

Final Project

Executive Summary:

The main purpose of the project is to make it easier for the students to find the available housings, who are looking for one. The excel goes through the KSL and Craigslist web site to gather the available rooms/housings available after it captures the required features the user inputs in the user form. The web query results obtained from KSL is written in the "KSL" sheet, and results obtained from Craigslist in the "Craigslist" sheet. The results are then filtered to match the exact location and the exact number of bedrooms the user enters in the user form. The filtered results are then written in the sheet "result". If the user enters "any" for the number of beds and baths, then the excel checks only for the exact location and brings up every available housings/ apartments available in that location. The top of the "result" sheet is filled with the city, zip code, number of beds, number of baths, maximum price, and minimum price, the user enters in the user form. The total number of results obtained is recorded as well in the "result" worksheet.

Implementation Documentation

URL Code Explanations:

```
Private Function cha (paa As Integer, formulacode As Variant) As Boolean
```

```
    If formulacode = "" Then
```

```
        formulacode = "&pa%5B%5D=" & paa
```

```
    Else
```

```
        formulacode = "&pa%5B%5D=" & paa & formulacode
```

```
    End If
```

```
End Function
```

In KSL, the checkboxes are given different integer values to be passed in URL. Cable is given value "3", dishwasher is given "6", swimming is given "7" etc. I had to concatenate variables based on the checked checkboxes. E.g., when the cable checkbox is checked by the user (specifying that the user wants the cable to be available in the housing), I assigned a "paa" variable that takes an integer value of 3, and should pass the value formulacode="&pa%5B%5D=3" to the URL. The variable "formulacode" takes the concatenated values. If more than one checkboxes are checked, e.g., cable and dishwasher, and swimming pools are checked, then the value formulacode="&pa%5B%5D=3&pa%5B%5D=6&pa%5B%5D=7" should be passed to the URL in KSL.

The URL passed for KSL web query is as:

```
ActiveSheet.QueryTables.Add (Connection:=  
"URL;http://www.ksl.com/index.php?nid=651&sid=17403777&PageSize=27" & "City=" &  
Me.citytxt.Value & "&Miles=" & Me.cmbdistance.Value & "&Zip=" & Me.ziptxt.Value &  
"&PriceLower=" & Me.cmbmin.Value & "&PriceUpper=" & Me.cmbmax.Value &  
"&PropertyType=" & Me.cmbtype.Value & "&PriceUnlimited=&UserId=&Bedrooms=" &  
Me.cmbbeds.Value & "&Bathrooms=" & Me.cmbbath.Value & "&SqftUnlimited=&SqftLower=" &  
& Me.cmbminsqft.Value & "&SqftUpper=" & Me.cmbmaxsqft.Value & formulacode)
```

In my project, excel looks through the Craigslist only if the type of housing the user is looking for is the apartments or houses because the apartment/housing category in Craigslist brings up

every possible results, unlike KSL where it has different categories for condominiums, single rooms etc.

In Craigslist, if the user wants the housings with images available, then I assigned a variable "img" that takes value "&haspic=1" that should be passed in the URL. If user does not want image, nothing is passed so, img="". If the user wants the housings where pets (cats and dogs) are allowed, then variable "dog" takes the value "woof" and the variable "cat" takes the value "purr" that should be passed to the URL. If the user does not want pets variables, dog="" and cat="".

The URL passed for Craigslist web query is as:

```
"URL;http://" & Me.citytxt.Value & ".craigslist.org/search/apa?query=&srchType=A" &
"&minAsk=" & Me.cmbmin.Value & "&maxAsk=" & Me.cmbmax.Value & "&bedrooms=" &
Me.cmbbeds.Value & "&addThree=" & cats & "&addTwo=" & dogs & img
```

The search sub procedure goes through the passed URL and looks up in KSL and Craigslist website and populates the KSL and Craigslist worksheet with the available rooms/ housings.

Then the results are filtered to find the available rooms/ housings that match the exact location, number of beds and bath.

Craigslist:

It only takes the values for city, zip code, number of bedrooms, minimum and maximum prices, pets, images, from the user form.

The problems Craigslist has are:

1. Always looks for the rooms available with the number of bedrooms greater than or equal to the number of bedrooms entered by the user. e.g., if the user enters bedroom=2, it looks for housing/room with 2 or greater than 2 bedrooms.
2. Looks for the rooms available in the places nearby the city entered. e.g., if the user enters Provo, the website gives the available housings in Salt Lake City, Ogden, Lehi, etc.

The problems solved:

1. Filters the results by the exact number of bedrooms the user enters in the user form.
2. Filters the results by the exact location the user enters in the user form.

KSL:

It takes all the values entered by the user in the user form.

The problems KSL has are:

Unlike Craigslist, KSL only shows the housing available in the exact location the user enters. But, it works the same way as Craigslist in case of bedrooms and baths.

The problems solved:

1. Filters the results by the exact number of bedrooms and baths the user enters in the user form.

Challenges faced while working on this project:

1. Making the User form store the value clicked by the user, selected from the combo box list, and use in the URL for web query.
2. Concatenating the checkboxes values in KSL, and variables to be passed in URL for web query.
3. Using the find property in excel and debugging the nested if statements.

Elements wanted to include but could not get to work/Problems with project:

I wanted to include the ribbon button on my workbook. I tried looking through the guide in the learning suite, and spent hours trying to get it to work but was not successful. I was lucky that I was working on BYU lab so had to make a copy of my project in order for me to save the work as the BYU lab does not save dropbox files unless it is downloaded and saved in the lab desktop. Otherwise I would have lost my entire project because there was no file backed up. **So, because the ribbon did not work, you will have to go to the developer tab and run the Userform1.**

The problem I had while getting it to run is sometimes it asks the user to enter the parameter value. But sometimes it just runs fine. If it asks for parameter value entering any cell into it e.g. "a1", it just works fine. When I googled, I found out that it might be because of the change in format between numeric and character format.

