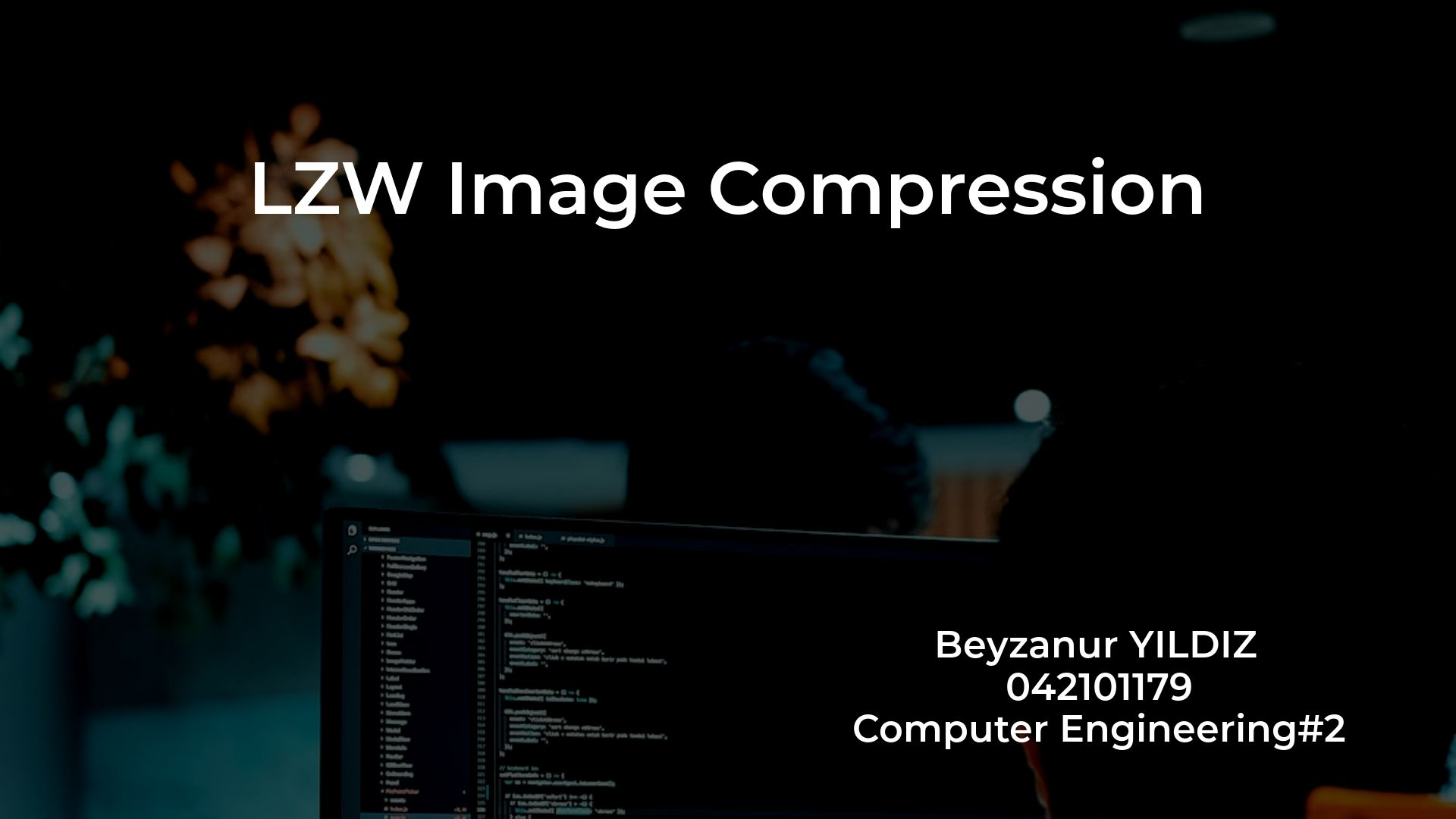
LZW Image Compression



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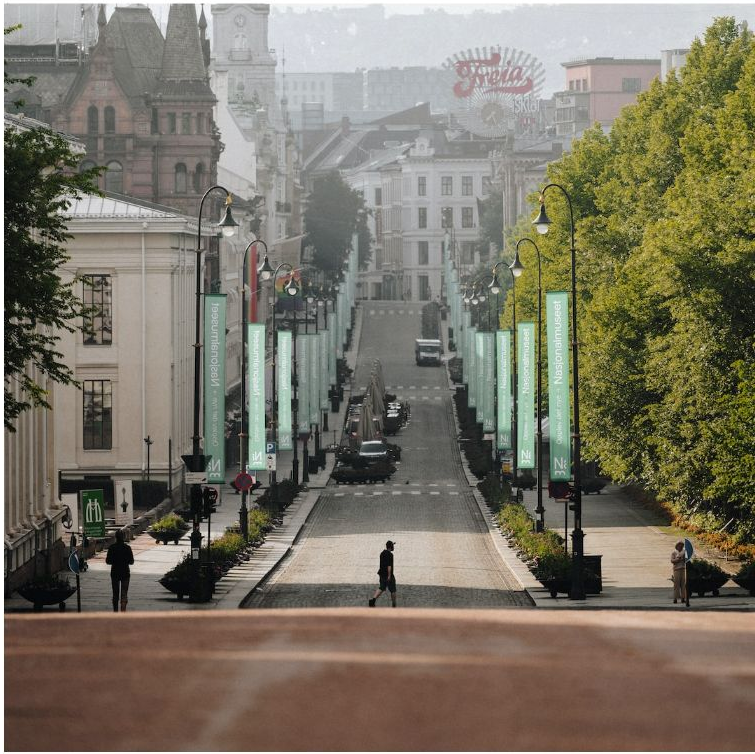
Introduction

LZW image compression is a lossless compression algorithm that uses variable-length symbols to efficiently compress image data. In this presentation, we will discuss the basics of the algorithm and our Project 1.

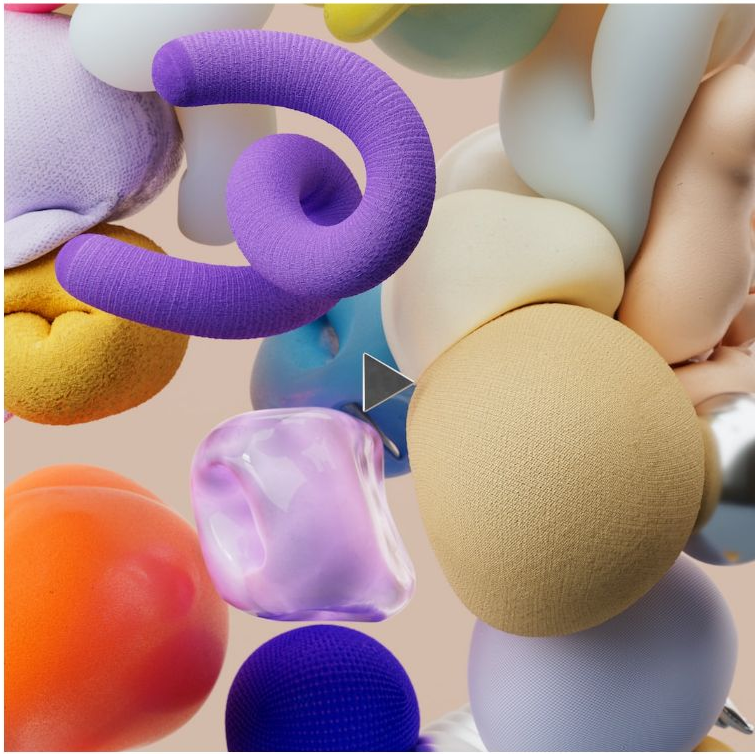


Understanding LZW Compression

LZW compression is a lossless compression algorithm that uses variable-length symbols to efficiently compress image data. The algorithm works by replacing common patterns of data with shorter symbols. This reduces the file size of the image, making it more efficient to transfer and store. LZW compression is used in a variety of applications, such as image compression and data compression.

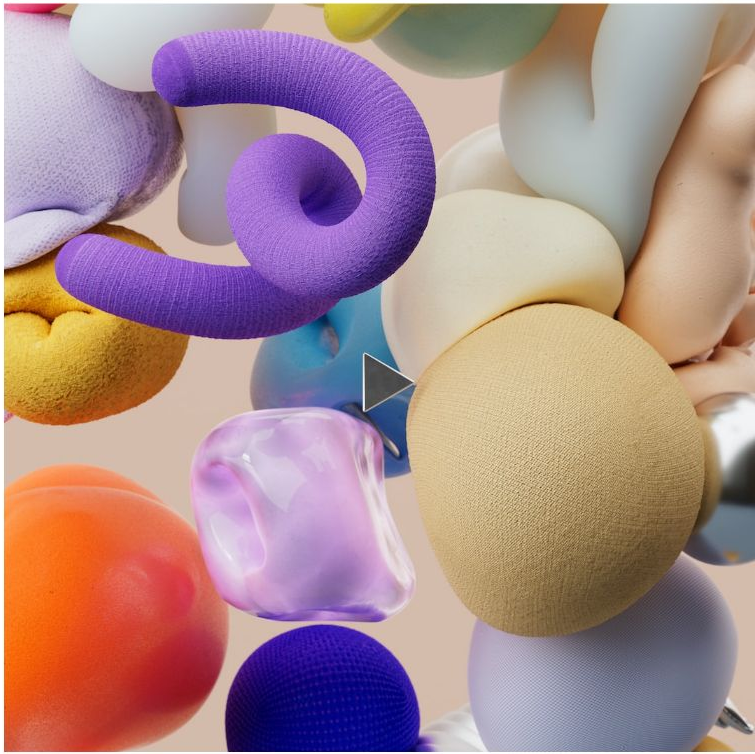
Using LZW Compression on Different File Types

LZW compression can be used on a variety of different file types, such as images, text files, and audio files. It offers a number of benefits, such as a smaller file size and faster compression/decompression times. However, LZW compression also has a number of drawbacks, such as the need for more memory and the potential for data loss.



Conclusion

In conclusion, LZW compression is a powerful tool that can be used to significantly reduce the size of an image file. It offers a number of benefits, such as a smaller file size and faster compression/decompression times. LZW compression will continue to be used in a variety of different applications in the future.



Definition of Project

A Python program required to be made in order to implement the Lempel-Ziv-Welch (LZW) method of image data compression. The application was designed to support PNG or BMP image files and LZW image data compression. The compressed data was then saved in a file after being produced.

Levels of This Project
(In my presentation, I will be explaining the levels through the project codes)

Image Compression using LZW Coding

- The project will consist of 6 Levels:
  - Level 1: LZW Encoding and Decoding (Text)
  - Level 2: Image Compression (Gray Level)
  - Level 3: Image Compression (Gray Level differences)
  - Level 4: Image Compression (Color)
  - Level 5: Image Compression (Color differences)
  - Level 6: GUI