تمدّن

TAMADDON: A Visual Pollution Detection System
Using Deep Learning and Computer Vision

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ABSTRACT

Visual pollution refers to the presence of visually unappealing objects that impact neighborhood aesthetics, property values, and mental well-being.

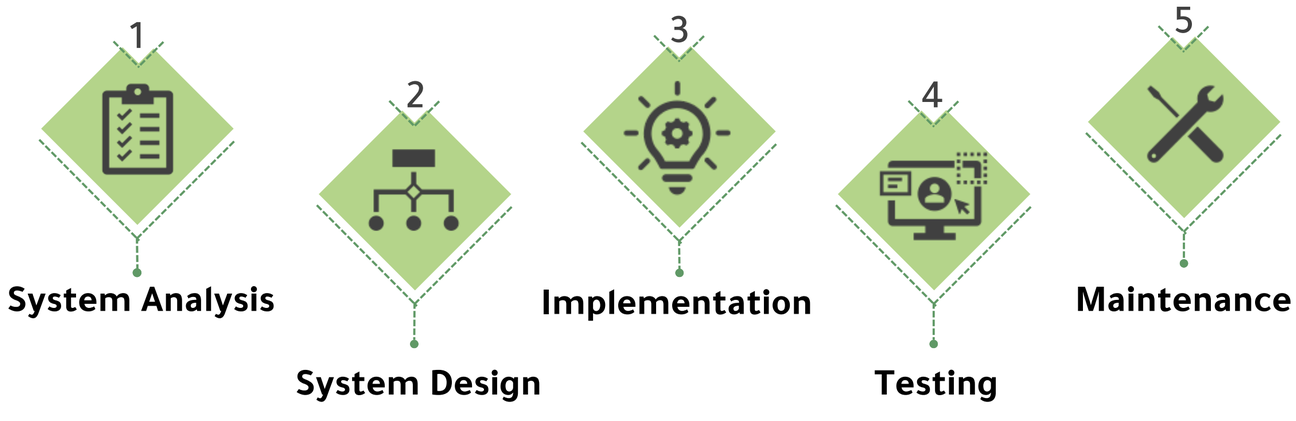
We have developed an innovative solution that utilizes computer vision and deep learning techniques to detect visual pollution in Saudi Arabian cities. This approach aims to assist the municipality in managing and addressing visual pollution issues while overcoming the limitations of existing systems that rely on manual detection.

OBJECTIVES

- Environmental benefits
- Reducing visual pollution
- Improving the quality of life
- Assisting the municipality in addressing visual pollution Issues

METHODOLOGY

The waterfall model chosen for this project

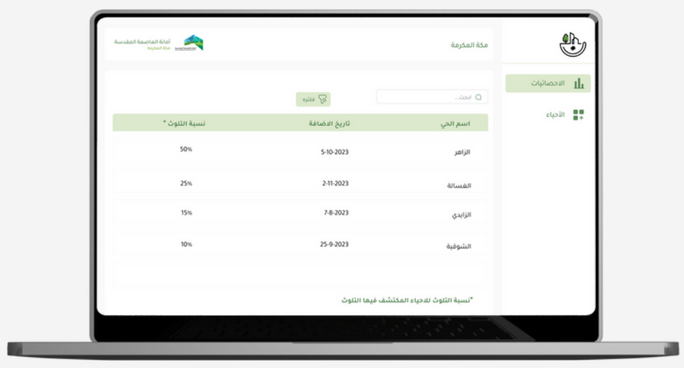


USED TOOLS

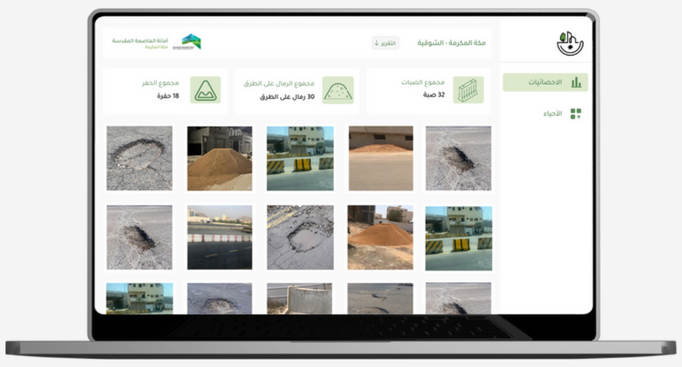
Roboflow, Python, Colab, YOLO, Firebase, HTML, Javascript

PROTOTYPE

Statistic interface



Neighborhoods interface



Neighborhood interface

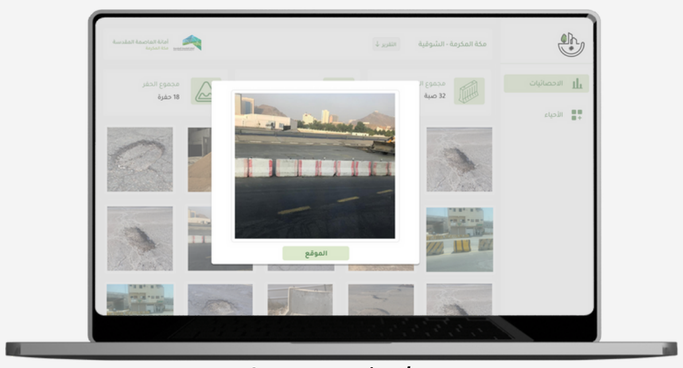
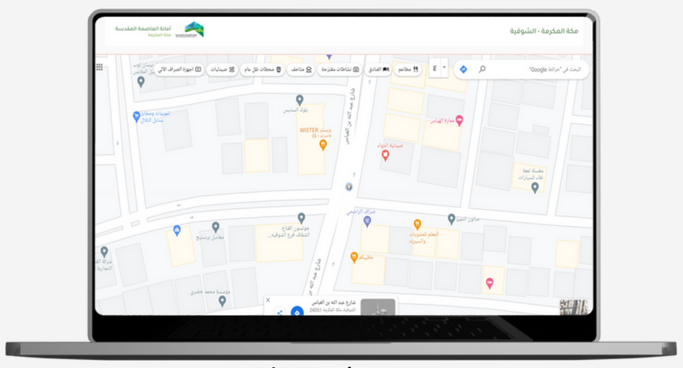


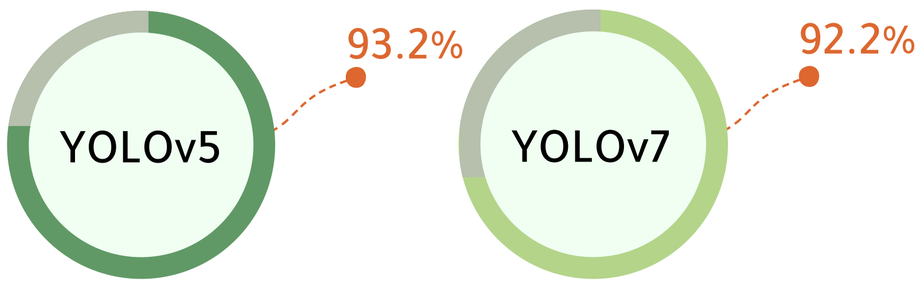
Image window



Location

Report

RESULTS



CONCLUSION

The TAMADDON detection system, aims to enhance the quality of life in Saudi Arabian cities and aids the municipality in addressing visual pollution issues by providing an effective solution for detecting and classify different visual pollution types.

FUTURE WORK

- Enable the detection of visual pollution in images submitted by the citizens
- Expanding the Tamaddon system by incorporating more types of visual pollution
- Utilize DL to evaluate treated areas and determine the quality of the treatment

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References

Contact