

# New City, Better Life

## COMP3340 Project Project Team 9

Yijiu Xu | Weichong Wu | Chen Qiao | Pao Yu

July 27th 2021

# Website Information

What is the website about?

Help people who have plan to move in the future.

Provide information of the most livable places.

Background and purpose?

Almost one quarter of Canadians moved or plan to move since April 2020 cited COVID-19 as a reason for relocating.

On our website, you may get information of 166 most livable cities/towns in Canada. This may help you find your dream city!

# Website Technologies

LAMP Stack (Linux,  
Apache, MySQL, PHP)

HTML/CSS/JavaScript

Google Maps + Apple  
MapKit JS

GeoJSON

GitBook Documentation

Bootstrap

Plotly JS Graphing Library

GitHub Actions  
Continuous Integration  
(CI)

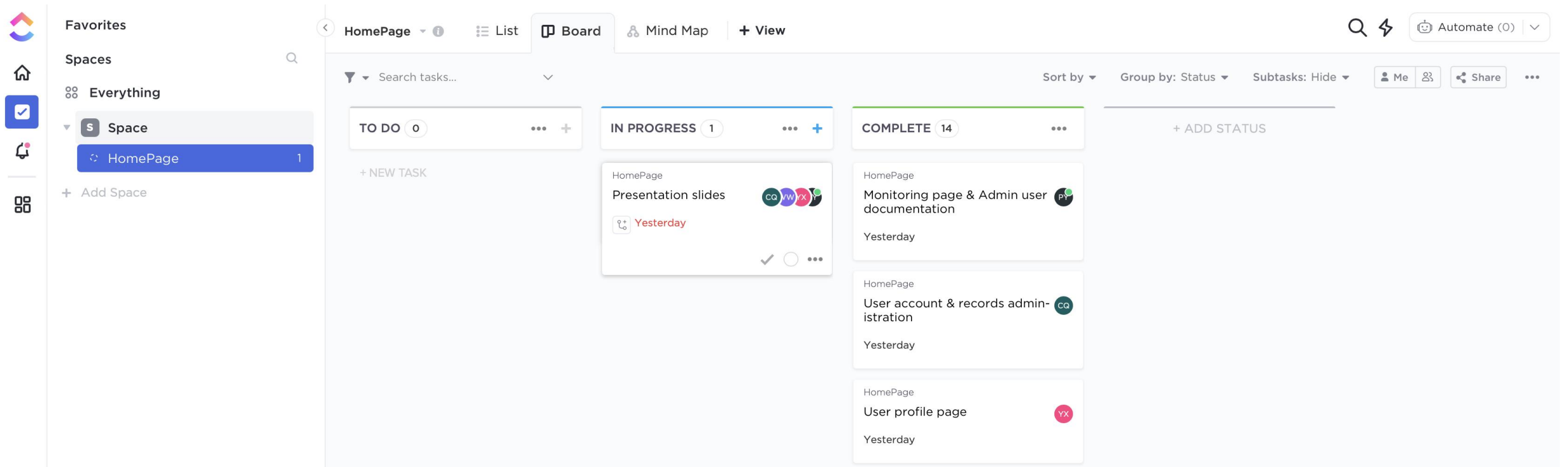
Bash/Docker/YAML

UWindsor MyWeb Server  
+ AWS Lightsail



# URLs

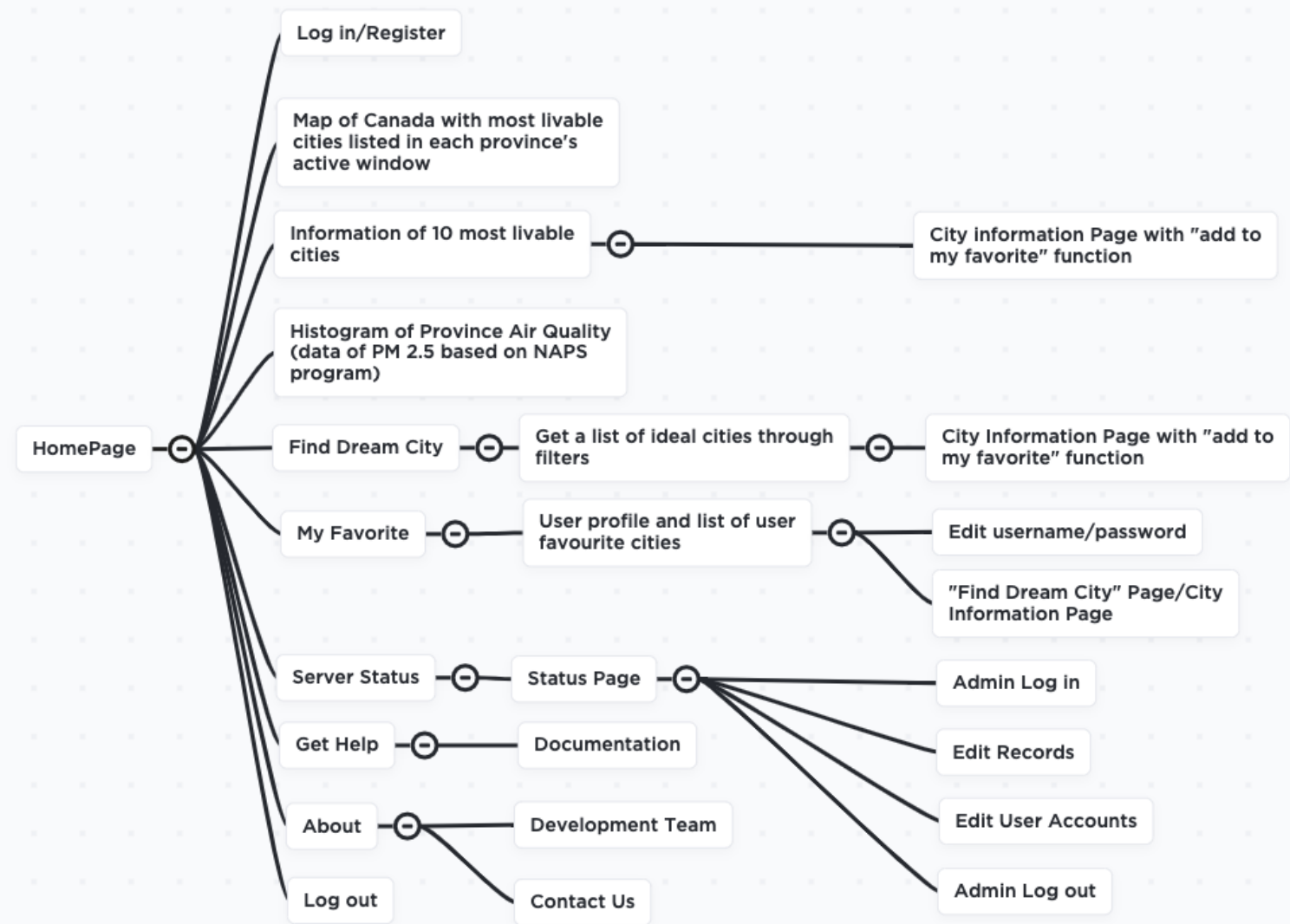
- Live Site (MyWeb)
  - URL <https://qiao6.myweb.cs.uwindsor.ca/project>
- Test Site (AWS Lightsail)
  - URL <https://newcitybetterlife.com>
- Documentation
  - URL <https://project-comp3340.gitbook.io/project/>
- Team Communication Tool
  - URL <https://clickup.com>
- Code Repository
  - URL <https://github.com/ChenQiao310/Project-COMP3340>

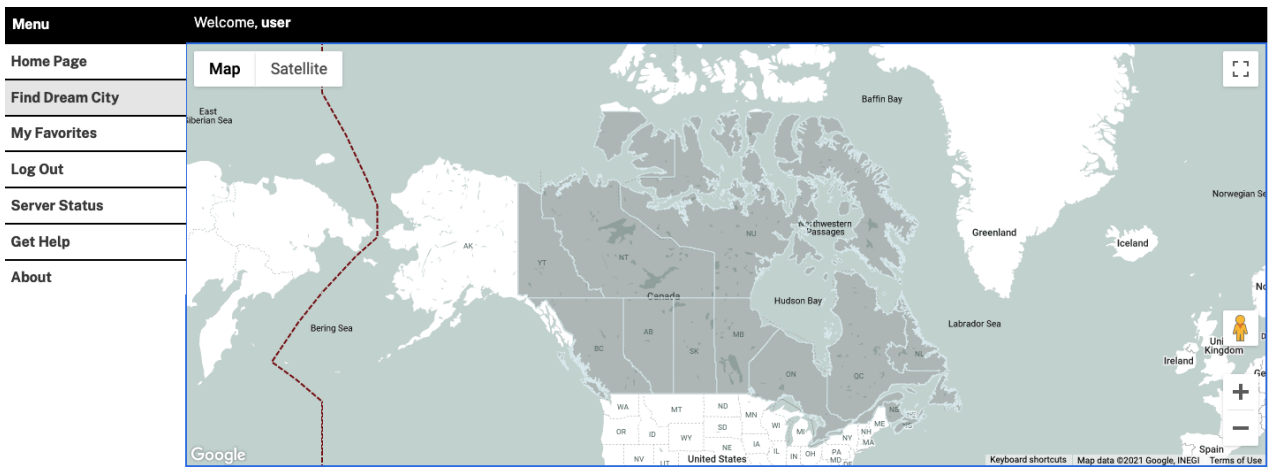


Project Team  
Management Tool

ClickUp.com

# Sitemap

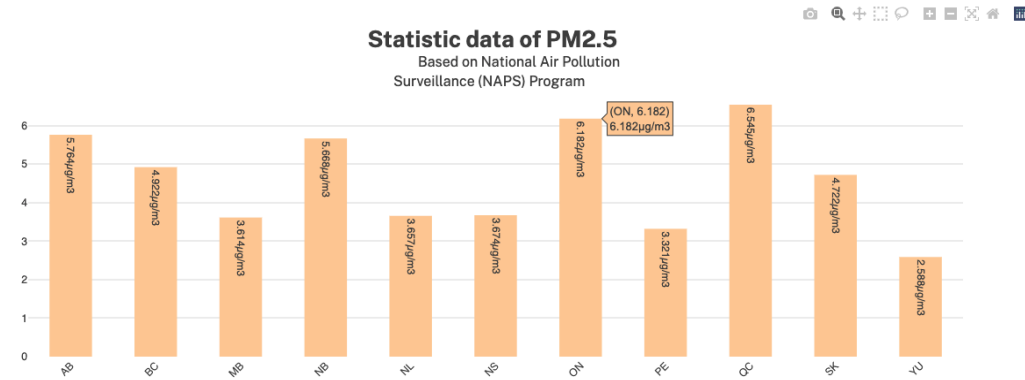




### Canada's Top 10 Most Livable Cities

Rank	City/ Town	Prov	Pop. (Latest)	Pop. Growth	Avg Home Price 2020	Avg 1-year home price growth	Avg Mortgage Payment (20% Down)	Minimum Income Required (20% Down)	Scenery Rating
1	Langford	BC	42,653	5.2%	\$725,300	11.6%	\$3,024	\$107,604	****
2	Kelowna	BC	222,748	2.0%	\$553,175	5.6%	\$2,307	\$86,616	****
3	Trois-Rivières	QC	163,287	1.5%	\$224,600	32.8%	\$937	\$48,866	***
4	Bathurst	NB	31,691	0.0%	\$112,850	0.3%	\$471	\$34,444	****
5	Rossland	BC	4,108	2.5%	\$443,889	39.9%	\$1,851	\$73,477	****
6	Niagara-on-the-Lake	ON	18,865	1.3%	\$515,000	32.1%	\$2,147	\$86,848	*****
7	Cowichan Bay	BC	90,448	1.2%	\$561,900	16.5%	\$2,343	\$85,415	*****
8	Sydney	NS	95,901	-0.3%	\$157,338	49.9%	\$656	\$43,055	***
9	Penticton	BC	46,885	0.9%	\$523,386	21.7%	\$2,182	\$83,821	****
10	Quebec City	QC	832,328	0.9%	\$283,000	11.4%	\$1,180	\$55,724	*****

### Statistic data of PM2.5 Based on National Air Pollution Surveillance (NAPS) Program



# Home Page

- Interactive Menu
- Interactive Map
- List of livable cities
- Data visualization



# Frontend Interfaces— Interactive Map

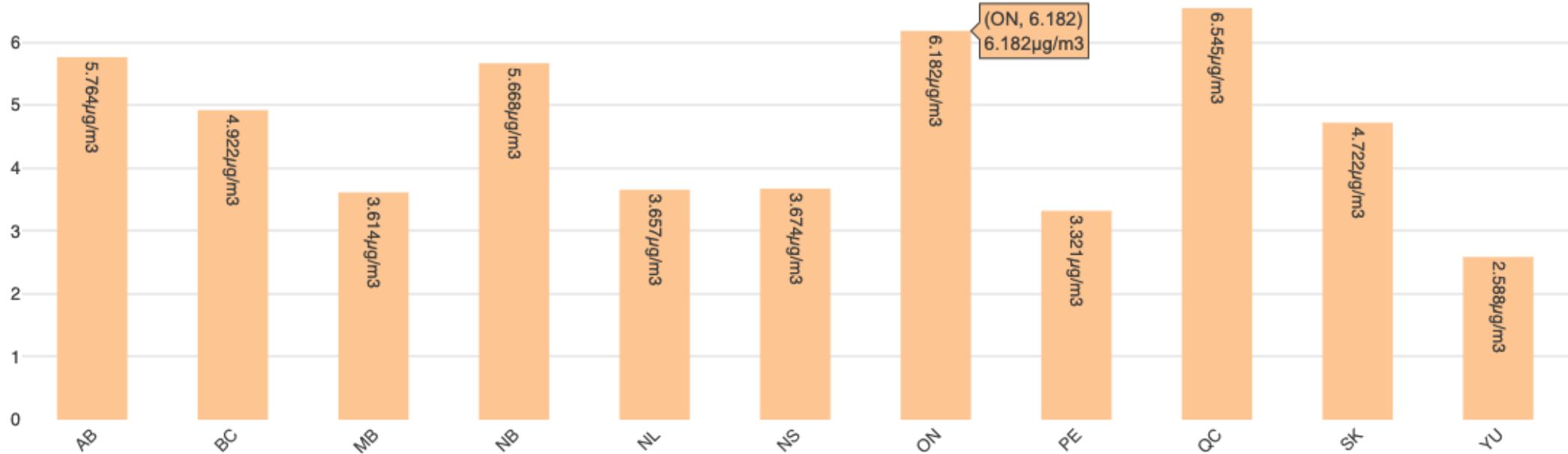
- Google Map
- GeoJSON
- Array of JavaScript





## Statistic data of PM2.5

Based on National Air Pollution  
Surveillance (NAPS) Program



## Frontend Interfaces— Statistic Data of PM2.5

- Plotly JS Graphing Library
- Open-data set—National Air Pollution Surveillance Program
- <https://open.canada.ca/data/en/dataset/1b36a356-defd-4813-acea-47bc3abd859b>

# Frontend Interfaces— Find Dream City

- Bootstrap
- Get data through POST
- Database->table "cities"
- SQL query
- PHP generate table

### FILTERS

province

Ontario

Scenery Rating

Click to select

Min Population

920 - 6555205

Max Population

920 - 6555205

Min Avg Home Price

101213 - 2100000

Max Avg Home Price

800000

Lowest Min Income

32328 - 287597

Highest Min Income

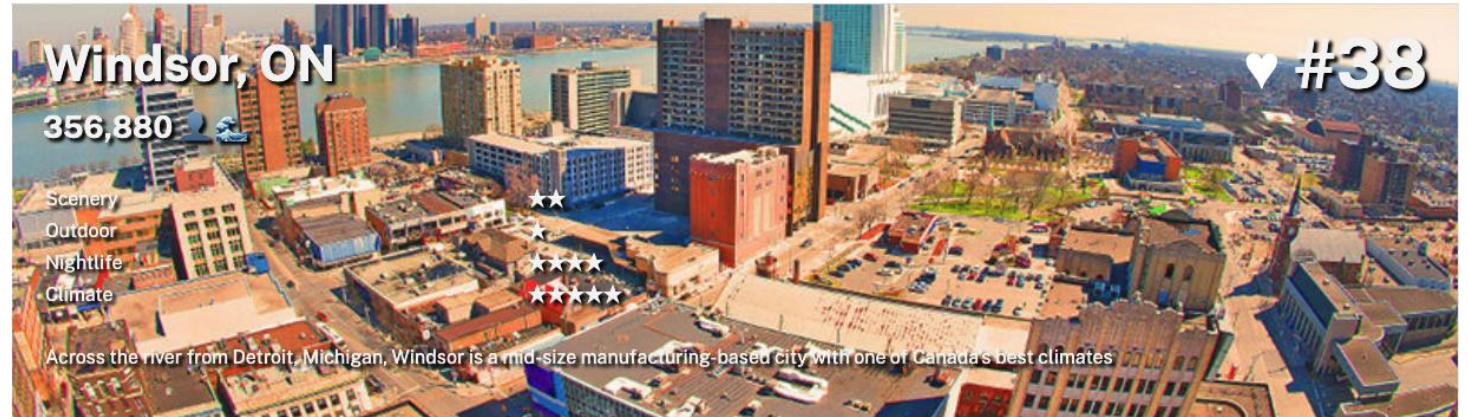
32328 - 287597

Submit

Rank	City/Town	Province	Population	Avg Home Price	Min Income Required	Scenery Rating
6	Niagara-on-the-Lake	ON	18865	\$515000	\$86848	☆☆☆☆☆
16	Ottawa-Gatineau	ON	1461494	\$545500	\$90982	☆☆☆☆
38	Windsor	ON	356880	\$438643	\$84673	☆☆
39	Sault Ste. Marie	ON	81238	\$224960	\$50450	☆☆
40	Picton	ON	4702	\$546053	\$96269	☆☆☆☆

## Frontend Interfaces— City Information Page (Dynamic)

- Contains key city information and summary
- Apple MapKit JS for advanced map display
- Can add cities to persistent account favorite list
- PHP GET + database to generate dynamic pages
- 166 total dynamic pages



### City Summary

Livability Rank  
**#38**

City/Town Name  
**Windsor**

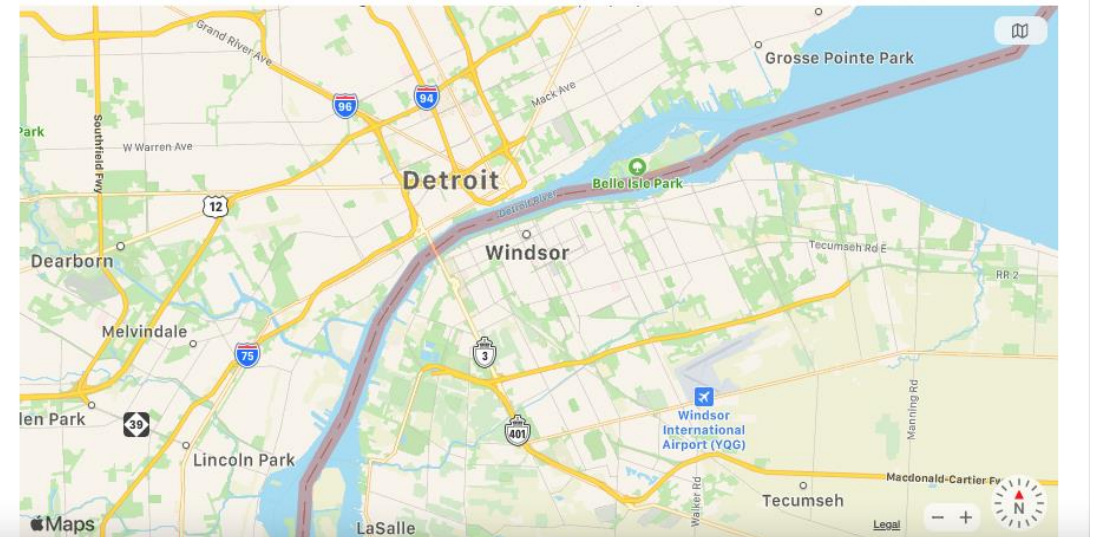
City Province  
**ON**

Population  
**356,880**

Average Home Price (2020)  
**\$438,643**

Average Mortgage Payment (2020)  
**\$1,829**

Drive to Commercial Airport (minutes)  
**13**



Hello, User

Here is the list of cities you like!

Rank	City/Town	Province	Population	Avg Home Price	Min Income Required	Scenery Rating
1	Langford	BC	42653	\$725300	\$107604	☆☆☆☆
38	Windsor	ON	356880	\$438643	\$84673	☆☆
72	Kingston	ON	176184	\$504712	\$89353	☆☆☆
30	Victoria	BC	408883	\$736400	\$109157	☆☆☆

If you want to change your username or password

[Click Here](#)

[Edit Here](#)

Username

User

Password

123123

[Submit](#)

# Frontend Interfaces

## —User Profile

### (Private Area)

- Get username from `$_SESSION['username']`
- If `!isset $_SESSION['username']`, `header('location:login.php');`
- Retrieve favorite cities from table "favorite"
- Retrieve user information from table "users"
- Also change it in table "favorite"
- Redirect to login after changing



**CHOOSE USER**

Username:

**EDIT USER**

Username:  User password:

Choose Scheme

[Log Out](#)

**CHOOSE RECORD**

Rank:  City/Town Name :

**EDIT RECORD**

Population:   
Avg Home Price:   
Avg Mortgage Payment:   
Min Income Required:   
Scenery Rating:

Choose Scheme

[Log Out](#)

# Frontend Interfaces— Admin interface

- Switch theme through `$_SESSION['color']`  
Store .css file name in `$_SESSION['color']`
- User info and Record administration  
Connect to database, fetch record through SQL query  
Update tables through SQL request

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	rank 🔑	int(11)			No	None		
2	city_town	varchar(89)	utf8_unicode_ci		No	None		
3	province	varchar(13)	utf8_unicode_ci		No	None		
4	population	int(11)			No	None		
5	avg_home_price_2020	int(11)			No	None		
6	avg_mortgage_payment_20_down	int(11)			No	None		
7	min_income_required_20_down	int(11)			No	None		
8	proximity_to_large_water_body	bit(1)			No	None		
9	proximity_to_mountains	bit(1)			No	None		
10	scenery_rating	int(11)			No	None		
11	nightlife_rating	int(11)			No	None		
12	outdoor_activity_rating	int(11)			No	None		
13	climate_rating	int(11)			No	None		
14	drive_to_commercial_airport_minutes	int(11)			No	None		
15	summary	varchar(255)	utf8_unicode_ci		Yes	NULL		
16	latitude	decimal(10,7)			No	None		
17	longitude	decimal(11,7)			No	None		
18	link	varchar(255)	utf8_unicode_ci		Yes	NULL		

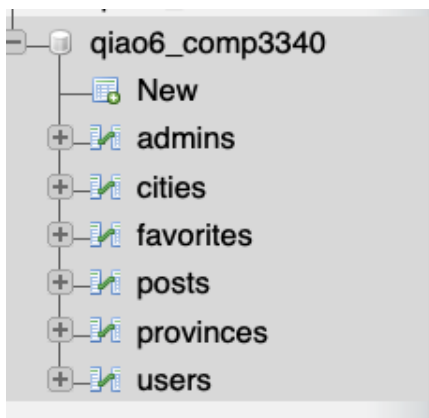
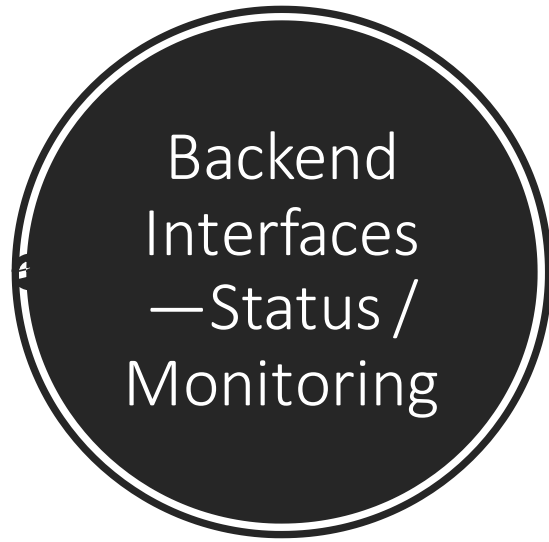


Table	Action	Rows	Type	Collation	Size	Overhead
<input type="checkbox"/> admins	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8_unicode_ci	16.0 KiB	-
<input type="checkbox"/> cities	★ Browse Structure Search Insert Empty Drop	166	InnoDB	utf8_unicode_ci	64.0 KiB	-
<input type="checkbox"/> favorites	★ Browse Structure Search Insert Empty Drop	13	InnoDB	utf8_unicode_ci	16.0 KiB	-
<input type="checkbox"/> posts	★ Browse Structure Search Insert Empty Drop	2	InnoDB	utf8_unicode_ci	16.0 KiB	-
<input type="checkbox"/> provinces	★ Browse Structure Search Insert Empty Drop	13	InnoDB	utf8_unicode_ci	16.0 KiB	-
<input type="checkbox"/> users	★ Browse Structure Search Insert Empty Drop	10	InnoDB	utf8_unicode_ci	16.0 KiB	-
<b>6 tables</b>	<b>Sum</b>	<b>206</b>	<b>InnoDB</b>	<b>utf8_unicode_ci</b>	<b>144.0 KiB</b>	<b>0 B</b>



- Access point for admin-only features such as editing users, city records, deleting notifications, and posting notifications.
- Monitors status of server's primary services
- Display's server information
- Display's system notifications and announcements for all users (and only admins can create or delete announcements)

## System Notifications

### Post System Notification

Administrator (admin1)

Notification Title

Notification Content

Post Notification

### Announcement: This page can now detect real admins

Posted by admin1

Looks like we can use the admins now to post on this page! Only admins will be able to post. This form and the post delete buttons are now hidden from regular users.

2021-07-26 19:33:57 [Delete](#)

### Announcement: Admin Checks Disabled

Posted by yupao

## Server Status

Service Name	Port	Status
Apache (HTTP)	80	Online ✓
Apache (HTTP/SSL)	443	Online ✓
Secure Shell (SSH)	22	Online ✓
File Transfer Protocol (FTP)	21	Online ✓
MySQL Database	3306	Online ✓
Internet Connection	80	Online ✓

## Server information

Server Name	qiao6.myweb.cs.uwindsor.ca/project
Software	Apache/2
Server Protocol	HTTP/1.1
Server IP	137.207.76.172
Port Accessed	80
CGI Ver.	CGI/1.1
HTTP Lang.	en-ca

# Official Documentation

- Hosted on GitBook
- End-User Documentation and Instruction Manual
- Admin Documentation and Instruction Manual
- Accessible through the Main Menu Navigation Dropdown or the GitHub Repo README.md



New City, Better Life



## Official Documentation

### END-USER DOCUMENTATION

Main Interface

Access

City Information

City Favourites

Update Account Info

Logging Out

### ADMIN DOCUMENTATION

Access

Interfaces

Core Features

Status Features

Logging Out

### QUICK LINKS

Official GitHub Repo



Main Website (MyWeb)



Test Website (Amazon AWS)



Powered by GitBook

## Official Documentation

This document contains instructions on using a Project-COMP3340 (New City, Better Life™) from the perspective of both end-user roles and administrator roles, created Project Team 9.

### Welcome to the Official Documentation!

Thank you for using our site. This external website is dedicated to documenting how to use our website from the perspective of an end-user and a website system administrator. Please check out the links below (or make a selection on the left sidebar) to navigate to the documentation pages that you need.

→ [End-User Documentation](#)

/end-user-documentation

→ [Admin Documentation](#)

/admin-documentation

### Quick Links

Done with reading the documentation? Here are some quick links to get you back on track:

 [Official GitHub Repo](#)

 [Main Website \(MyWeb\)](#)

 [Test Website \(Amazon AWS\)](#)





## yu-server-ubuntu-1

512 MB RAM, 1 vCPU, 20 GB SSD

Ubuntu

Frankfurt, Zone A (eu-central-1a)

Stop

Reboot

Status: **Running**

Public IP: 16.184.158.55

Private IP: 172.26.7.25

Public IPv6: 2a05:ad74:8b67:a000:0a4c:1545:0000:0000

[Learn more about IPv6](#)**Connect**[Storage](#)[Metrics](#)[Networking](#)[Snapshots](#)[Tags](#)[History](#)[Delete](#)Connect to your instance [?](#)

You can connect using your browser, or your own compatible SSH client.

## Use your browser

Connect using our browser-based SSH client

[Connect using SSH](#)

## Use your own SSH client

You can connect to your instance using your own SSH client and the following credentials:

[Connect using an SSH client](#)

# Testing Strategies (AWS Lightsail)

- Independent, custom test server to test software versions and external deployments

# Testing Strategies

Use an independent test server for third-party developer's code deployment testing and code compatibility.

Use an external GitHub Repository forks and repo branches to test new and experimental features.

Creation and utilization of a CI (Continuous Integration) tool to be able to test and deploy into multiple servers at the same time



# Thank you!

Yijiu Xu | Weichong Wu | Chen Qiao | Pao Yu

July 27th 2021