Last Name' containing 'Garcia'. On the right side, there are three input fields: 'Email Address' containing 'julien.g@gmail.com', 'Password' (represented by a series of asterisks), and 'Confirm Password' (also represented by a series of asterisks). A blue 'Save Changes' button is located at the bottom center.

A22: Edit Profile View Realtor Account

The screenshot shows the 'Edit Realtor Profile' page for a realtor account. The layout is identical to the user account edit profile page, featuring the same header, title, and input fields. The 'First Name' field contains 'Julien' and the 'Last Name' field contains 'Garcia'. The 'Email Address' field contains 'julien.g@gmail.com', and the password fields contain '*****'. A blue 'Edit Realtor Details' button is positioned below the first name field, and a blue 'Save Changes' button is at the bottom right.

A23: Edit Profile View 2 Realtor Account

The screenshot shows a web-based application interface for editing realtor details. At the top, there is a navigation bar with icons for 'Map', 'Find Realtor', 'Create Listing', and user profile information. Below the navigation bar, the title 'Edit Realtor Details' is centered. The form is divided into several sections:

- City:** A text input field labeled 'Enter city name'.
- Personal Summary:** A text area labeled 'Personal Summary..'.
Content: Personal Summary..
- Neighbourhood:** A text input field labeled 'Enter Neighbourhood name'.
- Spoken Languages:** A text input field labeled 'Enter Languages'.
- Save Details:** A blue button at the bottom right of the form area.