

## 1. Introduction

How does a Web Map work? What are the underlying data structures used for storing and retrieving a large number of images? Can these data structures be improved to be optimal and scalable across different systems?



Request

Response



## Description

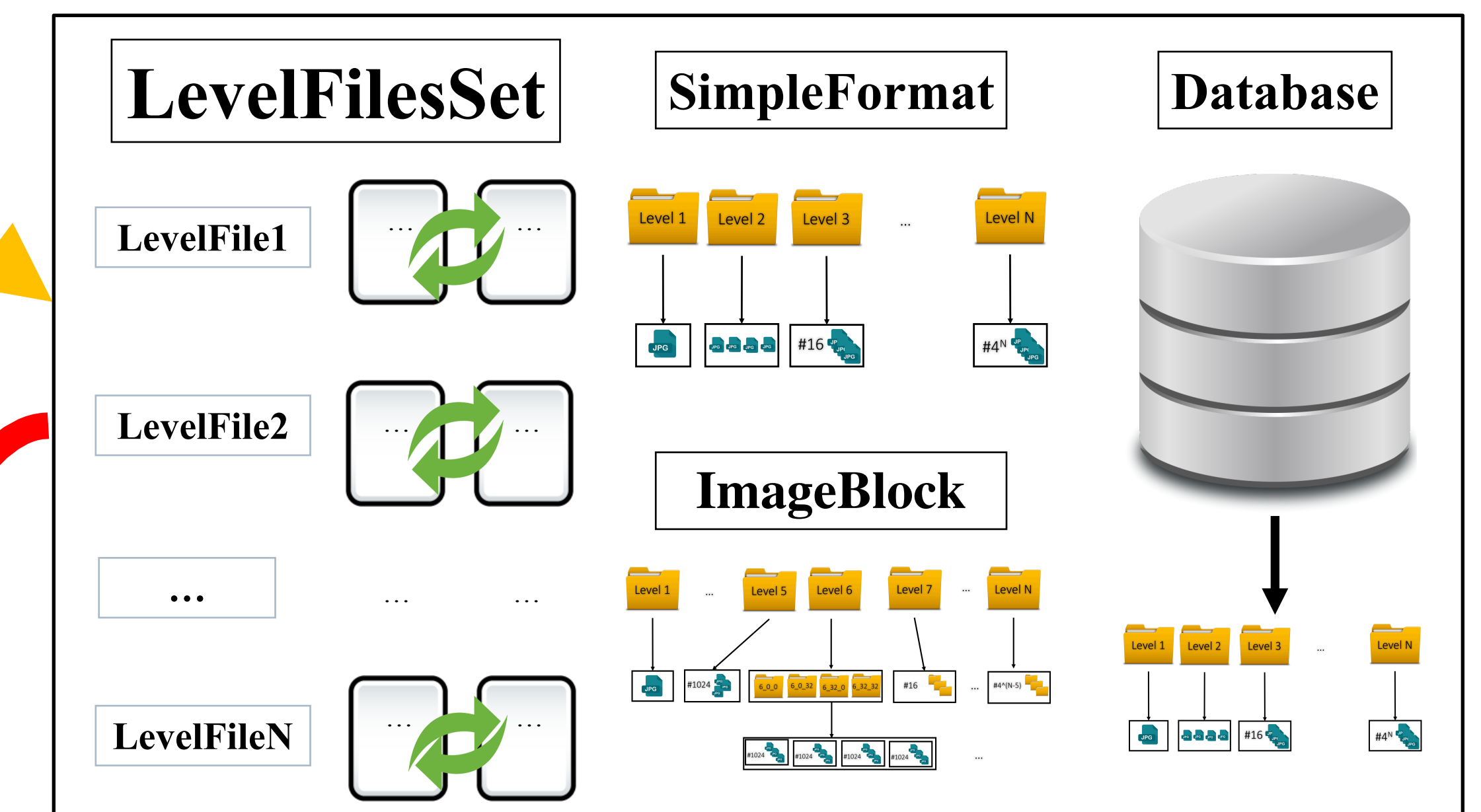
Millions of users use Web Maps every day. We use the LevelFilesSet to drastically increase the performance of the web maps.

Solution

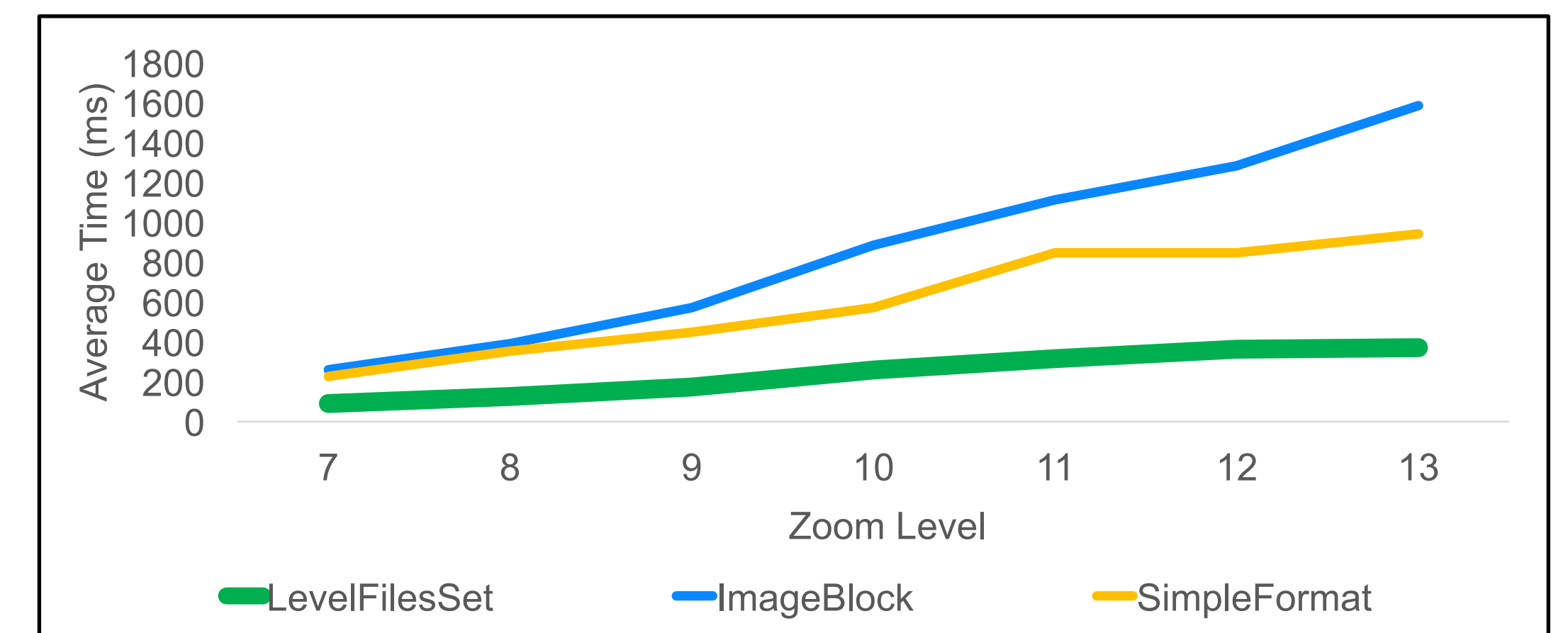
Retrieval

## 3. Methods

This study analyzes the structures that are used to create web maps. The most common structures rely either on the File System or the Databases. On the contrary, the LevelFilesSet avoids both dependencies by combining multiple Random-Access files for Image storage and retrieval.



## 4. Comparison



## 5. Findings

LevelFilesSet performs up to **350% faster** than the alternative solutions.

## 2. Objectives

- To develop an efficient Web Tile Management System
- To adopt an existing data structure for managing a tile dataset, named LevelFilesSet.
- To implement and compare existing solutions with LevelFilesSet.
- To render the LevelFilesSet data structure easy-to-use for other developers.