The background is a dark navy blue. In the top-left corner, there are two overlapping triangles: a blue one on the left and a light green one on the right. In the bottom-left corner, there is a circular inset showing a close-up of a printed circuit board (PCB) with various electronic components. In the top-right corner, there is a faint, grey, 3D-rendered pattern of interlocking cubes or a circuit board layout.

Mapping For Change

COSC 310 Final Presentation



Who we are:

Tim Offenwanger - Scrum Master

Scott Gibson - Product Owner

Kyle Ranslam - Developer

Jaryd Fisher - Developer

Matthew Penner - Developer

Devon MacNeil - Developer



Overview



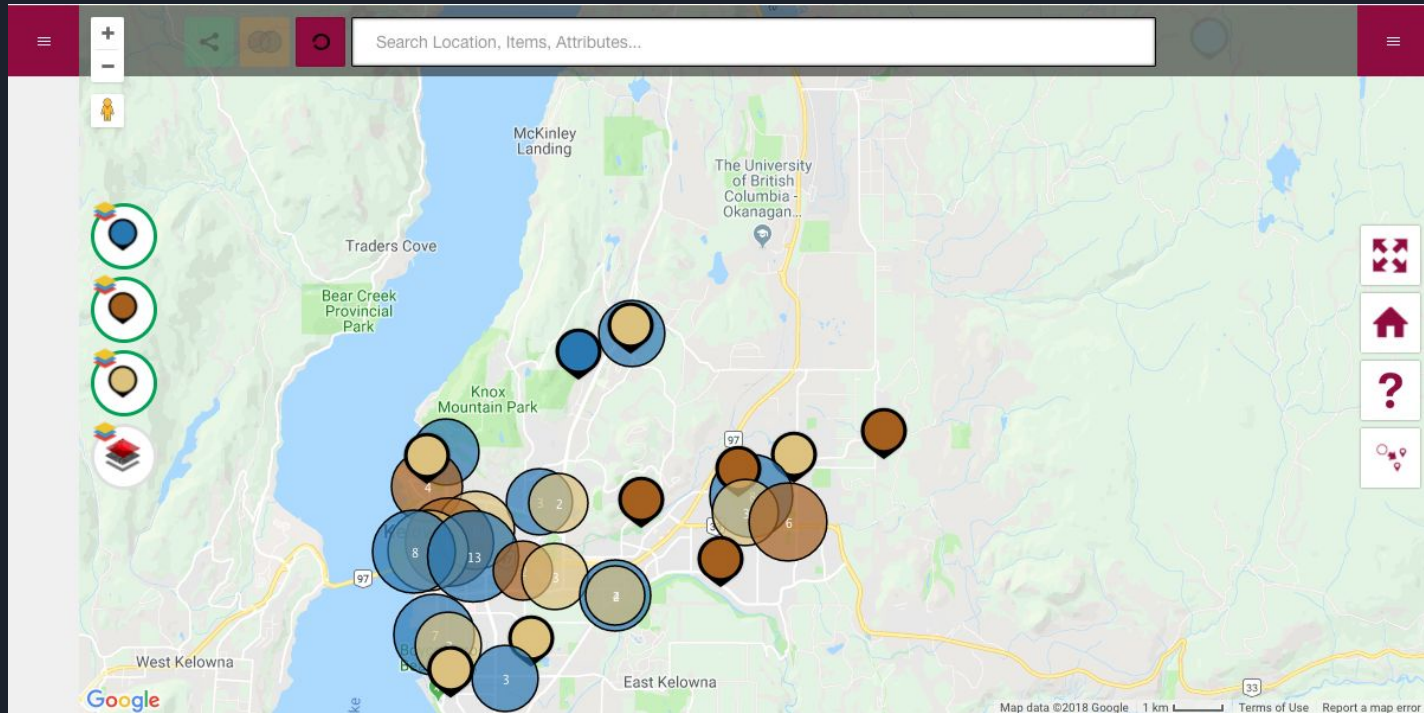
Mapping for Change is a community-based research project created by the Okanagan College and UBC. It is a mapping application that tracks supportive, nonprofit, and emergency housing in the Kelowna area.

Similar to Google Maps, it allows users to view all available housing resources in the Kelowna area, and get information about each.

Currently, iSearchKelowna is going to move into phase two, where additional functionality is being added to the site. This is where we come in.

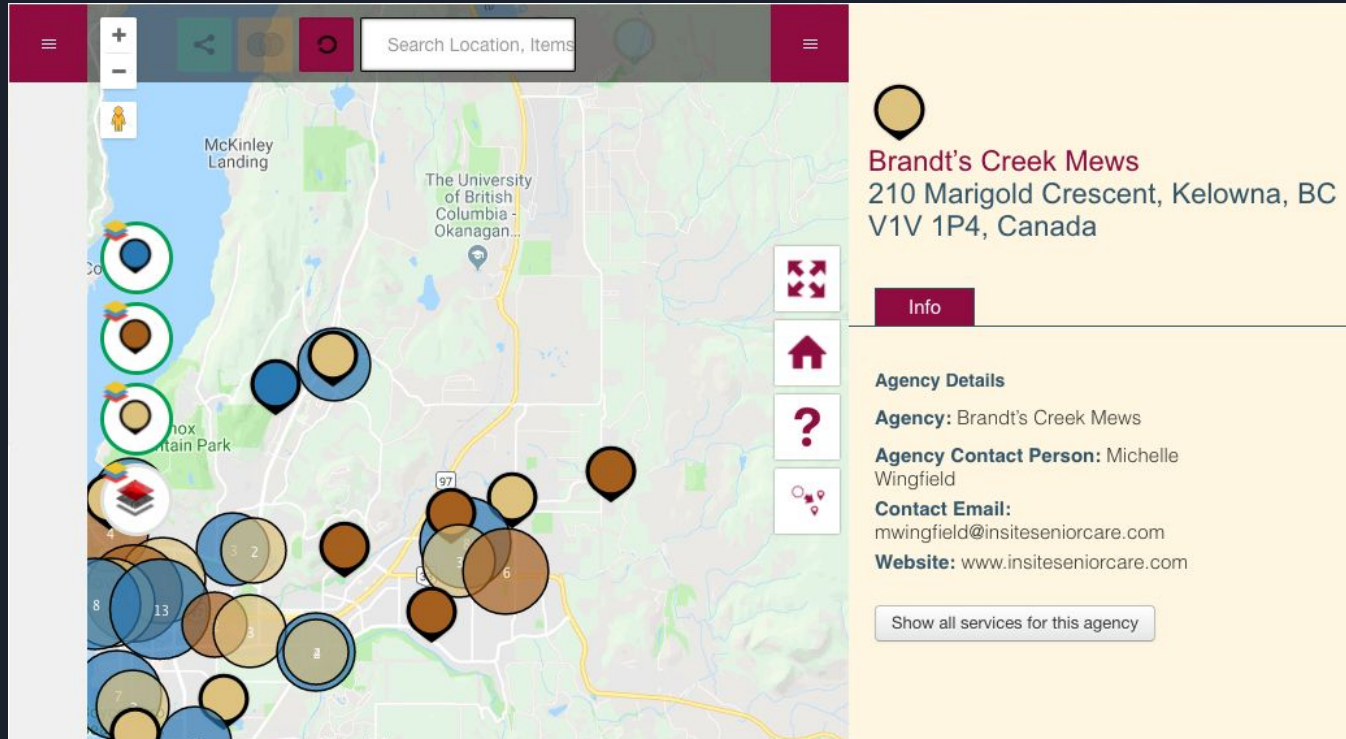
iSearchKelowna.ca

Mapping application:



iSearchKelowna.ca

Information about Organization:



The screenshot displays the iSearchKelowna.ca website interface. On the left, a map of Kelowna, BC, is shown with various service locations marked by colored circles and pins. The map includes labels for McKinley Landing, The University of British Columbia - Okanagan..., and Knox Mountain Park. A sidebar on the right provides information about Brandt's Creek Mews, including its address, contact person, email, and website. The sidebar also features a button to show all services for this agency.

Brandt's Creek Mews
210 Marigold Crescent, Kelowna, BC
V1V 1P4, Canada


Info

Agency Details
Agency: Brandt's Creek Mews
Agency Contact Person: Michelle Wingfield
Contact Email: mwingfield@insiteseniorcare.com
Website: www.insiteseniorcare.com

Show all services for this agency



Our Project



We created a web-based reporting software, that allows users and organizations to filter the housing database based on their requirements. It will then return a PDF list of all housing options that meet those requirements.



Business Requirements:

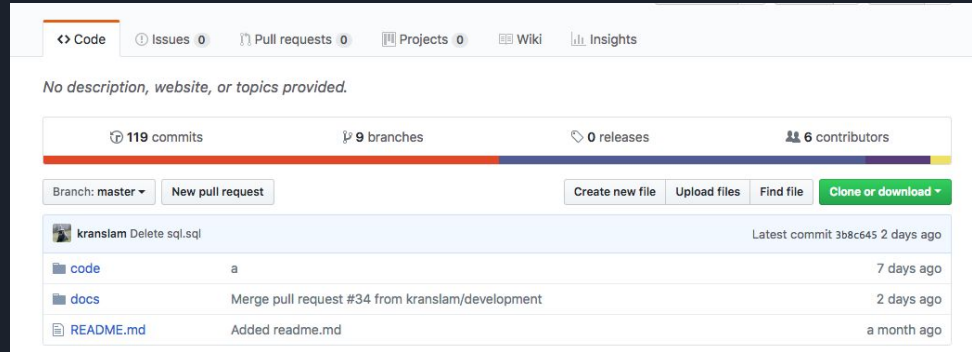
To give users a comprehensive list of facilities and services that match the specifications entered by the user, so they can make an informed decision.



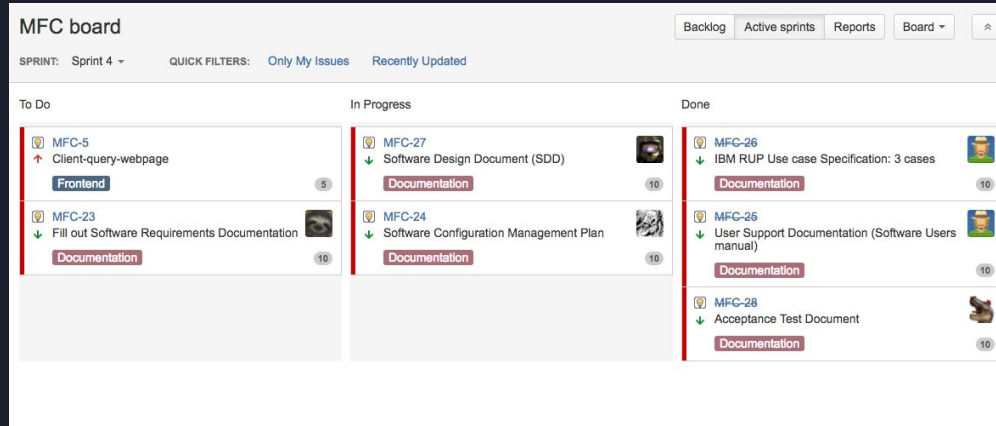
Product Requirements:

- 01 Allow users and organizations to enter information in an easy-to-use fashion.
- 02 Return an easily understandable and readable form detailing the housing options that meet the specified requirements, as well as restrictions and services that they provide
- 03 Have the returned report be printable and able to be saved.

Configuration Management:



The screenshot shows a GitHub repository page. At the top, there are tabs for Code, Issues (0), Pull requests (0), Projects (0), Wiki, and Insights. Below the tabs, it says "No description, website, or topics provided." A progress bar shows 119 commits, 9 branches, 0 releases, and 6 contributors. Below the progress bar, there are buttons for "Branch: master", "New pull request", "Create new file", "Upload files", "Find file", and "Clone or download". The repository name is "kranslam Delete sql.sql" and the latest commit is "3b8c645 2 days ago". The commit history shows three entries: "code" (a, 7 days ago), "docs" (Merge pull request #34 from kranslam/development, 2 days ago), and "README.md" (Added readme.md, a month ago).



The screenshot shows an "MFC board" with a navigation bar at the top containing "Backlog", "Active sprints", "Reports", and "Board". Below the navigation bar, it says "SPRINT: Sprint 4" and "QUICK FILTERS: Only My Issues Recently Updated". The board is divided into three columns: "To Do", "In Progress", and "Done".

- To Do:**
 - MFC-5: Client-query-webpage (Frontend, 5)
 - MFC-23: Fill out Software Requirements Documentation (Documentation, 10)
- In Progress:**
 - MFC-27: Software Design Document (SDD) (Documentation, 10)
 - MFC-24: Software Configuration Management Plan (Documentation, 10)
- Done:**
 - MFC-26: IBM RUP Use case Specification: 3 cases (Documentation, 10)
 - MFC-26: User Support Documentation (Software Users manual) (Documentation, 10)
 - MFC-28: Acceptance Test Document (Documentation, 10)



Plan Overview:

Sprint 1: Began documentation, collected requirements from client, created user stories.

Sprint 2: Continued documentation, created web form, developed schema for database, additional requirement collecting.

Sprint 3: CSV file uploaded to database, backend PHP implementation done

Sprint 4: got SQL query to return as a PDF, finished documentation.



Risk Management:

We have 3 layers of security in order to manage risk effectively.

1. HTML5 form validation
2. Javascript form validation
3. PHP5.3.1 prepared statements

Luckily, with our form being mostly checkboxes and drop down menus, we have less concern about SQL injection attacks via text inputs.

Version control on github as well as saving in a separate file kept our code safe.



Design:

Web Form:

Occupants:

Gender of Occupants

Demographic

Suitable For:

Building Info:

Available immediately: ☐

Number of Bedroom Units Needed:

Building Type:

Building Accomodates Individuals with Disabilities ☐

Units Accomote Individuals with Disabilities ☐

The building is Rent Geared to Income (RGI) ☐

Monthly Cost Range:

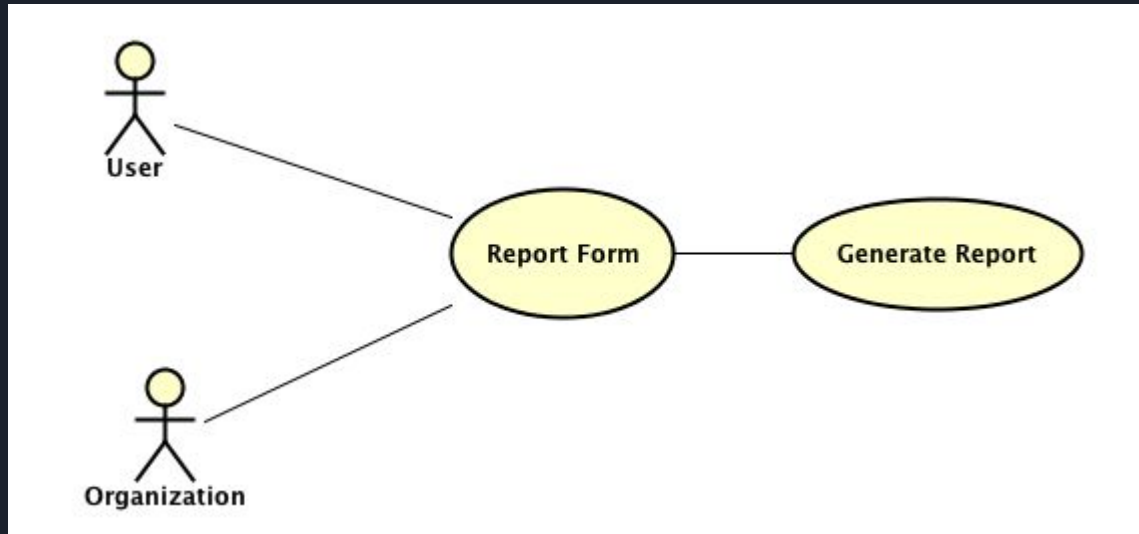
Pet Friendly: ☐

submit

reset

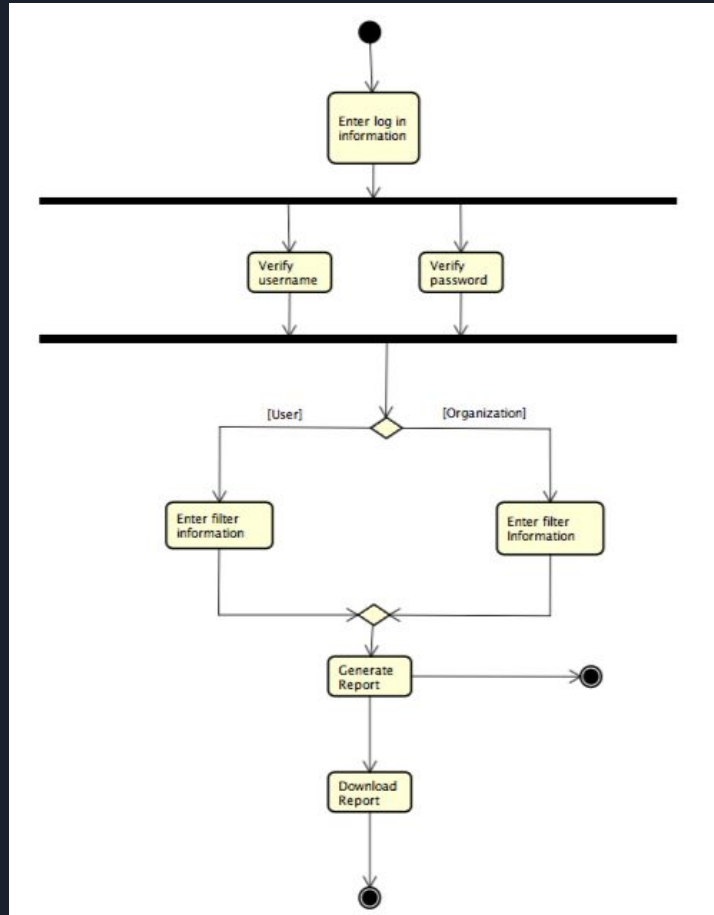
Design:

Use Case Diagram:



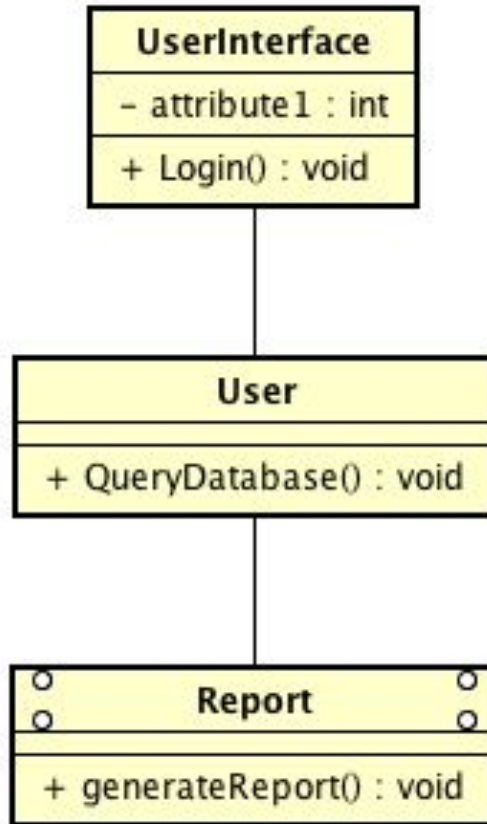
Design:

Activity Diagram:



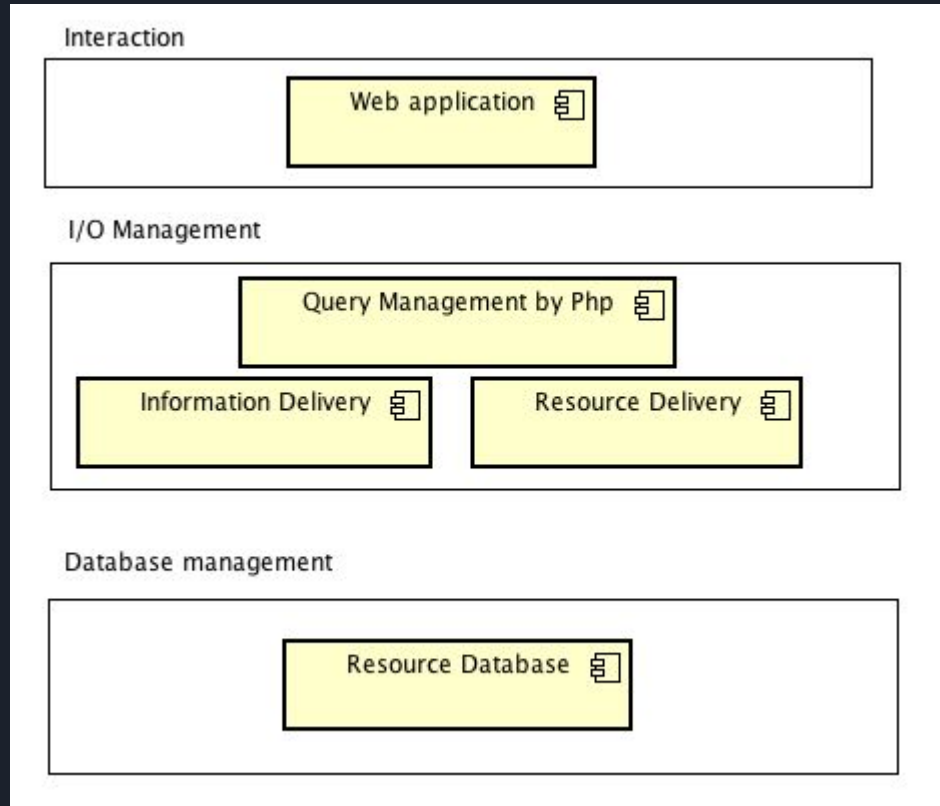
Architecture:

Class Diagram:



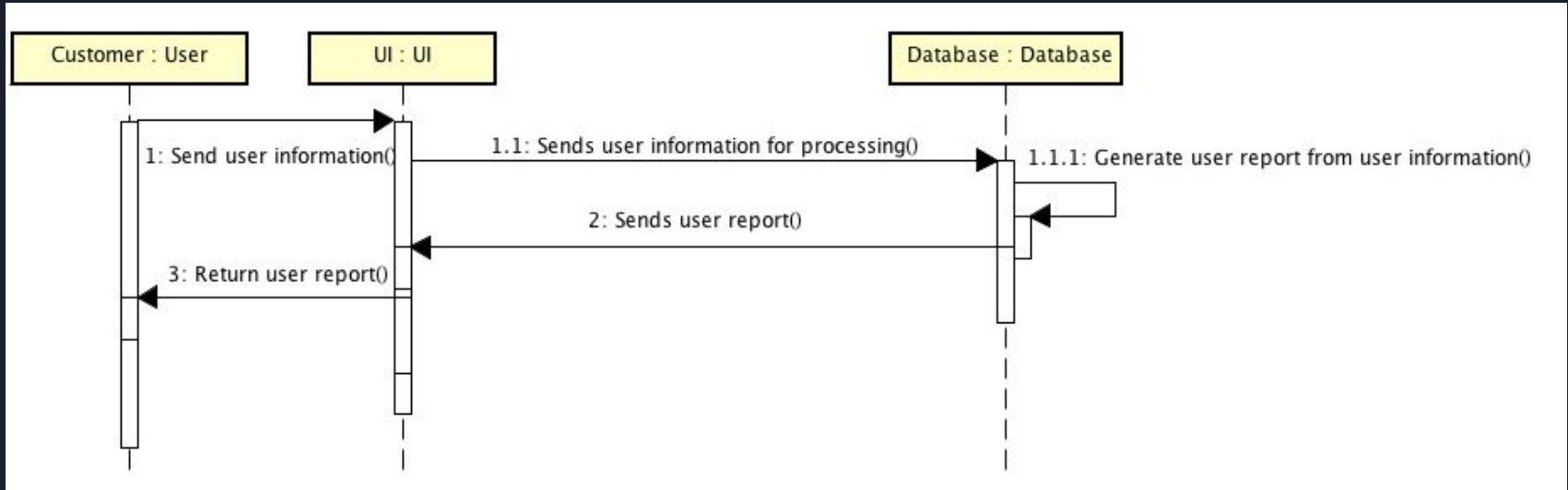
Architecture:

Architecture Diagram:



Architecture:

Sequence Diagram:





Code:

We followed a consistent naming convention when developing, as well as thoroughly commenting our code.

```
78 $results = mysqli_query($connection, $sql);
79 //create new fpdf object
80 $pdf = new FPDF();
81 //add a page
82 $pdf->AddPage();
83 //iterate through the result set for each row
84 while ($row = mysqli_fetch_assoc($results)) {
85     //Set the font of the title and output the name of the Organization
86     $pdf->SetFont('Arial', 'b', 15);
87     $pdf->MultiCell(180, 10, $row['title']);
88     $pdf->SetFont('Arial', 'u', 10); //Set font to underline Location
89
90     $pdf->MultiCell(50, 10, 'Location: ');
91     $pdf->SetFont(''); //reset font
92     $pdf->MultiCell(180, 10, $row['coordinate']); //output the coordinate
93
94     //repeat process for each field in the row
95     $pdf->SetFont('Arial', 'u', 10);
96     $pdf->MultiCell(50, 10, 'Description: ');
97     $pdf->SetFont('');
98     $pdf->MultiCell(180, 10, isZero($row['description']));
99
100     $pdf->SetFont('Arial', 'u', 10);
101     $pdf->MultiCell(50, 10, 'Building Type: ');
102     $pdf->SetFont('');
103     $pdf->MultiCell(180, 10, $row['buildingType']);
104
105     $pdf->SetFont('Arial', 'b', 11);
106     $pdf->MultiCell(180, 10, "Cost");
107 }
```



Testing:

To thoroughly test our software, we spent a good amount of time “trying to break it”. In lab we were also able to get user feedback from several groups, to help identify bugs and issues we did not catch. PHPUnit was also utilized to automate testing.

Acceptance test:

Test	Accept	Decline
The returned pdf is easy to read.		
The pdf displays how good the match is.		
The pdf lists all the requested information for each match.		
The pdf can be downloaded.		
The pdf can be printed without being downloaded		
The form is easy to understand and fill out		



Refactoring

Changed web form to better suit user requirements:

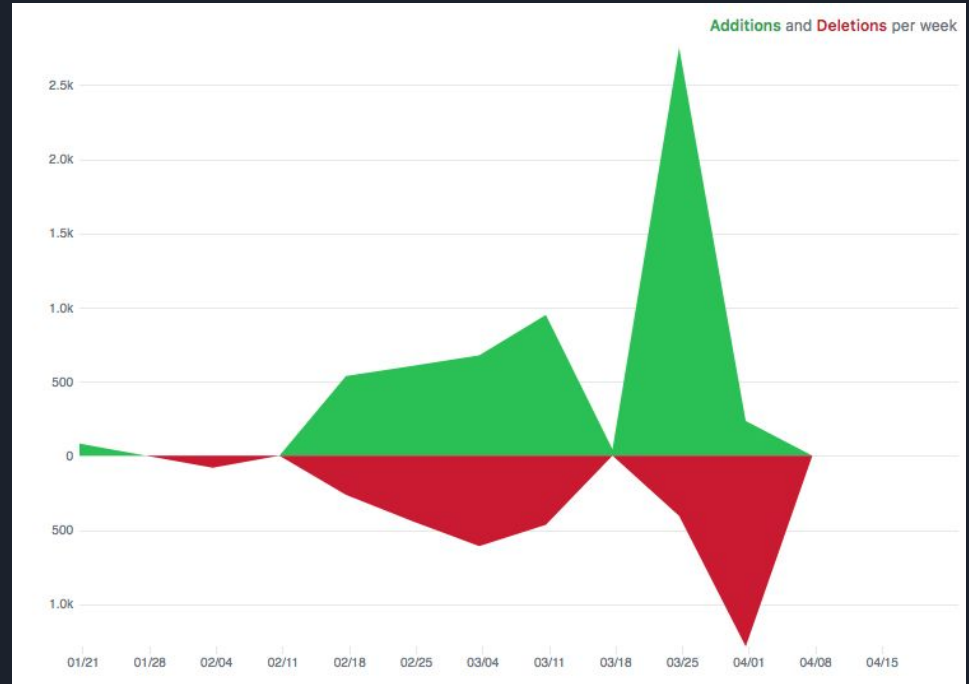
- Made more general queries in order to return a larger set of possible housing options
- Went with checkboxes instead of text input to prevent bad data from being entered
- Cleaned up CSS Styling

Changed PHP to match new form

Updated returned PDF in order to be more readable

Statistics:

Additions and Deletions Per week:



Statistics:

Contributions to master Branch:





Summary:

This project taught us critical software engineering principles, most notably working with a client, dividing tasks, and staying organized.

The most difficult part of this project was balancing the workload, so that tasks are completed evenly instead of all close to the deadline.

Our next steps with this project would be finalizing the returned PDF to match clients specifications.



Thank you!

Demo and Questions