DIGIEDUHACK SOLUTION CANVAS

Title of the solution: Algorithmic file size reduction

Challenge addressed: Electronic learning services

Team name: Odysseus

Challenge category: Data processing For education

Solution description

Our team has developed a file size reduction algorithm capable of efficiently minimizing the physical size of files. This not only aids in reducing hardware resource usage but also proves beneficial for electronic learning services, including platforms like Moodle and E-learning. Additionally, the algorithm contributes to optimizing memory management and streamlining the searching process. This algorithm lets large companies save resources while improving how they collect and deliver e-learning materials.

Context

The problem we're solving is that big files take up a lot of space and use a ton of computer resources. This causes issues with storage and slows down how things work. It's a big deal for online learning services like Moodle and E-learning, where managing educational materials efficiently is super important. So, our challenge is to find a way to make files smaller and use computer resources smarter in the world of online learning and big data.

Target group

Our solution is aimed at two main groups:

1. Platforms like Moodle and other E-learning services: These are online platforms that provide educational content. Our algorithm helps them by making their files smaller, so they use less computer space and work more efficiently.

2. Large companies dealing with e-learning data: For companies with a lot of educational content, our algorithm is a game-changer. It helps them save resources and be better at collecting and delivering e-learning materials online.

In addition to making files smaller, our algorithm also improves how computers manage memory and speeds up the process of finding specific information. This means smoother operations and less strain on computer systems.

Team work

As third-year computer science students at Tbilisi State University, we're working on a project while studying. We seek advice from our lectors and professors to enhance our work. Our project involves applying our knowledge in math, algorithms, and programming.

Describe it in a tweet

Unlock peak efficiency in data management! □ Our file size reduction algorithm redefines resource use, perfect for e-learning platforms like Moodle. Seamlessly optimize memory and enhance e-learning material delivery for large enterprises. □□ #Innovation #TechSolutions

Innovativeness

Data science plays a vital role in handling big data and AI, but its integration into education services poses challenges. Algorithms tailored for education are seldom utilized or developed, making our solution unique as it is specifically adjusted for the education sector.

Unlike archivators such as WinRaR and ZIP, our algorithm stands out. It lets you read files without extracting them, so you don't need to bring them back to their original size. This sets our tool apart from others on the market.

Transferability

While our algorithm was initially designed with a focus on optimizing file size for e-learning platforms, its principles can be applied in various contexts. The core aspects that can be extended to other domains include efficient file compression techniques, resource usage reduction strategies, and memory management optimization. Essentially, any situation where large files need to be handled with efficiency and resource conservation could benefit from the principles embedded in our file size reduction algorithm.

Sustainability

In the mid-term, we're teaming up with e-learning platforms to smoothly integrate our file size reduction tool. Testing and user feedback will help refine it. Concurrently, we're exploring partnerships in other industries where efficient file management matters.

In the long term, we aim for widespread adoption beyond e-learning. Continuous improvement and staying ahead in tech will make our tool a go-to for file optimization, benefiting both big companies and smaller players. Our focus is on simplicity, scalability, and staying current with tech trends.

European Commission