

# Revamp Of Property Tax (VMC)

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# Introduction

- These days, we don't need to go to a certain office to pay the bills and collect all those paperwork, therefore the answer to some social problems is extremely effective. With the use of the internet, managing your property tax is quite simple in the modern era.
- Applications enable us to lower the barrier between the public from the government with the use of an online property tax unit. Many problems have been solved more quickly than normal thanks to transparency between the user and the authorities. By reducing time and cost, the Online Property Tax module offers an online solution for both consumers as well as the VMC.

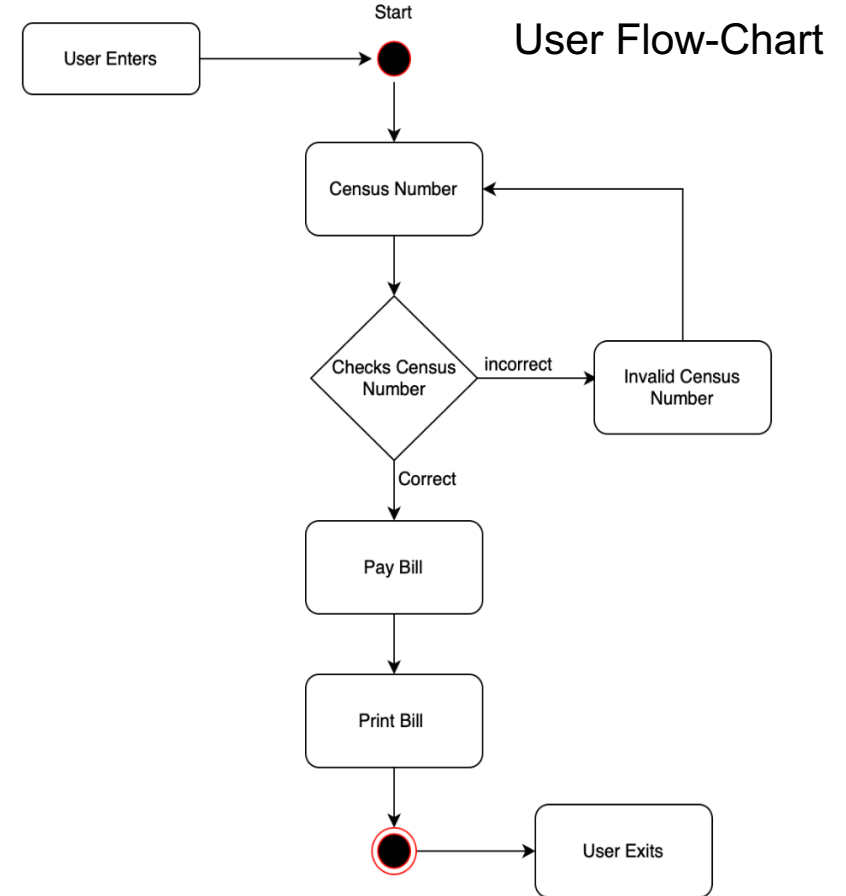
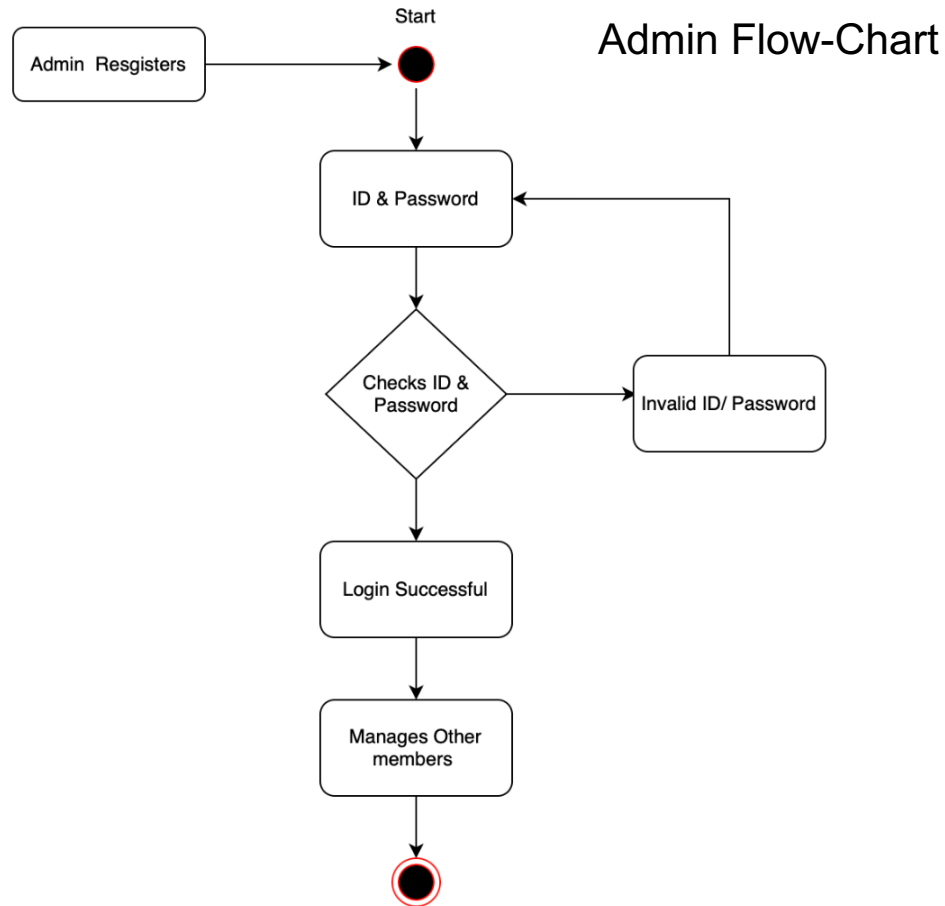
# Problem Statement

- We are attempting to improve the property tax module that is currently operational in VMC (Vadodara municipal corporation)
- The primary justification for working on this issue is that the module they are utilizing is out-of-date and only supports Windows XP.
- Second, the system now in use at VMC has a number of faults.
- Therefore, our primary goal is to revamp the entire application and make it work in a new version with increased security so that the VMC and users can access the portal from any device and can manage their taxes without any difficulties. Additionally, because many citizens don't understand the language, we plan to add multiple language options so that everyone can easily access the module.

# Summary

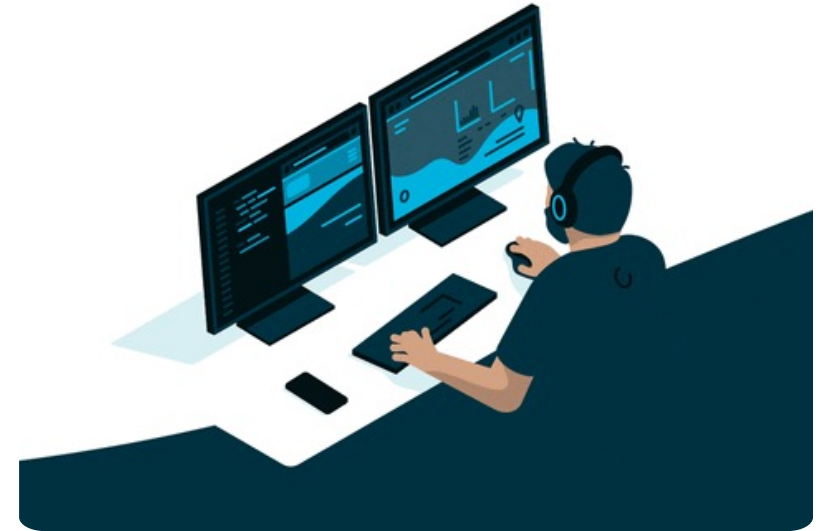
Sr. number	Paper Title	Publisher	Year	Take-away points
1	<b>Implementation of Online Tax System</b>	Prayoga Bestari, Obsatar Sinaga, Mohd Haizam, Mohd Saudi	2018	Implementation of Online Tax System. Journal of Advanced Research in Dynamical and Control Systems, 10(Special Issue 3), 1104-1112.
2	<b>An empirical study on the impact of quality antecedents on tax payers' acceptance of Internet tax-filing systems</b>	I-Chiu Chang, Yi-Chang Li, Won-Fu Hung and Hisn-Ginn Hwang	2006	The National Tax Administration (NTA)
3	<b>e-payment system for municipal services</b>	B. V. Desai and P. R.Vakharia.	2011	The system architecture, database design, and implementation specifics are covered in the article.
4	<b>The Incidence of the Property Tax and Property Tax Preferences.</b>	Borg, MaryO., Stranahan, Harriet A., and William Voorhees.	1983	The property tax assessment system—more particularly, property tax appeals—affects vertical equity in property taxes.

# Flowchart of the system



# Implementation Details

- As we moved towards the establishment of logic, we began to analyze the method for calculating taxes from many sources, mostly from the information supplied by the government itself, in that we learned a significant amount of information after a quick analysis of the resources.
- Additionally, programming logic was added to the formulae to make the website functional and capable of appropriately calculating taxes.





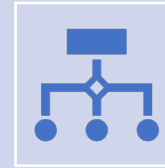


- The Vadodara Municipal Corporation (VMC) will be able to easily collect taxes and even change a few aspects in the future thanks to the big addition of several new capabilities to the web-app that we have made in addition to the work done on the UI.
- In this section, we worked closely on both the admin and user panels.
- Users can evaluate the entire bill they got through examining the payment details, the bill, and the circumstances that caused it in detail.
- As in admin, we've introduced several features including the ability to give responsibilities to members, fill out aakarni forms, update factors, and print an entire ward's worth of user bills at once.





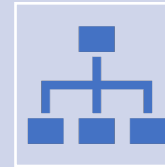
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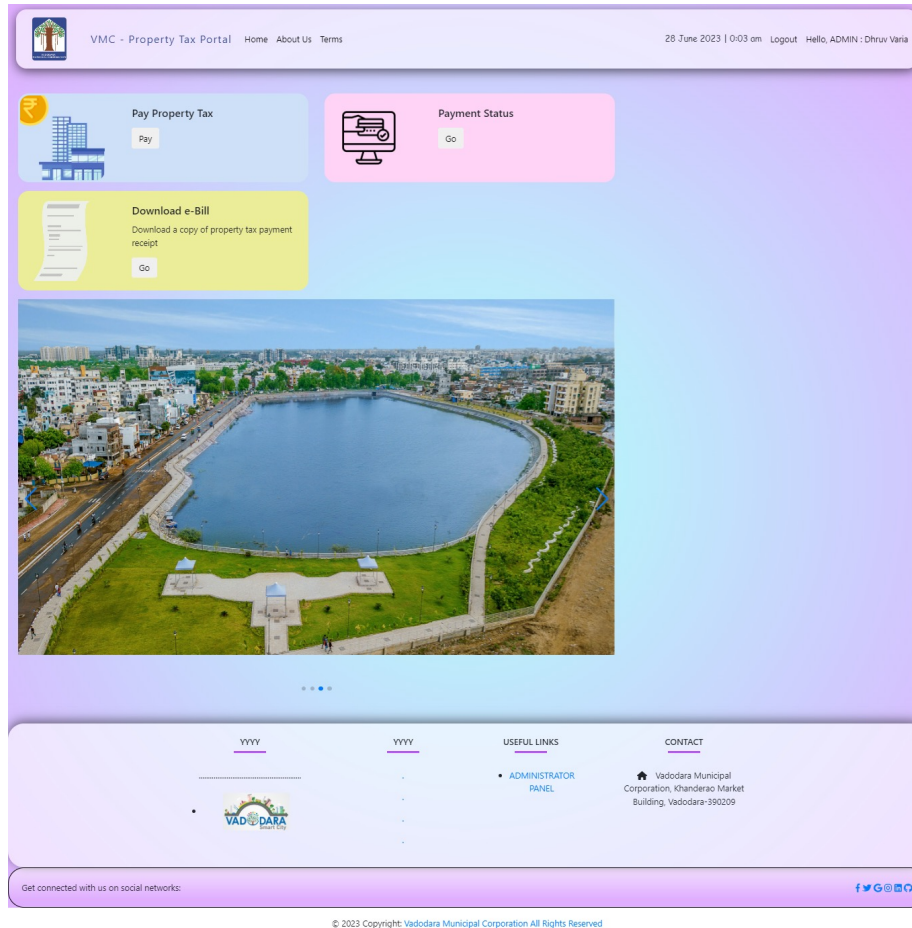


As in admin, we've introduced several features including the ability to give responsibilities to members, fill out aakarni forms, update factors, and print an entire ward's worth of user bills at once.


# Screen shots of implemented work


## ❖ Web App UI changes:-

- As with the previous design, everything was operating flawlessly, but after a little research, we learned that there may be some people who have color blindness or another ailment that prevents them from seeing dark colors, so we altered the entire UI to a bright theme.



# User Panel :-


VMC - Property Tax Portal
[Home](#)
[About Us](#)
[Terms](#)
28 June 2023 | 0:04 am
[Logout](#)
Hello, ADMIN : Dhruv Varia



### Tax Information

[Property Tax Dues](#)

#### Search By Census Number

Census Number (Unique 16 Digit Number) :

XX-XX-XXX-XXX-XXX-XXX

[Search](#) [Clear](#)


#### Owner Information

Election Ward :	-
Census No :	-
Owner Name :	-
Occupier Name :	-
Occupier :	-
Local Address :	-
Postal Address :	-

#### Payment Info.


Current Tax Amount	₹	0
<i>Detailed Amount</i> <a href="#">▼</a>		
Past Tax Amount Dues	₹	0
<i>Detailed Past Due Bill</i> <a href="#">▼</a>		
Total Amount to Pay	₹	0

[Pay Online](#)



### Important Information


[Property Tax Dues](#)



⚠ Take a part in Swachhita Sarvekshan and make your city Va

Last deadline of Advance Payment on property Tax - 2023 is : 12

#### YYYY




#### YYYY


#### USEFUL LINKS

- [ADMINISTRATOR PANEL](#)

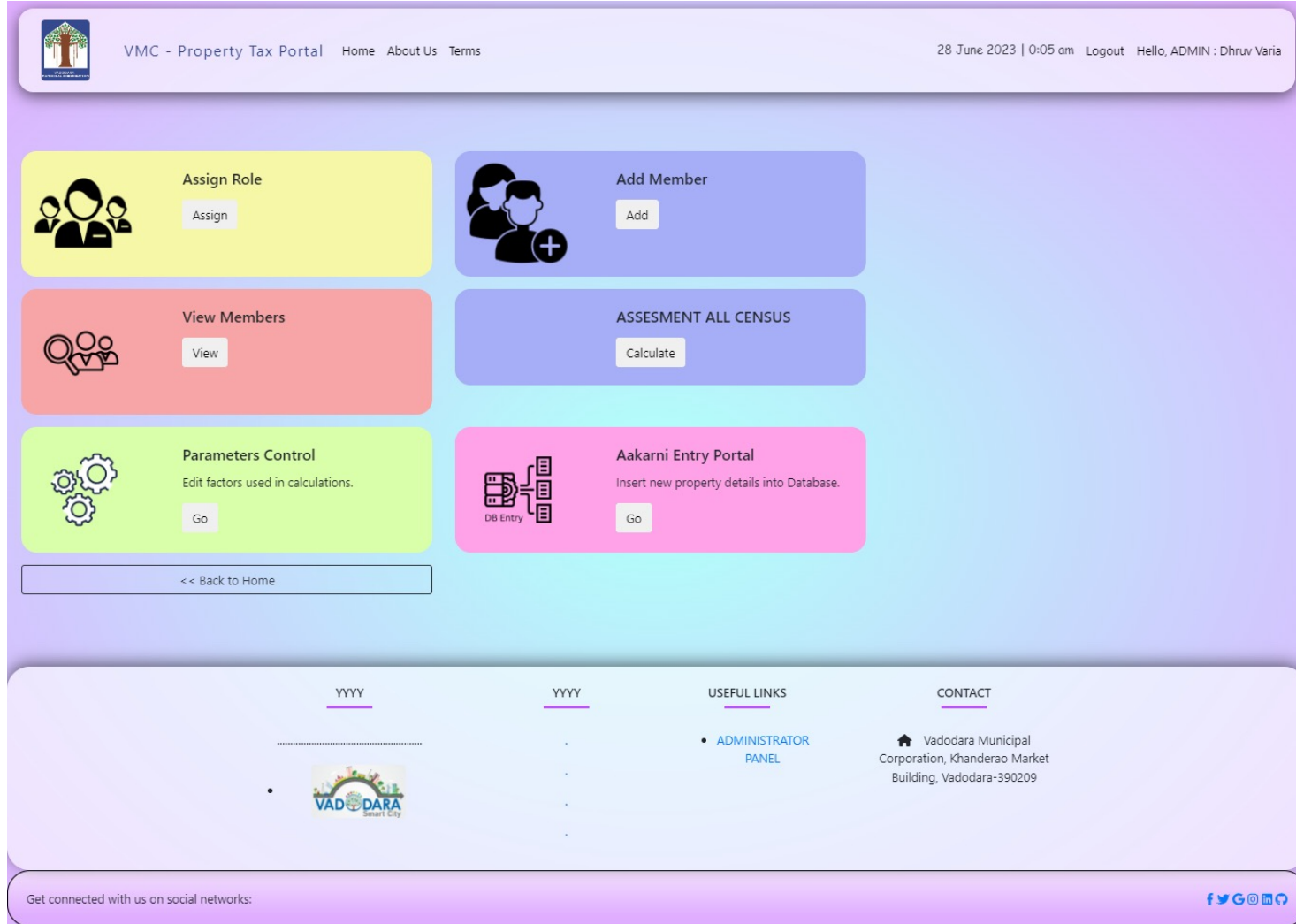
#### CONTACT

 Vadodara Municipal Corporation, Khanderao Market Building, Vadodara-390209


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# Admin Panel:-



VMC - Property Tax Portal

HomeAbout UsTerms

28 June 2023 | 0:06 amLogoutHello, ADMIN : Dhruv Varia

Member List

Show10entries

Search:


FULL_NAME	DOB	CONTACT_NO	EMAIL	STATE	CITY	PINCODE	FULL_ADDRESS	MEMBER_ID	PASSWORD	ACCOUNT_STATUS	ROLE	CENSUS_N
Dhruv Varia	2002-10-12	9104755373	dhruvvaria1101@gmail.com	Gujarat	Vadodara	390025	D34, Yogiraj Township, Waghodia - Dabhoi Ring Road	dhruv	admin123	active	administrator	1111111111
Malav Shah	2002-03-26	8888888888	malavshah461@gmail.com	gujarat	vadodara	390007	D34, Yogiraj Township, Waghodia - Dabhoi Ring Road	malav	admin123	active	administrator	1111111111
Vishal Singala	2003-09-13	9898130555	vishal@gmail.com	Gujarat	Vadodara	390025	A-202, Yogeshwar Township, Ghoddod road, Rajkot	vishal	admin123	active	Ward Officer	1111111111

Showing 1 to 3 of 3 entries

Previous1Next

<< Back to Admin Panel

YYYY



YYYY

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# View Members:- (Admin Panel)

- The administrator will be able to view all the members and their duties in this module.



Calculate m **TAX GENERATION IS ONGOING** 45Days

XX-XX-XXX-XXX-XXX-XXX ☐

YYYY

YYYY

USEFUL LINKS

CONTACT



- .
- .
- .

- [ADMINISTRATOR PANEL](#)

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# Bill Generation :- (Admin Panel)


- With this module, the administrator may easily produce all the invoices for the citizen with only one click.

# Factor control:- (Admin Panel)

- The administrator will be able to alter every single factor that determines the bill's total in this.
- It will make it possible to adjust the value according to a new scheme rolled out by the government without having to update the internal code.

The screenshot displays the 'Factors Table Edit' page within the VMC - Property Tax Portal. The header includes the portal logo, navigation links (Home, About Us, Terms), the date '28 June 2023 | 0:07 am', and user information 'Logout Hello, ADMIN : Dhruv Varia'. The main content area features a 'Factors Table Edit' title, a decorative icon set, and a 'Select Table :' section with a dropdown menu (currently showing 'SELECT') and buttons for 'Show', 'Hide', and 'Modify'. Below this is a table structure with a 'Reset' button at the bottom right. A '<< Back to Admin Panel' link is located at the bottom of the main content area. The footer contains sections for 'USEFUL LINKS' (including 'ADMINISTRATOR PANEL') and 'CONTACT' (Vadodara Municipal Corporation, Khanderao Market Building, Vadodara-3900209). Social media links and a copyright notice '© 2023 Copyright: Vadodara Municipal Corporation All Rights Reserved' are also present.




A background image showing several rolled-up architectural blueprints with various measurements and drawings.


# Aakarni form :- (Admin Panel)



- For new building in the city, aakarni forms are completed and reviewed by officials to produce appropriate bills based on the construction's area and many other factors.
- This module has been broken down into different sections to allow the individual entering data to do it accurately and without making mistakes that might effect the bill.
- Aakarni forms were previously filled out on paper in a physical manner, therefore we sought to convert them to digital form so that the task may be completed immediately in the database.

 VMC - Property Tax Portal [Home](#) [About Us](#) [Terms](#) 28 June 2023 | 0:07 am [Logout](#) Hello, ADMIN : Dhruv Varia

## Aakarni | Enter New Data



Occupier's Information :

Occupier's Name :


Census Number :

Number of Floor :

Area (In Sq.mtr) :

[PREVIOUS](#) [NEXT](#)

YYYY



YYYY


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# Aakarni form:- (Page-1)

# Aakarni form:- (Page-2)

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### Akarni | Enter New Data



Select Location Factor :


A

WARD 1

PREVIOUS

NEXT

YYY




YYY

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# Aakarni form:- (Page-3/4)


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## Akarni | Enter New Data



Property Information : ( Page : 1/2 ) :

☒ High Rise Property  
☐ Low Rise Property

 Building height exceeds 18mtr shall be considered as High Rise Building.

Construction Date :

[PREVIOUS](#) [NEXT](#)


YYYY

YYYY

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## Akarni | Enter New Data



Property Information : ( Page : 2/2 ) :

Property Type :

Water Pipe - Size :

Occupancy :  
☒ OWNER  
☐ TENENT

[PREVIOUS](#) [Preview](#)


YYYY

YYYY

USEFUL LINKS

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28 June 2023 | 0:09 am
Logout
Hello, ADMIN : Dhruv Varia

## Akarni | Enter New Data



DATA PREVIEW :

Census Number :

Name :

Property Information :

Location Factor :

Construction Year :


Property Type :

Occupancy :

Floors :

Area (in sq.mtr) :

### YYYY




### YYYY

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# Aakarni form:- (Page-5)

# Conclusion

- Many find it challenging to find time in their hectic schedules to visit government offices. We are developing a website that will serve as a platform for online tax payments, allow users to take advantage of any reductions straight from the website, and facilitate communication between the government and users/individuals.
- As a result, assist the sponsors in identifying the occasions where they might promote their goods or services. The online tax module for VMC needs to be updated in order to cut costs and the perceived barrier between the public and government. Taxes are without a doubt the most strategically significant source of state income, particularly for local governments. Several adjustments have been made to tax collection campaigns and practices to make it easier for customers to pay their municipal taxes.
- The implementation of an electronic tax system, or online tax, is one of these advancements. Information technology might be used to advocate taxes and, in this case, increase taxpayer compliance. Therefore, this web portal will affect thousands of people.

# Future Work



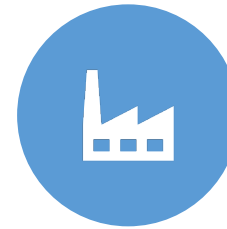
WE WILL EVALUATE THE DATA FROM THE REMAINING WARDS IN THE FUTURE AND CLEAN UP THE NOISY DATA.



WE ARE BUILDING A STRONG SYSTEM THAT WON'T BE VULNERABLE TO SECURITY THREATS.



WE WILL BE FOCUSING ON THE INDUSTRIAL SIDE OF CALCULATIONS .



DEVELOPING THE FRONT END FOR INDUSTRIAL TAX.



ENHANCING THE COMPUTATION METHODS.



# References

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- [1] Bestari, P., Sinaga, O., Haizam, M., & Saudi, M. (2018). Implementation of Online Tax System. *Journal of Advanced Research in Dynamical and Control Systems*, 10(Special Issue 3), 1104-1112.
  
- [2] Chang, I-C., Li, Y-C., Hung, W-F., & Hwang, H-G. (2006). An empirical study on the impact of quality antecedents on tax payers' acceptance of Internet tax-filing systems. *Information & Management*.
  
- [3] Desai, B. V., & Vakharia, P. R. (2011). E-payment system for municipal services. *International Journal of Computer Applications*, 27(10), 1-5.
  
- [4] Borg, M. O., Stranahan, H. A., & Voorhees, W. (1983). The incidence of the property tax and property tax preferences. *National Tax Journal*, 36(2), 173-182.

# Thank you

